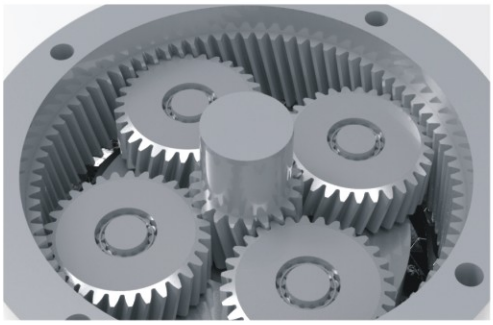
KVH

Powerful. High Precision. Reliable

- Servo Planetary Gearbox

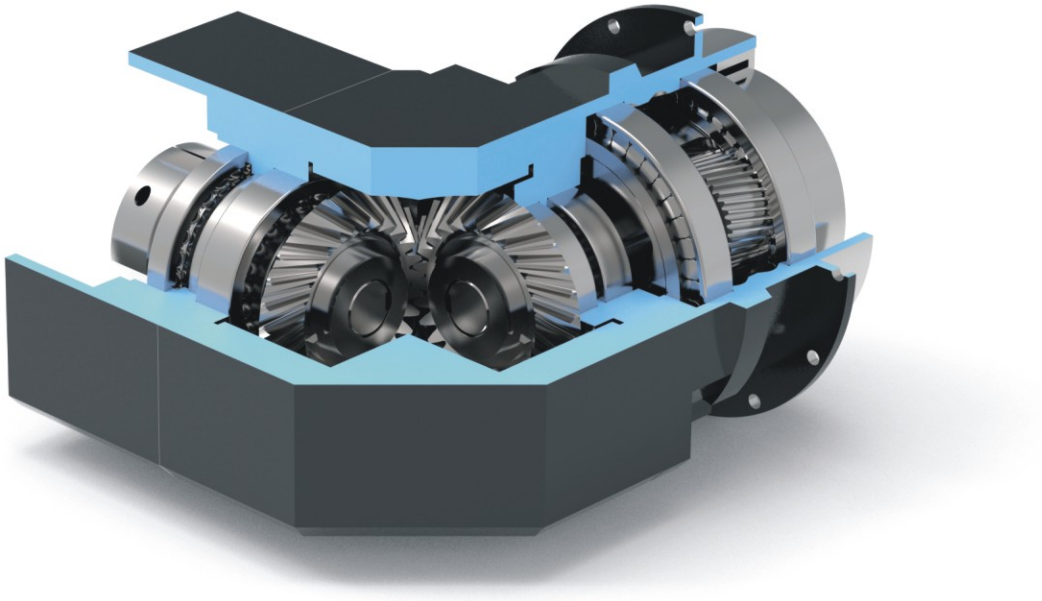
Advanced Gearbox Solution





Helical Gear System Technology

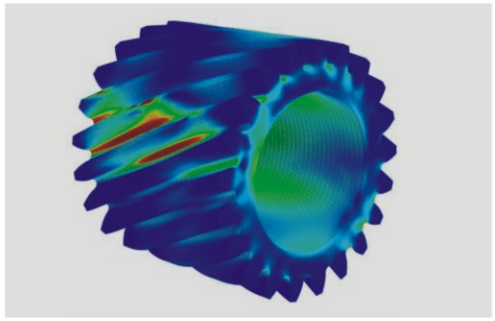
Thanks to the tooth to tooth compact ratio more than 60%.The helical gearing and full needle bearing bring the benefits including higher torque capacity, smooth and lower noise running, decreased backlash and higher efficiency. Integrated housing engineering with super skiving gearing tooling craft.





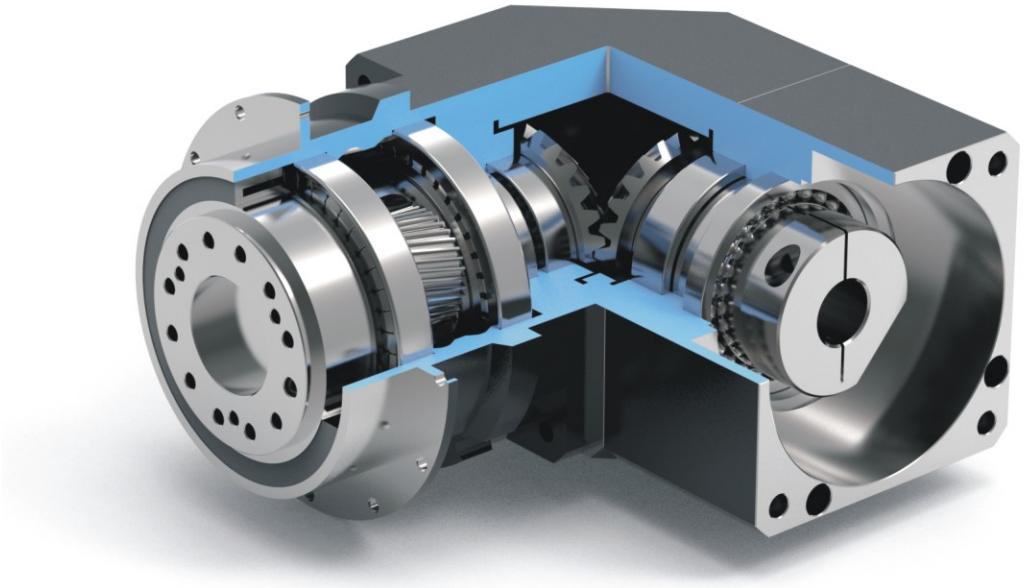
Master CageSpindle Planetary Carrier

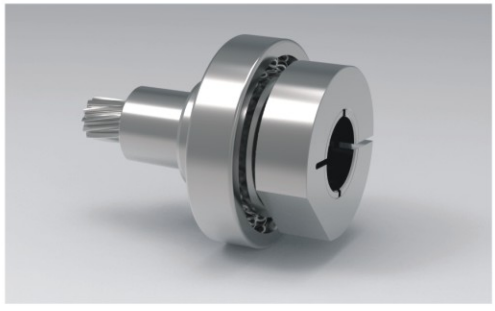
The patented Master CageSpindle integrated planetary carrier support planetary gearbox to increase constructional strength running stability and rigidity significantly. Synthetic grease lubrication allows maintenance free for gearbox whole service life.



Super Gear Grinding and Heat Treatment Technology

The global leading gear grinding technology brings the great improvement for the tooth profile optimization, with the high level carburizing and quenching heat treatment technology to reach high precision and gear harden performance.





Dynamic Balance Clamping and Sealing System

For the gearbox input dynamic balance clamping design with perfect concentricity to decrease backlash and increase gearbox operation stability. The ultra sealing system offers grease leakage protection and support gearbox to reach IP65.

Order Instructions

Order Code:

KVH — 120 — 02 — 015 — P0 — Servo Motor

KVH

Gearbox Series: KVH

120

Gearbox Size

02

Gearbox Stage

015

Gearbox Ratio

P0

Gearbox Precision

Servo Motor

Motor Manufacturer and model

Technical Memo

KVH070 1-stage

			1-stage						
Ratio	i		4	5	6	7	8	9	10
Nominal Output Torque		Nm	52	55	50	50	45	42	42
		in.lb	460	487	443	443	398	372	372
Emergency Stop Torque	T_{2Not}	*Nm*	156	165	150	150	135	126	126
		in.lb	1381	1460	1328	1328	1195	1115	1115
Maximum Acceleration Torque	T_{2B}	*Nm*	94	99	90	90	81	76	76
		in.lb	828	876	797	797	717	669	669
Maximum Torque	T_{2a}	*Nm*	104	110	100	100	90	84	84
		in.lb	920	974	885	885	797	743	743
Permitted Average Input Speed	n_{1N}	*rpm*	3000						
Maximum Input Speed	n_{1Max}	*rpm*	6000						
Mean No Load Running Torque	T_{012}	*Nm*	0.35	0.32	0.3	0.3	0.3	0.3	0.3
		in.lb	3.10	2.83	2.66	2.66	2.66	2.66	2.66
Standard Backlash P1	j_t	arcmin	⩽7						
Reduced Low Backlash P0	j_t	arcmin	⩽5						
Ultra Low Backlash PU	j_t	arcmin	⩽3						
Torsional Rigidity	C_{t21}	*Nm/arcmin*	14						
		in.lb/arcmin	123.91						
Maximum Radial Load	F_{2AMax}	*N*	2500						
		lb_f	562						
Maximum Axial Load	F_{2QMax}	*N*	2000						
		lb_f	450						
Max. Tilting Moment	M_{2KMax}	*Nm*	80						
		in.lb	708						
Mass Moment of Inertia	j_1	$kgcm^2$	0.093	0.078	0.07	0.069	0.065	0.065	0.065
Operating Noise Level	L_{PA}	dB(A)	<63						
Efficiency at Full loading	η	%	95						
Operating Temperature		℃	−25 to +90						
		F	−13 to +194						
Lubrication			Synthetic Lubrication Grease						
Mouting Position			Any Directions						
Protection Class			IP 65						
Service lifetime	L_h	h	S5 Cycle Operation: >30,000 (S1 Continuous Operation: >15,000 hrs)						
Weight	*m*	kg	2.3						
		lb_m	5.07						

KVH070 2-stage

			2-stage												
Ratio	i		16	20	25	30	35	40	45	50	60	70	80	90	100
Nominal Output Torque		Nm	52	52	55	55	55	55	55	55	50	50	45	42	42
		in.lb	460	460	487	487	487	487	487	487	443	443	398	372	372
Emergency Stop Torque	T_{2Not}	*Nm*	156	156	165	165	165	165	165	165	150	150	135	126	126
		in.lb	1381	1381	1460	1460	1460	1460	1460	1460	1328	1328	1195	1115	1115
Maximum Acceleration Torque	T_{2B}	*Nm*	93.6	93.6	99	99	99	99	99	99	90	90	81	75.6	75.6
		in.lb	828	828	876	876	876	876	876	876	797	797	717	669	669
Maximum Torque	T_{2a}	*Nm*	104	104	110	110	110	110	110	110	100	100	90	84	84
		in.lb	920	920	974	974	974	974	974	974	885	885	797	743	743
Permitted Average Input Speed	n_{1N}	*rpm*	3000												
Maximum Input Speed	n_{1Max}	*rpm*	6000												
Mean No Load Running Torque	T_{012}	*Nm*	0.32	0.32	0.32	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
		in.lb	2.83	2.83	2.83	2.66	2.66	2.66	2.66	2.66	2.66	2.66	2.66	2.66	2.66
Standard Backlash P1	j_t	arcmin	≤9												
Reduced Low Backlash P0	j_t	arcmin	≤7												
Ultra Low Backlash PU	j_t	arcmin	≤5												
Torsional Rigidity	C_{t21}	*Nm/arcmin*	14												
		in.lb/arcmin	123.91												
Maximum Radial Load	F_{2AMax}	*N*	2500												
		lb_f	562												
Maximum Axial Load	F_{2QMax}	*N*	2000												
		lb_f	450												
Max. Tilting Moment	M_{2KMax}	*Nm*	80												
		in.lb	708												
Mass Moment of Inertia	j_1	$kgcm^2$	0.075	0.075	0.075	0.064	0.064	0.064	0.064	0.064	0.064	0.075	0.064	0.064	0.064
Operating Noise Level	L_{PA}	dB(A)	< 63												
Efficiency at Full loading	η	%	93												
Operating Temperature		℃	−25 to +90												
		F	−13 to +194												
Lubrication			Synthetic Lubrication Grease												
Mouting Position			Any Directions												
Protection Class			IP 65												
Service lifetime	L_h	h	S5 Cycle Operation: >30,000 (S1 Continuous Operation: >15,000 hrs)												
Weight	*m*	kg	2.8												
		lb_m	6.17												

KVH090 1-stage

			1-stage						
Ratio	i		4	5	6	7	8	9	10
Nominal Output Torque		Nm	145	155	145	135	115	105	105
		in.lb	1283	1372	1283	1195	1018	929	929
Emergency Stop Torque	T_{2Not}	*Nm*	435	465	435	405	345	315	315
		in.lb	3850	4116	3850	3585	3053	2788	2788
Maximum Acceleration Torque	T_{2B}	*Nm*	261	279	261	243	207	189	189
		in.lb	2310	2469	2310	2151	1832	1673	1673
Maximum Torque	T_{2a}	*Nm*	290	310	290	270	230	210	210
		in.lb	2567	2744	2567	2390	2036	1859	1859
Permitted Average Input Speed	n_{1N}	*rpm*	3000						
Maximum Input Speed	n_{1Max}	*rpm*	6000						
Mean No Load Running Torque	T_{012}	*Nm*	0.51	0.46	0.44	0.85	0.85	0.85	0.85
		in.lb	4.51	4.07	3.89	7.52	7.52	7.52	7.52
Standard Backlash P1	j_t	arcmin	≤7						
Reduced Low Backlash P0	j_t	arcmin	≤5						
Ultra Low Backlash PU	j_t	arcmin	≤3						
Torsional Rigidity	C_{t21}	*Nm/arcmin*	35						
		in.lb/arcmin	309.77						
Maximum Radial Load	F_{2AMax}	*N*	4500						
		lb_f	1012						
Maximum Axial Load	F_{2QMax}	*N*	3500						
		lb_f	787						
Max. Tilting Moment	M_{2KMax}	*Nm*	228						
		in.lb	2018						
Mass Moment of Inertia	j_1	$kgcm^2$	0.52	0.45	0.42	0.40	0.39	0.39	0.39
Operating Noise Level	L_{PA}	dB(A)	< 65						
Efficiency at Full loading	η	%	95						
Operating Temperature		℃	−25 to +90						
		F	−13 to +194						
Lubrication			Synthetic Lubrication Grease						
Mouting Position			Any Directions						
Protection Class			IP 65						
Service lifetime	L_h	h	S5 Cycle Operation: >30,000 (S1 Continuous Operation: >15,000 hrs)						
Weight	*m*	kg	5.4						
		lb_m	119.05						

KVH090 2-stage

			2-stage												
Ratio	i		16	20	25	30	35	40	45	50	60	70	80	90	100
Nominal Output Torque		Nm	145	145	155	155	155	155	155	155	145	135	115	105	105
		in.lb	1283	1283	1372	1372	1372	1372	1372	1372	1283	1195	1018	929	929
Emergency Stop Torque	T_{2Not}	*Nm*	435	435	465	465	465	465	465	465	435	405	345	315	315
		in.lb	3850	3850	4116	4116	4116	4116	4116	4116	3850	3585	3053	2788	2788
Maximum Acceleration Torque	T_{2B}	*Nm*	261	261	279	279	279	279	279	279	261	165	165	151	151
		in.lb	2310	2310	2469	2469	2469	2469	2469	2469	2310	1460	1460	1336	1336
Maximum Torque	T_{2a}	*Nm*	290	290	310	310	310	310	310	310	290	270	230	210	210
		in.lb	2567	2567	2744	2744	2744	2744	2744	2744	2567	2390	2036	1859	1859
Permitted Average Input Speed	n_{1N}	*rpm*	3000												
Maximum Input Speed	n_{1Max}	*rpm*	6000												
Mean No Load Running Torque	T_{012}	*Nm*	0.46	0.46	0.46	0.44	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
		in.lb	4.07	4.07	4.07	3.89	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54
Standard Backlash P1	j_t	arcmin	≤9												
Reduced Low Backlash P0	j_t	arcmin	≤7												
Ultra Low Backlash PU	j_t	arcmin	≤5												
Torsional Rigidity	C_{t21}	*Nm/arcmin*	35												
		in.lb/arcmin	309.77												
Maximum Radial Load	F_{2AMax}	*N*	4500												
		lb_f	1012												
Maximum Axial Load	F_{2QMax}	*N*	3500												
		lb_f	787												
Max. Tilting Moment	M_{2KMax}	*Nm*	228												
		in.lb	2018												
Mass Moment of Inertia	j_1	$kgcm^2$	0.44	0.44	0.44	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39
Operating Noise Level	L_{PA}	dB(A)	< 65												
Efficiency at Full loading	η	%	93												
Operating Temperature		℃	−25 to +90												
		F	−13 to +194												
Lubrication			Synthetic Lubrication Grease												
Mouting Position			Any Directions												
Protection Class			IP 65												
Service lifetime	L_h	h	S5 Cycle Operation: >30,000 (S1 Continuous Operation: >15,000 hrs)												
Weight	*m*	kg	6.8												
		lb_m	14.99												

KVH120 1-stage

			1-stage						
Ratio	i		4	5	6	7	8	9	10
Nominal Output Torque		Nm	300	320	300	290	255	220	220
		in.lb	2655	2832	2655	2567	2257	1947	1947
Emergency Stop Torque	T_{2Not}	*Nm*	900	960	900	870	765	660	660
		in.lb	7966	8497	7966	7700	6771	5841	5841
Maximum Acceleration Torque	T_{2B}	*Nm*	540	576	540	522	459	396	396
		in.lb	4779	5098	4779	4620	4062	3505	3505
Maximum Torque	T_{2a}	*Nm*	600	640	600	580	510	440	440
		in.lb	5310	5664	5310	5133	4514	3894	3894
Permitted Average Input Speed	n_{1N}	*rpm*	3000						
Maximum Input Speed	n_{1Max}	*rpm*	6000						
Mean No Load Running Torque	T_{012}	*Nm*	1.25	1.15	1.11	1.08	1.08	1.08	1.08
		in.lb	11.06	10.18	9.82	9.56	9.56	9.56	9.56
Standard Backlash P1	j_t	arcmin	⩽7						
Reduced Low Backlash P0	j_t	arcmin	⩽5						
Ultra Low Backlash PU	j_t	arcmin	⩽3						
Torsional Rigidity	C_{t21}	*Nm/arcmin*	90						
		in.lb/arcmin	796.56						
Maximum Radial Load	F_{2AMax}	*N*	7800						
		lb_f	1753						
Maximum Axial Load	F_{2QMax}	*N*	6000						
		lb_f	1349						
Max. Tilting Moment	M_{2KMax}	*Nm*	450						
		in.lb	3983						
Mass Moment of Inertia	j_1	$kgcm^2$	2.74	2.71	2.71	2.62	2.62	2.62	2.57
Operating Noise Level	L_{PA}	dB(A)	< 68						
Efficiency at Full loading	η	%	95						
Operating Temperature		℃	−25 to +90						
		F	−13 to +194						
Lubrication			Synthetic Lubrication Grease						
Mouting Position			Any Directions						
Protection Class			IP 65						
Service lifetime	L_h	h	S5 Cycle Operation: >30,000 (S1 Continuous Operation: >15,000 hrs)						
Weight	*m*	kg	20						
		lb_m	44.09						

KVH120 2-stage

			2-stage												
Ratio	i		16	20	25	30	35	40	45	50	60	70	80	90	100
Nominal Output Torque		Nm	300	300	320	320	320	320	320	320	300	290	255	220	220
		in.lb	2655	2655	2832	2832	2832	2832	2832	2832	2655	2567	2257	1947	1947
Emergency Stop Torque	T_{2Not}	*Nm*	900	900	960	960	960	960	960	960	900	612	765	660	660
		in.lb	7966	7966	8497	8497	8497	8497	8497	8497	7966	5417	6771	5841	5841
Maximum Acceleration Torque	T_{2B}	*Nm*	540	540	576	576	576	576	576	576	540	367	459	396	396
		in.lb	4779	4779	5098	5098	5098	5098	5098	5098	4779	3248	4062	3505	3505
Maximum Torque	T_{2a}	*Nm*	600	600	640	640	640	640	640	640	600	580	510	440	440
		in.lb	5310	5310	5664	5664	5664	5664	5664	5664	5310	5133	4514	3894	3894
Permitted Average Input Speed	n_{1N}	*rpm*	3000												
Maximum Input Speed	n_{1Max}	*rpm*	6000												
Mean No Load Running Torque	T_{012}	*Nm*	1.15	1.15	1.15	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08
		in.lb	10.18	10.18	10.18	9.56	9.56	9.56	9.56	9.56	9.56	9.56	9.56	9.56	9.56
Standard Backlash P1	j_t	arcmin	≤9												
Reduced Low Backlash P0	j_t	arcmin	≤7												
Ultra Low Backlash PU	j_t	arcmin	≤5												
Torsional Rigidity	C_{t21}	*Nm/arcmin*	90												
		in.lb/arcmin	796.56												
Maximum Radial Load	F_{2AMax}	*N*	7800												
		lb_f	1753												
Maximum Axial Load	F_{2QMax}	*N*	6000												
		lb_f	1349												
Max. Tilting Moment	M_{2KMax}	*Nm*	450												
		in.lb	3983												
Mass Moment of Inertia	j_1	$kgcm^2$	1.5	1.5	1.49	1.3	1.3	1.3	1.3	1.3	1.3	1.5	1.49	1.49	1.45
Operating Noise Level	L_{PA}	dB(A)	< 68												
Efficiency at Full loading	η	%	93												
Operating Temperature		℃	−25 to +90												
		F	−13 to +194												
Lubrication			Synthetic Lubrication Grease												
Mouting Position			Any Directions												
Protection Class			IP 65												
Service lifetime	L_h	h	S5 Cycle Operation: >30,000 (S1 Continuous Operation: >15,000 hrs)												
Weight	*m*	kg	28.8												
		lb_m	63.49												

KVH160 1-stage

			1-stage						
Ratio	i		4	5	6	7	8	9	10
Nominal Output Torque		Nm	550	650	610	540	510	440	440
		in.lb	4868	5753	5399	4779	4514	3894	3894
Emergency Stop Torque	T_{2Not}	*Nm*	1650	1950	1830	1620	1530	1320	1320
		in.lb	14604	17259	16197	14338	13542	11683	11683
Maximum Acceleration Torque	T_{2B}	*Nm*	990	1170	1098	972	918	792	792
		in.lb	8762	10355	9718	8603	8125	7010	7010
Maximum Torque	T_{2a}	*Nm*	1100	1300	1220	1080	1020	880	880
		in.lb	9736	11506	10798	9559	9028	7789	7789
Permitted Average Input Speed	n_{1N}	*rpm*	3000						
Maximum Input Speed	n_{1Max}	*rpm*	6000						
Mean No Load Running Torque	T_{012}	*Nm*	3	2.9	2.8	2.8	2.8	2.8	2.8
		in.lb	26.55	25.67	24.78	24.78	24.78	24.78	24.78
Standard Backlash P1	j_t	arcmin	≤7						
Reduced Low Backlash P0	j_t	arcmin	≤5						
Ultra Low Backlash PU	j_t	arcmin	≤3						
Torsional Rigidity	C_{t21}	*Nm/arcmin*	205						
		in.lb/arcmin	1814.39						
Maximum Radial Load	F_{2AMax}	*N*	12000						
		lb_f	2697.60						
Maximum Axial Load	F_{2QMax}	*N*	10000						
		lb_f	2248.00						
Max. Tilting Moment	M_{2KMax}	*Nm*	1012						
		in.lb	8957						
Mass Moment of Inertia	j_1	$kgcm^2$	7.54	7.42	7.42	7.25	7.14	7.14	7.14
Operating Noise Level	L_{PA}	dB(A)	< 70						
Efficiency at Full loading	η	%	95						
Operating Temperature		℃	−25 to +90						
		F	−13 to +194						
Lubrication			Synthetic Lubrication Grease						
Mouting Position			Any Directions						
Protection Class			IP 65						
Service lifetime	L_h	h	S5 Cycle Operation: >30,000 (S1 Continuous Operation: >15,000 hrs)						
Weight	*m*	kg	26						
		lb_m	57.32						

KVH160 2-stage

			2-stage												
Ratio	i		16	20	25	30	35	40	45	50	60	70	80	90	100
Nominal Output Torque		Nm	550	550	650	650	650	650	650	650	610	540	510	440	440
		in.lb	4868	4868	5753	5753	5753	5753	5753	5753	5399	4779	4514	3894	3894
Emergency Stop Torque	T_{2Not}	*Nm*	1650	1650	1950	1950	1950	1950	1950	1950	1830	1620	1530	1320	1320
		in.lb	14604	14604	17259	17259	17259	17259	17259	17259	16197	14338	13542	11683	11683
Maximum Acceleration Torque	T_{2B}	*Nm*	990	990	1170	1170	1170	1170	1170	1170	1098	972	918	792	792
		in.lb	8762	8762	10355	10355	10355	10355	10355	10355	9718	8603	8125	7010	7010
Maximum Torque	T_{2a}	*Nm*	1100	1100	1300	1300	1300	1300	1300	1300	1220	1080	1020	880	880
		in.lb	9736	9736	11506	11506	11506	11506	11506	11506	10798	9559	9028	7789	7789
Permitted Average Input Speed	n_{1N}	*rpm*	3000												
Maximum Input Speed	n_{1Max}	*rpm*	6000												
Mean No Load Running Torque	T_{012}	*Nm*	3	3	3	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
		in.lb	26.55	26.55	26.55	25.67	25.67	25.67	25.67	25.67	25.67	25.67	25.67	25.67	25.67
Standard Backlash P1	j_t	arcmin	≤9												
Reduced Low Backlash P0	j_t	arcmin	≤7												
Ultra Low Backlash PU	j_t	arcmin	≤5												
Torsional Rigidity	C_{t21}	*Nm/arcmin*	205												
		in.lb/arcmin	1814.39												
Maximum Radial Load	F_{2AMax}	*N*	12000												
		lb_f	2697.6												
Maximum Axial Load	F_{2QMax}	*N*	10000												
		lb_f	2248												
Max. Tilting Moment	M_{2KMax}	*Nm*	1012												
		in.lb	8957												
Mass Moment of Inertia	j_1	$kgcm^2$	6.65	6.65	5.81	6.34	5.36	4.08	5.36	4.08	7.4	7.5	7.4	7.4	7.3
Operating Noise Level	L_{PA}	dB(A)	< 70												
Efficiency at Full loading	η	%	93												
Operating Temperature		℃	−25 to +90												
		F	−13 to +194												
Lubrication			Synthetic Lubrication Grease												
Mouting Position			Any Directions												
Protection Class			IP 65												
Service lifetime	L_h	h	S5 Cycle Operation: >30,000 (S1 Continuous Operation: >15,000 hrs)												
Weight	*m*	kg	31												
		lb_m	68.34												

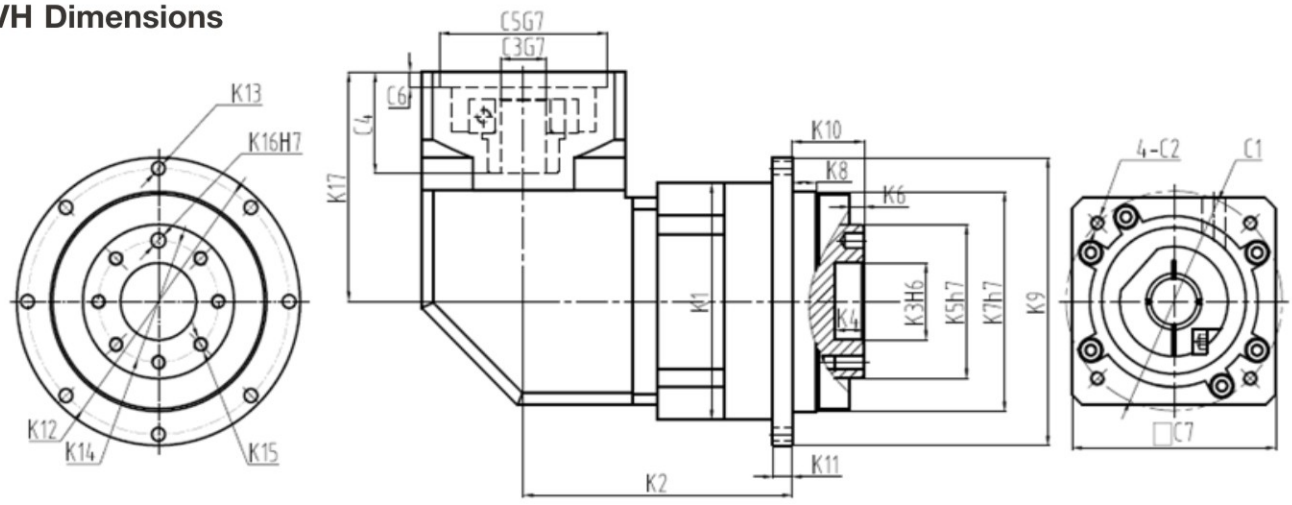
KVH205 1-stage

			1-stage						
Ratio	i		4	5	6	7	8	9	10
Nominal Output Torque		Nm	1250	1200	1000	1000	1000	910	910
		in.lb	11063	10621	8851	8851	8851	8054	8054
Emergency Stop Torque	T_{2Not}	*Nm*	3750	3600	3000	3000	3000	2730	2730
		in.lb	33190	31863	26552	26552	26552	24162	24162
Maximum Acceleration Torque	T_{2B}	*Nm*	2250	2160	1800	1800	1800	1638	1638
		in.lb	19914	19118	15931	15931	15931	14497	14497
Maximum Torque	T_{2a}	*Nm*	2500	2400	2000	2000	2000	1820	1820
		in.lb	22127	21242	17701	17701	17701	16108	16108
Permitted Average Input Speed	n_{1N}	*rpm*	2000						
Maximum Input Speed	n_{1Max}	*rpm*	4000						
Mean No Load Running Torque	T_{012}	*Nm*	3.9	3.8	3.6	3.6	3.6	3.6	3.6
		in.lb	34.52	33.63	31.86	31.86	31.86	31.86	31.86
Standard Backlash P1	j_t	arcmin	⩽7						
Reduced Low Backlash P0	j_t	arcmin	⩽5						
Ultra Low Backlash PU	j_t	arcmin	⩽3						
Torsional Rigidity	C_{t21}	*Nm/arcmin*	560						
		in.lb/arcmin	4956.39						
Maximum Radial Load	F_{2AMax}	*N*	18000						
		lb_f	4046						
Maximum Axial Load	F_{2QMax}	*N*	15000						
		lb_f	3372						
Max. Tilting Moment	M_{2KMax}	*Nm*	2050						
		in.lb	18144						
Mass Moment of Inertia	j_1	$kgcm^2$	23.67	22.75	22.75	22.48	22.59	22.59	22.55
Operating Noise Level	L_{PA}	dB(A)	< 72						
Efficiency at Full loading	η	%	95						
Operating Temperature		℃	−25 to +90						
		F	−13 to +194						
Lubrication			Synthetic Lubrication Grease						
Mouting Position			Any Directions						
Protection Class			IP 65						
Service lifetime	L_h	h	S5 Cycle Operation: >30,000 (S1 Continuous Operation: >15,000 hrs)						
Weight	*m*	kg	41						
		lb_m	90.39						

KVH205 2-stage

			2-stage												
Ratio	i		16	20	25	30	35	40	45	50	60	70	80	90	100
Nominal Output Torque		Nm	1250	1250	1200	1200	1200	1200	1200	1200	1000	1000	1000	910	910
		in.lb	11063	11063	10621	10621	10621	10621	10621	10621	8851	8851	8851	8054	8054
Emergency Stop Torque	T_{2Not}	*Nm*	3750	3750	3600	3600	3600	3600	3600	3600	3000	3000	3000	2730	2730
		in.lb	33190	33190	31863	31863	31863	31863	31863	31863	26552	26552	26552	24162	24162
Maximum Acceleration Torque	T_{2B}	*Nm*	2250	2250	2160	2160	2160	2160	2160	2160	1800	1800	1800	1638	1638
		in.lb	19914	19914	19118	19118	19118	19118	19118	19118	15931	15931	15931	14497	14497
Maximum Torque	T_{2a}	*Nm*	2500	2500	2400	2400	2400	2400	2400	2400	2000	2000	2000	1820	1820
		in.lb	22127	22127	21242	21242	21242	21242	21242	21242	17701	17701	17701	16108	16108
Permitted Average Input Speed	n_{1N}	*rpm*	2000												
Maximum Input Speed	n_{1Max}	*rpm*	4000												
Mean No Load Running Torque	T_{012}	*Nm*	2.9	2.9	2.9	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
		in.lb	25.67	25.67	25.67	24.78	24.78	24.78	24.78	24.78	24.78	24.78	24.78	24.78	24.78
Standard Backlash P1	j_t	arcmin	≤9												
Reduced Low Backlash P0	j_t	arcmin	≤7												
Ultra Low Backlash PU	j_t	arcmin	≤5												
Torsional Rigidity	C_{t21}	*Nm/arcmin*	560												
		in.lb/arcmin	4956.39												
Maximum Radial Load	F_{2AMax}	*N*	18000												
		lb_f	4046.4												
Maximum Axial Load	F_{2QMax}	*N*	15000												
		lb_f	3372												
Max. Tilting Moment	M_{2KMax}	*Nm*	2050												
		in.lb	18144												
Mass Moment of Inertia	j_1	$kgcm^2$	7.42	7.42	7.54	7.14	7.14	7.14	7.14	7.14	7.14	7.14	7.14	7.14	7.14
Operating Noise Level	L_{PA}	dB(A)	< 72												
Efficiency at Full loading	η	%	93												
Operating Temperature		℃	−25 to +90												
		F	−13 to +194												
Lubrication			Synthetic Lubrication Grease												
Mouting Position			Any Directions												
Protection Class			IP 65												
Service lifetime	L_h	h	S5 Cycle Operation: >30,000 (S1 Continuous Operation: >15,000 hrs)												
Weight	*m*	kg	49												
		lb_m	108.03												

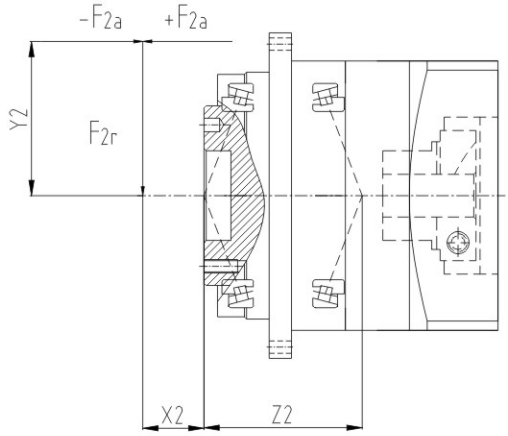
KVH Dimensions



Model	KVH070		KVH090		KVH120		KVH160		KVH205	
Stage	1	2	1	2	1	2	1	2	1	2
K1	Φ70		Φ97		Φ120		Φ160		Φ210	
K2	83.5	107.5	111.9	133.7	135.2	177	166.5	227.5	198	249.5
K3	Φ20		31.5		40		50		80	
K4	8		12		12		12		22.5	
K5	Φ40		Φ63		Φ80		Φ100		Φ160	
K6	3		6		6		6		6	
K7	Φ64		Φ90		Φ110		Φ140		Φ200	
K8	7		10		10		14.6		15	
K9	Φ86		Φ118		Φ145		Φ179		Φ247	
K10	19.5		30		29		38		56	
K11	5		8		10		10		112	
K12	Φ79		Φ109		Φ135		Φ168		Φ233	
K13	8-Φ4.5		8-Φ5.5		8-Φ5.5		12-Φ6.6		12-Φ9	
K14	Φ31.5		Φ50		Φ63		Φ80		Φ125	
K15	7-M5X8		7-M6X12		11-M6X15		11-M8X18		11-M10X17	
K16	Φ5X6		Φ6X7		Φ6X7		Φ8X8		Φ10X10	
K17	82.5		94		140		169		169	
C1	Φ70		Φ90		Φ145		Φ200		Φ200	
C2	M5X12		M6X15		M8X20		M12X25		M12X25	
C3	Φ14		Φ19		Φ24		Φ35		Φ35	
C4	32.1		41.6		61.3		82		82	
C5	Φ50		Φ70		Φ110		Φ114.3		Φ114.3	
C6	6.5		6.5		8		8		8	
C7	65		85		120		175		175	

The dimensions modified as per the applied motor flanges.
You can get the specific gearbox drawing solution by KDP(Kofon Design Programme) on line from our website: www.kofon-motion.com

KVH Titling moment



$$M_{2kb}= \frac{2 \cdot F_{2a} \cdot y_2+F_{2rb} \cdot (x_2+Z_2)}{1000}$$

KVH	050	070	090	120	160	205	255
Z2[mm]	40.5	32.136	50.6	57.7	84.37	113.9	135.22
M_{2Kb}	28	80	228	450	1012	2050	6085

Technical Memo