

Choice of lubricant

Before operating worm gear speed reducer, add N220 ~ N320 (Ambient temperature -3D° C ~ 40° C), N320~N460 (Ambient temperature 40° C ~65°C) lubrication oil up to the center line of the oil gauge. In the mean while, remove the small screw of the air-vent. After having worked for 100 hours for the first time, must clear the inside and change the lubrication oil in it, here after once every 2500 hours.

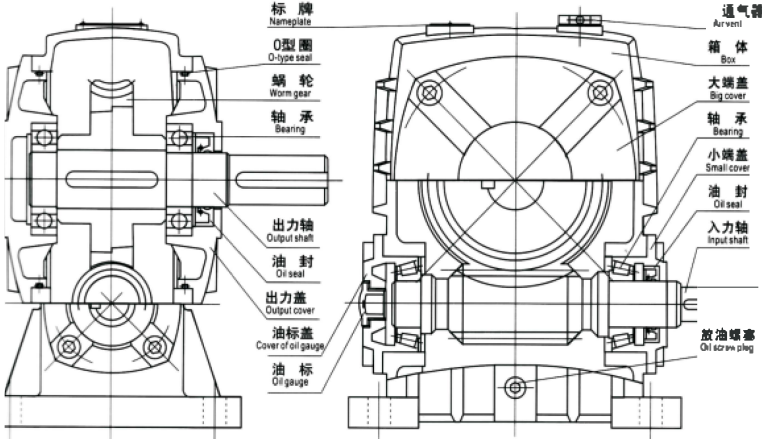
Lubricants for a reducer used in foreign countries can be chosen from the table below				
Worn Shaft Sped (r/min)		Lubricant	Operating Position Worm Shaft, Upper Worm Shaft Vertical	Operating Position Worm Shaft, Lower Output Shaft Vertical
OVER	UPTO			
1000	3000	Synthetic Oils	PG460	PG220
	1000			PG460
2000	3000	Mineral Oils	ISO VG460	ISO VG200
750	2000			ISO VG320
250	750			ISO VG460
	250		ISO VG680	ISO VG680

Lubricants for a reducer used in foreign countries can be chosen from the table below							
Ambient Temperature	Lubricant					Union 76 Div Union OIL C o. of CA	AGMA
15 - 60°C -9 - 16°C	Mineral Oils	SPARTAN EP220	Regal Oil R&D 320	DTE LIL BB	Shell Omala Oil 220	Union Turbine Oil 220	5
	Compounded Oils	SPARAN EP320	631-Honor Cylinder Oil	Mobil 600W Cylinder Oil	Shell Omala Oil 320	Union Steaval A	7
	Extreme Pressure	SPARTAN EP460	Meropa 460	Mobil Gears 634	Shell Omala Oil 460	Union NL Lube 7EP	7EP
50 - 125°C 10 - 52°C	Mineral Oils	SPARTAN EP320	Regal Oil 320	DTE OIL AA	Shell Omala Oil 320	Union Turbine Oil 320	6
	Compounded Oils	SPARTAN EP460	642-650T Cylinder Oil	Mobil 600W Super Cylinder Oil	Shell Omala Oil 460	Union Worm Gear Lube 1440	8
	Extreme Pressure	SPARTAN EP680	Meropa 680	Meropa 680	Shell Omala Oil 660	Union NL Lube 8EP	8EP

After the first 100 hours if operation : drain unit and flush with light oil, refill. Every 2500 hours =if operation : drain ; flush and refill.

Bearing For KIMPO Worm Reducer						Oil Gauge					Vent Plug			
Model	Input Shaft			Output Shaft		Type	KB, KBE	KA, KAE	KVA, KVB KVAE, KVBE	Type	KB, KBE KA, KAE	KVA, KVB KVAE, KVBE		
	Standard	Motor Flange		Standard	Hole Output	Size				Size				
50#	6203 x 2	6203 x 1	T204014 x 1	6204 x 2	6008 x 2	40	M16 x 1.5	M16 x 1.5	M16 x 1.5	40	M14 x 1.5	M14 x 1.5		
60#	30204 x 2	30204 x 1	6005 x 1	6205 x 2	6009 x 2	50	M16 x 1.5	M16 x 1.5	M16 x 1.5	50	M14 x 1.5	M14 x 1.5		
70#	30205 x 2	30205 x 1	T305216 x 1	6206 x 2	6010 x 2	60	M16 x 1.5	M16 x 1.5	M16 x 1.5	60	M14 x 1.5	M14 x 1.5		
80#	30206 x 2	30206 x 1	32007 x 1	6207 x 2	6012 x 2	70	M16 x 1.5	M16 x 1.5	M16 x 1.5	70	M16 x 1.5	M14 x 1.5		
100#	30207 x 2	30207 x 2 (1.5kw)		6208 x 2	6013 x 2	80	M27 x 1.5	M16 x 1.5	M27 x 1.5	80	M20 x 1.5	M14 x 1.5		
		30207 x 1				100	M16 x 1.5	M16 x 1.5	M16 x 1.5	100	M20 x 1.5	M20 x 1.5		
		T457220 x 1 (2.2kw)				120	M16 x 1.5	M16 x 1.5	M16 x 1.5	120	M20 x 1.5	M20 x 1.5		
120#	30207 x 2	30207 x 1	T457220 x 1	6210 x 2	6014 x 2	135	M27 x 1.5	M16 x 1.5	M27 x 1.5	135	M20 x 1.5	M20 x 1.5		
135#	30209 x 2	30209 x 1	32011 x 1	6212 x 2	6018 x 2	147	M27 x 1.5	M27 x 1.5	M27 x 1.5	147	M20 x 1.5	M20 x 1.5		
155#	30210 x 2	30210 x 1	32011 x1	6213 x 2	6019 x 2	155	M27 x 1.5	M27 x 1.5	M27 x 1.5	155	M20 x 1.5	M20 x 1.5		
175#	30211 x 2	30211 x 2		6214 x 2	6222 x 2	175	M27 x 1.5	M27 x 1.5	M27 x 1.5	175	M27 x 1.5	M20 x 1.5		
200#	30212 x 2	30212 x 2	32014 x1	6215 x 2	6224 x 2	200	M27 x 1.5	M27 x 1.5	M27 x 1.5	200	M27 x 1.5	M20 x 1.5		
250#	30215 x2	30215 x2		6220 x 2	6030 x 2	250	M27 x 1.5	M27 x 1.5	M27 x 1.5	250	M27 x 1.5	M27 x 1.5		

Product Structural Drawing
Of Worm Gear Speed Reducer



Authorised Dealer



SPEED REDUCER

Speed of input shaft : 1500r/min

Input and Output

Power & Moment		Input (kW)						Output (Nm)					
Size	Ratio	1/10	1/20	1/30	1/40	1/50	1/60	1/10	1/20	1/30	1/40	1/50	1/60
40		0.40	0.26	0.22	0.16	0.14	0.12	19	20	25	24	26	26
50		0.65	0.40	0.34	0.27	0.24	0.20	31	35	39	40	43	43
60		1.00	0.65	0.54	0.45	0.40	0.32	50	56	62	71	75	70
70		1.60	1.10	0.82	0.67	0.61	0.52	83	101	99	104	113	113
80		2.20	1.36	1.20	0.90	0.80	0.75	113	120	151	140	145	163
100		3.60	2.60	2.10	1.68	1.30	1.00	193	258	277	291	257	229
120		5.20	3.50	3.00	2.20	1.90	1.50	262	361	413	392	399	355
135		9.75	6.00	5.00	3.69	2.89	2.30	540	619	707	607	626	562
155		12.80	7.00	6.00	4.40	3.61	3.00	709	722	848	784	770	791
175		17.30	10.00	8.30	6.18	4.85	4.07	958	1044	1189	1133	1127	1078
200		22.60	13.86	11.67	8.78	6.71	5.58	1280	1482	1782	1654	1516	1449
250		33.20	21.60	18.43	14.00	10.43	8.62	1881	2310	2745	2674	2357	2371

Comparison Table of Parts for WP Series Worm Reducer

Input and Output

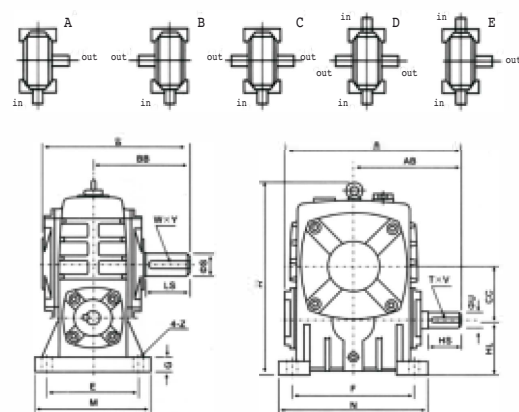
MODEL	INPUT SHAFT		OUTPUT SHAFT	
	STANDARD	MOTOR FLANGE	STANDARD	HOLE OUTPUT
40#	15 x 30 x 10	20 x 35 x 7	17 x 30 x 10	30 x 50 x 10
50#	17 x 30 x 10	20 x 35 x 7	20 x 35 x 10 20 x 42 x 10 (WPX)	40 x 60 x 12
60#	20 x 40 x 10	25 x 40 x 10	25 x 40 x 10	45 x 62 x 10
70#	25 x 42 x 10	30 x 45 x 10	30 x 50 x 10	50 x 70 x 12
80#	30 x 50 x 10	35 x 50 x 10	35 x 60 x 10	60 x 85 x 12
100#	35 x 60 x 12	35 x 60 x 10	40 x 70 x 12	65 x 90 x 12
		45 x 62 x 10 (2.2 kw)		
120#	35 x 60 x 12	45 x 62 x 10	50 x 75 x 12 50 x 70 x 12 (WPX)	70 x 90 x 12
135#	45 x 72 x 12	45 x 72 x 12	60 x 90 x 12	90 x 120 x 12
147#	45 x 72 x 12	45 x 72 x 12	60 x 90 x 12	/
155#	50 x 75 x 12	55 x 80 x 12	65 x 95 x 12	95 x 130 x 12
175#	55 x 80 x 12	55x85x12	70 x 95 x 12	110 x 140 x 12
200#	60 x 90 x 12	70x90x12	75 x 110 x 15	120 x 150 x 15
250#	75 x 100 x 15	75 x 100 x 12	100 x 130 x 15	150 x 180 x 15

The above information is for reference only, No notice will be made for any changes.

KB

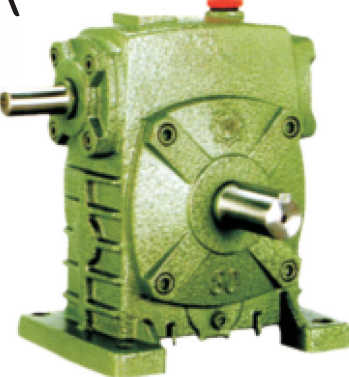


SHAFT DIRECTION

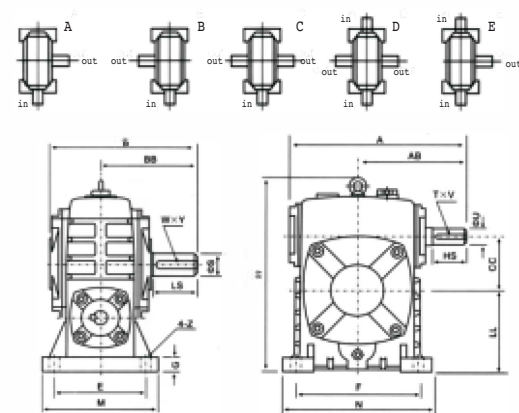


Size	Ratio	A	AB	B	BB	CC	H	HL	M	N	E	F	G	Z	Input Shaft			Output Shaft			(kg)	(L)
															HS	U	TxV	LS	S	WxY		
40	1/10	143	87	114	74	40	138	40	90	100	70	80	13	10	25	12	4x2.5	28	14	5x3	4	0.13
50		175	108	150	97	50	176	50	120	140	95	110	15	12	30	12	4x2.5	40	17	5x3	7	0.17
60		198	120	168	112	60	204	60	130	150	105	120	20	12	40	15	5x3	50	22	7x4	10	0.22
70		231	140	194	131	70	236	70	150	190	115	150	20	15	40	18	5x3	60	28	7x4	15	0.60
80	1/20	261	160	214	142	80	268	80	170	220	135	180	20	15	50	22	7x4	65	32	10x4.5	20	0.85
100	1/30	322	190	254	169	100	336	100	190	270	155	220	25	15	50	25	7x4	75	38	10x4.5	35	1.50
120		371	219	282	190	120	430	120	230	320	180	260	30	18	65	30	7x4	85	45	12x4.5	60	3.20
135	1/40	422	249	317	210	135	480	135	250	350	200	290	30	18	75	35	10x4.5	95	55	15x5	80	3.60
147	1/50	432	256	320	210	147	460	123	250	350	200	280	32	18	75	35	10x4.5	95	55	15x5	98	3.70
155		497	295	382	252	155	531	135	275	390	220	320	35	21	85	40	10x4.5	110	60	15x5	110	3.80
175	1/60	534	314	388	255	175	600	160	310	430	250	350	40	21	85	45	12x4.5	110	65	18x6	150	4.60
200		580	342	456	294	200	666	175	360	480	290	390	40	24	95	50	14x5.5	125	70	20x7.5	215	6.50
250		703	420	552	360	250	800	200	460	560	380	480	45	28	110	60	18x7	155	90	25x9	360	9.00

KA

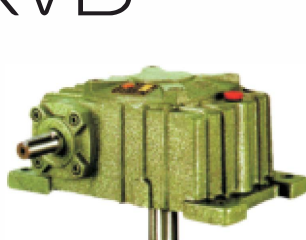


SHAFT DIRECTION

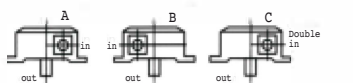


Size	Ratio	A	AB	B	BB	CC	H	LL	M	N	E	F	G	Z	Input Shaft			Output Shaft			(kg)	(L)
															HS	U	TxV	LS	S	WxY		
40	1/10	143	87	114	74	40	141	60	90	100	70	80	13	10	25	12	4x2.5	28	14	5x3	4	0.30
50		175	108	150	97	50	180	80	120	140	95	110	15	12	30	12	4x2.5	40	17	5x3	7	0.45
60		198	120	168	112	60	207	90	130	150	105	120	20	12	40	15	5x3	50	22	7x4	10	0.55
70		231	140	194	131	70	238	105	150	190	115	150	20	15	40	18	5x3	60	28	7x4	15	0.80
80	1/20	261	160	214	142	80	273	120	170	220	135	180	20	15	50	22	7x4	65	32	10x4.5	20	1.10
100	1/30	322	190	254	169	100	334	150	190	270	155	220	25	15	50	25	7x4	75	38	10x4.5	35	2.90
120	1/40	371	219	282	190	120	423	180	230	320	180	260	30	18	65	30	7x4	85	45	12x4.5	60	4.40
135		422	249	317	210	135	482	215	250	350	200	290	30	18	75	35	10x4.5	95	55	16x6	80	6.20
147		432	256	320	210	147	460	203	250	350	200	280	32	18	75	35	10x4.5	95	55	16x6	98	3.70
155		497	295	382	252	155	541	235	275	390	220	320	35	21	85	40	12x5	110	60	18x7	110	6.50
175	1/60	534	314	388	255	175	600	260	310	430	250	350	40	21	85	45	14x5.5	110	65	18x7	150	8.00
200	1/80	580	342	456	294	200	677	290	360	480	290	390	40	24	95	50	14x5.5	125	70	20x7.5	215	9.30
250		703	420	552	360	250	824	350	460	560	380	480	45	28	110	60	18x7	155	90	25x9	360	18.0

KVB



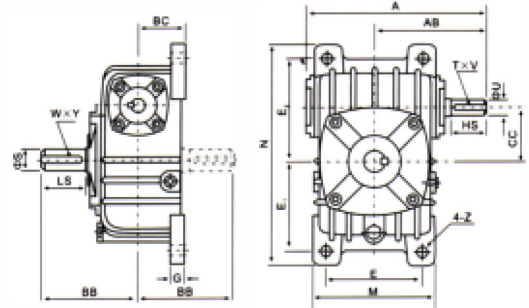
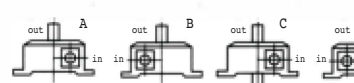
SHAFT DIRECTION



KVA



SHAFT DIRECTION

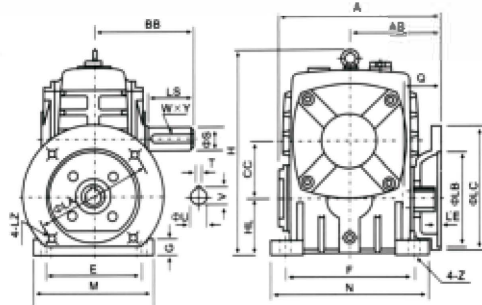
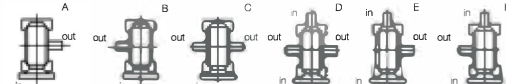


Size	Ratio	A	AB	BB	BC	CC	M	N	E	E ₁	E ₂	G	Z	Input Shaft			Output Shaft			(kg)	(L)
														HS	U	TxV	LS	S	WxY		
40	1/10	143	87	74	45	40	94	184	70	74	86	10	10	25	12	4x2.5	28	14	5x3	5	0.36
50		175	108	97	50	50	116	220	90	93	102	15	12	30	12	4x2.5	40	17	5x3	6	0.50
60		198	120	112	55	60	126	260	100	105	120	20	12	40	15	5x3	50	22	7x4	10	0.60
70		231	140	131	65	70	156	295	120	120	135	20	15	40	18	5x3	60	28	7x4	15	1.10
80	1/20	261	160	142	70	80	175	320	140	130	150	20	15	50	22	7x4	65	32	10x4.5	20	1.50
100	1/30	322	190	169	90	100	224	375	190	155	180	26	15	50	25	7x4	75	38	10x4.5	35	4.00
120		371	219	190	100	120	266	450	220	185	215	30	18	65	30	7x4	85	45	12x4.5	50	5.20
135	1/40	422	249	210	110	135	306	495	260	210	235	30	18	75	35	10x4.5	95	55	15x5	75	7.50
147	1/50	432	256	210	114	147	302	558	250	230	278	32	18	75	35	10x4.5	95	55	15x5	96	8.50
155		497	295	252	140	155	350	590	290	245	295	35	21	85	40	10x4.5	110	60	15x5	115	9.30
175	1/60	534	314	255	150	175	394	640	320	267	323	40	21	85	45	12x4.5	110	65	18x6	140	10.5
200		580	342	294	175	200	440	710	370	290	360	40	24	95	50	14x5.5	125	70	20x7.5	200	12.7
250		703	420	360	200	250	510	860	440	350	440	45	28	110	60	18x7	155	90	25x9	340	23.0

KBE



SHAFT DIRECTION



Size	(KW)	Ratio	A	AB	BB	CC	H	HL	M	N	E	F	G	Z	Flange					Input Hole			Output Shaft			(kg)	
															LA	LB	LC	LE	LZ	Q	U	TxV	LS	S	WxY		
40	0.12	1/10	135	75	74	40	138	40	90	100	70	80	13	10	115	95	140	4	M8	31	11	4x12.8	28	14	5x3	5	
50	0.18		151	83	97	50	176	50	120	140	95	110	15	12	115	95	140	4	M8	31	11	4x12.8	40	17	5x3	8	
60	0.37		167	91	112	60	204	60	130	150	105	120	20	12	130	110	160	4	M8	33	14	5x16.3	50	22	7x4	11	
70	0.37		200	109											130	110	160		M8	40	14	5x16.3					
	0.75		202	111	131	70	236	70	150	190	115	150	20	15	165	130	200	4	M10	42	19	6x21.8	60	28	7x4	17	
80	0.75														165	130	200	4.5	M10	48	19	6x21.8					
	1.5		225	125	142	80	268	80	170	220	135	180	20	15	52	24	8x27.3			52	24	8x27.3	65	32	10x4.5	22	
100	1.5		1/20	280	148	169	100	336	100	190	270	155	220	25	15	165	130	200	4.5	M10	52	24	8x27.3	75	38	10x4.5	38
120	2.2			333	181	190	120	430	120	230	320	180	260	30	18	215	180	250	5	M12	63	28	8x31.3	85	45	12x4.5	64
135	3.0		1/40	375	202	210	135	480	135	250	350	200	290	30	18	215	180	250	5	M12	63	28	8x31.3	95	55	16x6	85
	4.0	415		235	210	147	460	123	250	350	200	280	32	18	215	180	250	5	M12	63	28	8x31.3	95	55	16x6	105	
147	3.0	1/60	415	235	210	147	460	123	250	350	200	280	32	18	215	180	250	5	M12	63	28	8x31.3	95	55	16x6	105	
155	4.5		448	247	252	155	531	135	275	390	220	320	35	21	265	230	300	5	M12	83	38	10x41.3	110	60	18x7	118	
175	5.5	1/100	481	262	255	175	600	160	310	430	250	350	40	21	265	230	300	5	M12	83	38	10x41.3	110	65	18x7	165	
	7.5		543	285	294	200	666	175	360	480	290	390	40	24	300	250	350	6	M16	114	42	12x45.3	125	70	20x7.5	236	
200	11.0	1/150	615	330	360	250	800	200	460	560	380	480	45	28	300	250	350	6	M16	114	42	12x45.3	155	90	25x9	396	
250	15.0																										