



# GEAR REDUCER

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## GEAR REDUCER DESIGN IDEAL & FEATURES

### DESIGN IDEAL:

Gear reducer has been spending our Company more than 30 years' endeavor with the adopting of CAD gear design software in providing high strength and top precision gear elements. We also import top precision machinery equipment from abroad. All products are finished under perfect inspection and quality control.

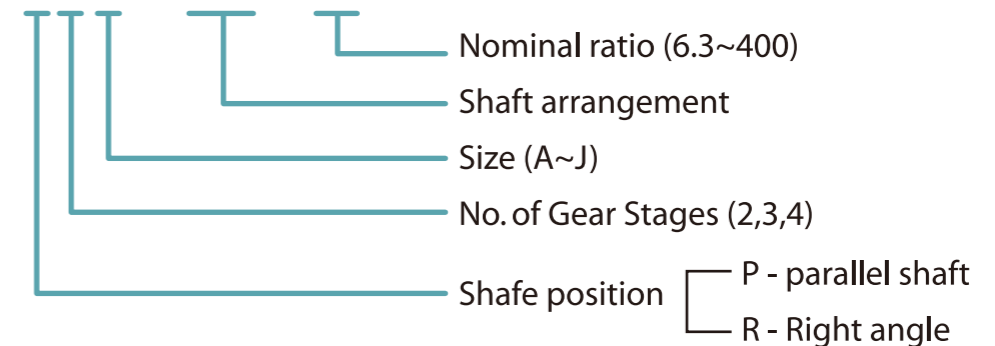
Our clients include steelworks, paper mill, rubber plant, textile factory and factories of heavy horsepower and overload. We try our best to render our perfect service.

### GEAR REDUCER FEATURES:

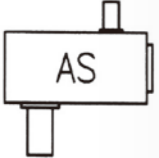

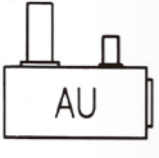
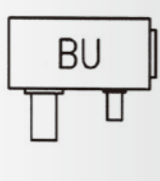
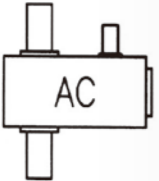
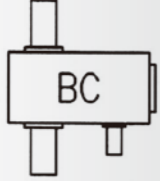
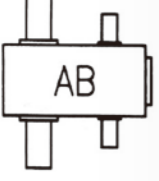
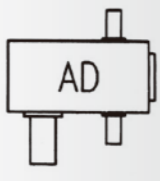
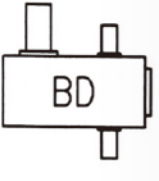
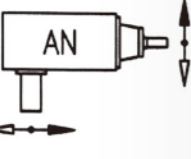
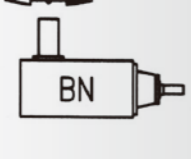
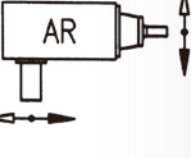
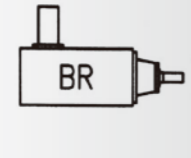
- (1) Gear elements of the reducer adopts low-carbon alloy steel bar materials or are forged and positive treated so as to increase internal texture compactness of the object and strengthen tenacity.
- (2) Gear elements of the reducer adopts a special 25° pressure angle tooth form. Because of thick root, the elements can bear more overload and more impact.
- (3) After gear elements of the reducer are treated through permeated carbon, tooth surface is polished through top precision gear grinder so as to increase engagement of teeth surface, reduce noise, raise the working efficiency and gear reducer life.

## NOMENCLATURE

TK - P 2 A - AS - 16



Slow Speed Shaft Kgf-m	Reducer Size									
	A	B	C	D	E	F	G	H	I	J
	490	750	1160	1830	2870	4360	7890	9270	13230	19000

SHAFT ARRANGEMENT		NOMINAL RATIO		
<b>Parallel Shaft</b>		<b>Parallel Shaft</b>		
		6.3	31.5	160
		7.1	35.5	180
		8	40	200
		9	45	224
		10	50	250
		11.2	56	280
		12.5	63	315
		14	71	355
		16	80	400
		18	90	
		20	100	
		22.4	112	
		25	125	
		28	140	
<b>Right Angle Shaft</b>		<b>Right Angle Shaft</b>		
		6.3	31.5	160
		7.1	35.5	180
		8	40	200
		9	45	224
		10	50	250
		11.2	56	280
		12.5	63	315
		14	71	355
		16	80	400
		18	90	
		20	100	
		22.4	112	
		25	125	
		28	140	

## HOW TO CHOOSE A REDUCER

### 1. Decision to various using terms of the reducer :

- Driven machine
- Prime mover
- Transmission power rate for driven machine
- Input speed ( $n_1$ ) rpm
- Output speed ( $n_2$ ) rpm
- No. of working hours per day (hr/D)

### 2. Decision to a model number:

A. Reduction ratio ( $I = \frac{n_1}{n_2}$ )

B. Rated output of the reducer

$$P_E = P \times K_1$$

$i$  = Reduction ratio

$n_1$  = Input speed (rpm)

$n_2$  = Output speed (rpm)

$P$  = Horsepower required by driven machine

$P_E$  = Power rating

$K_1$  = Service factor

### For Examples :

#### 1. Prime mover :

$$P_m = 700 \text{ kw}$$

$$\text{Rpm } n_1 = 1500 \text{ rpm}$$

#### 2. Driven machine :

$$P = 600 \text{ kw}$$

$$\text{Rpm } n_2 = 42 \text{ rpm}$$

$$\text{Duty} = 16 \text{ hours}$$

#### 3. Decision to a model number :

$$(1) \text{ Reducing ratio } (I = \frac{1500}{42} = 35.7)$$

(2) Service factor shown on the table is 1.5

$$P_E = 600 \times 1.5 = 900 \text{ kw}$$

Rated horsepower of the reducer is selected from  $i$  and  $P_E$ .

## SERVICE FACTOR

BLOWER			SUGER MACHINE		
Labe	M		Crusher	M	
Vone	U		Cutter	H	
Centrifugal	U				
CHAIN CONVEYORS			FOOD MACHINE		
Uniformly	U		Removal Machine	U	
Heavy Duty	M		Packing Machine	U	
			Meat Grinder	M	
			Atomizer	M	
CHEMICAL MACHINE			PUMP		
Reactor Drive	M		Centrifugal	U	
Liquid Static Agitator	U		Single Or Double Act 2 or More Cylinder	M	
Centrifuger	M		Gear	U	
			Feed Water Pump	U	
			Drain Pump	U	
COMPRESSORS			RUBBER		
Centrifugal	U		Calender	M	
Axial	M		Extruder	M	
			Continuous	M	
			Intermittent	H	
			Mixer Mill	M	
			Refiner	M	
CRANES-HOISTS			TEXTILE MACHINE		
Main Hoist	U		Calender	M	
Heavy Duty	H		Card Machine	M	
Medium Duty	M		Dryer	M	
Skip Hoist	M		Pad	M	
METAL WORKING MACHINE			ROLL WORK		
Bending Machine	M		Main Drive	H	
Cutting Machine	U		Strip Roller	H	
Hammer	H		Block & Slab Roller	H	
Forging Press	H		Wire Rod Mill	M	
Shear	H		Shear	H	
			Block Pusher	H	
			Heavy Place Rolling Train	H	
			Straight Machine	M	
			Cooling Bed Drive	M	
			Shifting Device	H	
			Plate Reverser	M	
BLOWER					
Calender	M				
Extruder	M				
Variable Speed	H				
Fixed Speed	H				
Batch Mixer	H				
Continuous Mixer	U				
PAPER MILLS					
Smooth Cylinder	M				
Wood Cutter	U				
Wood Grinder	H				
Baking Cylinder	M				

## TABLE OF OPERATION COEFFICIENTS

Prime mover	Operatiing Hours	Type of Load		
		Uniform Load	Light Impact	Heavy Impact
		U	M	H
Electric Motor	3 hr/D	0.80	1.00	1.50
	10 hr/D	1.00	1.25	1.75
	24 hr/D	1.25	1.50	2.00
Internal Combustion Engine	3 hr/D	1.00	1.25	1.75
	10 hr/D	1.25	1.50	2.00
	24 hr/D	1.50	1.75	2.25

## CONDITIONS OF USE

Driven machine	
Prime mover (actual power)	KW
Speed of input shaft	rpm
Speed of output shaft	rpm
Screw diameter	mm
Ambient temperature	°C
Operating hours	hr/D
Direction of rotation	
Shaft arrangement	

## Parallel Shaft / Double Reduction

Nominal reduction ratio	High Speed Shaft (rpm)	Low speed shaft (rpm)	Size of Reducer									
			A	B	C	D	E	F	G	H	I	J
6.3	1800	285	129	210	287	498	738	1125	1755	—	—	—
	1500	240	108	178	250	430	648	945	1539	—	—	—
	1200	190	86	144	207	310	528	764	1305	—	—	—
	1000	160	72	120	173	290	442	639	1160	—	—	—
	900	145	66	108	156	261	400	577	1008	—	—	—
	750	120	55	90	131	219	334	484	849	—	—	—
7.1	1800	255	116	184	252	405	654	972	1647	1755	2673	3591
	1500	210	97	146	212	340	548	821	1449	1539	2349	3096
	1200	170	79	117	171	273	441	662	1188	1305	2007	2646
	1000	140	73	99	143	229	369	554	990	1080	1737	2295
	900	125	61	89	129	207	333	501	900	1026	1584	2106
	750	105	50	74	108	173	279	419	753	881	1332	1800
8	1800	225	101	166	252	406	613	897	1494	1647	2511	3114
	1500	190	85	139	210	341	513	752	1305	1449	2205	2745
	1200	150	68	112	170	274	414	605	1080	1224	1872	2349
	1000	125	57	94	142	229	346	507	918	1053	1566	2260
	900	115	52	85	128	207	313	458	831	954	1413	1863
	750	94	42	71	107	173	261	383	696	802	1179	1602
9	1800	200	91	136	207	321	513	777	1404	1494	2232	2880
	1500	165	76	113	173	269	430	651	1206	1305	1971	2538
	1200	135	62	92	140	216	346	524	973	1080	1639	2115
	1000	110	52	78	114	181	289	440	817	927	1395	1818
	900	100	46	70	106	163	261	396	737	854	1251	1665
	750	83	39	59	88	136	218	332	617	730	1053	1422
10	1800	180	83	130	198	330	513	744	1242	1404	2370	2565
	1500	150	70	110	166	277	430	623	1062	1233	2020	2250
	1200	120	56	90	134	223	345	502	868	1017	1470	2090
	1000	100	47	75	112	18	289	422	727	870	1242	1611
	900	90	42	67	111	168	261	379	656	758	1160	1476
	750	75	36	56	84	141	218	317	549	657	936	1250
11.2	1800	160	75	112	163	261	428	645	1134	1242	1935	2502
	1500	135	63	104	136	218	359	540	954	1062	1665	2160
	1200	105	53	85	110	176	288	435	770	883	1377	1791
	1000	89	42	70	92	147	242	364	645	758	1152	1539
	900	80	38	57	70	133	218	328	582	693	1035	1404
	750	67	32	48	77	111	182	275	486	586	873	1206
12.5	1800	145	65	105	161	265	396	582	990	1161	1818	2223
	1500	120	54	88	135	222	332	487	864	999	1521	1917
	1200	96	44	71	108	179	267	392	700	819	1224	1593
	1000	80	36	59	90	150	224	328	647	686	1026	1368
	900	72	27	54	80	135	200	296	526	620	927	1233
	750	60	30	45	68	113	169	248	440	519	778	1035
14	1800	130	59	86	133	209	331	504	909	999	1530	2016
	1500	105	49	72	111	175	277	423	766	863	1314	1728
	1200	86	39	58	89	141	223	340	617	715	1071	1431
	1000	71	33	47	74	117	187	284	516	613	896	1233
	900	64	30	44	67	99	168	256	466	561	809	1125
	750	54	25.5	36	56	87	141	215	390	469	676	963

Nominal reduction ratio	High Speed Shaft (rpm)	Low speed shaft (rpm)	Size of Reducer									
			A	B	C	D	E	F	G	H	I	J
16	1800	113	52	84.6	123.3	203	318	479	828	945	1413	1800
	1500	94	43	70	102.6	170	266	401	559	811	1179	1539
	1200	75	35	56.7	82.8	136.8	214	323	622	657	954	1278
	1000	63	32	46.8	69.3	116	179	270	1116	549	798	1080
	900	56	28.8	42.3	62	102	161	244	1008	495	720	972
	750	47	22.1	35	52	86.4	135	203	848	461	603	819
18	1800	100	46.8	69.3	100	160	265	415	736	828	1278	1683
	1500	83	38.7	57.6	84.6	134	222	347	616	710	1080	1449
	1200	67	31.5	45.9	67.5	108	179	279	495	588	873	1197
	1000	56	26	38.7	56.7	90	149	234	414	499	730	1026
	900	50	23.7	35	51.3	81	135	210	374	450	659	936
	750	42	19.9	28.8	42	67.5	112.5	176	313	377	551	809

## Parallel Shaft / Triple Reduction

Nominal reduction ratio	High Speed Shaft (rpm)	Low speed shaft (rpm)	Size of Reducer									
			A	B	C	D	E	F	G	H	I	J
20	1800	90	44	71	112	185	270	401	682	—	—	—
	1500	75	36.9	59	94	153	225	335	585	—	—	—
	1200	60	29.7	47	74	124	108	270	474	—	—	—
	1000	50	24.9	39	63	103	151	225	396	—	—	—
	900	45	22.4	36	57	94	136	203	357	—	—	—
	750	38	18.7	29	47	78	114	170	298	—	—	—
22.4	1800	80	39	58	92	145	225	347	624	682	1026	1350
	1500	67	33	48	77	121	188	297	522	585	883	1161
	1200	54	26.8	39	62	97	151	234	420	485	720	963
	1000	45	22.4	33	52	81	126	195	351	415	603	827
	900	40	20	29	46	73	113	176	316	380	544	756
	750	33	16.8	25.5	39	62	95	147	264	319	455	637
25	1800	72	35	57	86	141	216	331	561	641	954	1206
	1500	60	29.7	48	72	117	180	277	380	550	799	1035
	1200	48	23.8	38	58	95	145	222	380	447	642	858
	1000	40	19.9	32	48	88	121	186	318	374	534	731
	900	36	18	29	42	72	109	167	286	337	484	658
	750	30	15	25	36	60	91	140	240	281	405	550
28	1800	64	31.5	47	71	112	180	286	502	561	861	1134
	1500	54	26.8	39	59	93	151	239	420	481	731	972
	1200	43	21.5	32	47	74	121	192	337	399	587	806
	1000	36	18	26.4	40	63	101	161	282	340	491	691
	900	32	16.2	23.5	36	56	90	144	254	306	442	632
	750	27	13.5	20.1	30	47	76.5	121	212	256	370	542
31.5	1800	57	27	45	71	118	172	257	459	529	778	1008
	1500	48	23	37.8	59	100	144	215	384	430	651	866
	1200	38	18.5	30.6	48	80	116	172	308	360	522	712
	1000	32	17.2	25.6	40	66	97	144	258	300	437	594
	900	29	15.5	23.1	36	66	87	129	233	270	394	536
	750	24	11.6	19.3	30	50	73	109	194	226	329	449
35.5	1800	51	24.8	37	59	93	145	222	391	472	702	936
	1500	42	20.8	30.6	49	82	120	186	341	405	587	809
	1200	34	16.6	25	40	63	97	149	273	329	472	670
	1000	28	13.9	21	33	53	81	125	228	275	395	575
	900	25	12.5	19	30	47	73	112	206	248	355	501
	750	21	10.4	15.8	24	39	61	93	171	207	297	436
40	1800	45	22	36.9	55	90	138	211	369	433	625	839
	1500	38	18.5	30.6	46	75	116	177	308	355	522	711
	1200	30	14.8	24.7	36	61	93	142	248	291	420	571
	1000	25	12.4	20.6	31	51	77	118	207	244	351	477
	900	23	11.6	18.5	27	51	70	107	186	219	316	431
	750	19	9.3	15.5	23.7	38	58	89	155	183	264	360
45	1800	40	19.9	29.7	45	72	116	183	327	388	572	788
	1500	33	16.6	25	38	60	97	153	273	329	478	675
	1200	27	13.3	20.2	30	48	77	123	219	264	384	560
	1000	22	11.1	16.9	25.1	40	64	102	183	221	321	471
	900	20	10	15	22.3	36	58	92	165	199	289	425
	750	17	8.3	12.7	19.1	29	48	77	137	166	242	355

Nominal reduction ratio	High Speed Shaft (rpm)	Low speed shaft (rpm)	Size of Reducer									
			A	B	C	D	E	F	G	H	I	J
50	1800	36	17.8	28.8	44	73	108	160	286	349	509	693
	1500	30	14.9	24.4	37	60	90	132	237	291	426	579
	1200	24	11.9	19.6	29.7	49	70	106	190	234	342	465
	1000	20	10	18.2	25.1	41	61	94	159	195	286	388
	900	18	9	16.4	22.6	37	50	88	144	176	257	351
	750	15	7.5	12.3	18.9	31	45	66	119	146	215	293
56	1800	32	16.1	23.9	36.9	58	90	136	252	304	451	645
	1500	27	13.4	20	30.6	48	75	114	210	253	442	553
	1200	21	10.8	16	24.7	42	61	91	169	203	302	444
	1000	18	9	13.4	20.6	32	50	76.5	141	170	253	371
	900	16	8.1	12	18.6	29	45	68	141	153	227	334
	750	13	6.7	10	15.5	25	38	57.6	106	127	190	280
63	1800	29	14.3	23.4	34.2	56	87	129	228	269	401	546
	1500	24	11.9	19.6	27.9	48	70	109	190	224	335	457
	1200	19	9.5	15.7	23.4	38	58	87	153	180	270	367
	1000	16	8	13.1	19.1	34	48	72.9	127	150	225	306
	900	14	7.2	11.8	17.2	31	44	65	115	136	202	276
	750	12	6	9.9	14.4	24	36	55	96	113	169	230
71	1800	25	12.8	19.2	27.9	44	70	112	202	244	367	539
	1500	21	10.7	16.1	23.5	37	61	93.6	169	203	307	450
	1200	17	8.6	12.8	18.9	27	48	75	135	163	246	361
	1000	14	8	12	15.8	24	40	63	113	136	206	336
	900	13	6.5	10.8	14.2	22	35	56	101	123	185	272
	750	11	5.4	8.1	11.8	18	30	56	85	102	155	227
80	1800	23	—	—	—	—	—	—	185	216	326	445
	1500	19	—	—	—	—	—	—	154	180	273	371
	1200	15	—	—	—	—	—	—	124	144	219	298
	1000	13	—	—	—	—	—	—	103	120	183	249
	900	11	—	—	—	—	—	—	94	108	183	225
	750	9.4	—	—	—	—	—	—	78	91	137	187

## Parallel Shaft / Quadruple Reduction

Nominal reduction ratio	High Speed Shaft (rpm)	Low speed shaft (rpm)	Size of Reducer									
			A	B	C	D	E	F	G	H	I	J
80	1800	23	11.1	18	26.2	40.5	66	104	—	—	—	—
	1500	19	9.3	15.2	22.2	33.3	55	87	—	—	—	—
	1200	15	7.5	12.1	17.7	27	44	69	—	—	—	—
	1000	13	6.2	10	14.8	22.8	37	58	—	—	—	—
	900	11	5.6	9.2	13.3	20.5	33	52	—	—	—	—
	750	9.4	4.7	7.6	11.1	17.1	28	43	—	—	—	—
90	1800	20	10	14.8	23.2	36.9	58	90	162	—	—	—
	1500	17	8.4	12.4	19.3	30.6	49	75	135	—	—	—
	1200	13	6.6	10	15.5	24.6	39	60	108	—	—	—
	1000	11	5.6	8.3	12.9	20.6	33	50	90	—	—	—
	900	10	5	7.5	11.7	18.5	29	45	82	—	—	—
	750	8.3	4.2	6.2	9.7	15.5	25	37	67	—	—	—
100	1800	18	8.9	14.3	21.6	35	56	85	146	173	247	335
	1500	15	7.5	12.3	18	29.7	46	71	122	144	206	280
	1200	12	5.9	9.8	14.5	24	38	57	98	115	165	225
	1000	10	4.9	8.2	12	20	31	47	82	95	137	188
	900	9	4.5	7.4	10.9	18	28	43	74	81	124	169
	750	7.5	3.8	6.1	9	15	24	36	61	72	103	141
112	1800	16	8	11.9	17.7	27.9	47	73	129	156	226	331
	1500	13	6.6	10	14.8	23.6	40	62	108	130	188	277
	1200	11	5.9	8	11.8	18.9	31	49	87	104	151	222
	1000	8.9	4.5	6.6	9.9	15.7	26.5	41	72	87	126	185
	900	8	4	6	8.9	14	24	37	65	78	113	167
	750	6.7	3.3	5	7.5	11.8	20	30	54	66	94	139
125	1800	14	7.2	11.8	17.3	28	43	65.7	118	138	200	274
	1500	12	6	9.9	14.4	13.7	36	55	98	115	167	227
	1200	9.6	4.7	7.9	11.6	19.3	28.8	43	78	93	134	182
	1000	8	4	6.6	9.6	16	24.3	36	66	77	111	153
	900	7.2	3.6	5.9	8.7	14.5	21.9	32.4	59	69	100	137
	750	6	2.9	4.9	7.3	11.8	18.3	27	49	57	85	114
140	1800	13	6.5	9.7	14.2	22.7	36	56.7	104	125	185	272
	1500	11	5.4	8.1	11.8	19	29.7	46.8	190	104	154	227
	1200	8.6	4.3	6.5	9.7	15.2	24.3	38	87	83	124	182
	1000	7.1	3.6	5.4	7.9	12.7	20.3	31.5	69	70	103	152
	900	6.4	3.3	4.8	7.1	11.4	18.3	27.9	57	63	93	137
	750	5.4	2.7	4	5.9	9.5	15.3	23.8	43	52	83	114
160	1800	11	5.6	9	14.2	21.8	33.2	52.2	89	110	165	225
	1500	9.4	4.7	7.5	11.8	18.1	27.7	43	74	93	137	187
	1200	7.5	3.7	6.1	9.5	14.6	22.2	35	59	74	110	150
	1000	6.3	3.2	5	7.9	12.1	18	29	49	62	92	125
	900	5.6	2.8	4.6	7.1	10.9	16.5	26.5	44	55	83	113
	750	4.7	2.3	3.8	5.8	9.1	13.3	22.1	37	46	69	93
180	1800	10	5	7.4	11.7	18.5	29.7	45	78	94	137	215
	1500	8.3	4.2	6.2	9.7	15.4	25.3	37.8	66	79	114	179
	1200	6.7	3.3	4.9	7.8	12.3	20.3	29.7	52	63	92	144
	1000	5.6	2.8	4.1	6.5	10.3	16.9	25.5	44	53	76	119
	900	5	2.5	3.8	5.8	9.3	15.2	22.9	39	47	69	108
	750	4.2	2	3.1	4.8	7.7	12.7	19	32	39	57	90

Nominal reduction ratio	High Speed Shaft (rpm)	Low speed shaft (rpm)	Size of Reducer									
			A	B	C	D	E	F	G	H	I	J
200	1800	9	4.5	7.4	10.1	17.9	28	43.2	71	84	122	177
	1500	7.5	3.8	6.1	9	14.9	24	36	59	70	102	147
	1200	6	2.9	4.9	7.3	11.9	19.4	28.8	47	56	82	118
	1000	5	2.5	4.1	6	9.9	16.2	24.2	39	46	68	99
	900	4.5	2.2	4	5.5	9	14.5	21.8	39	42	61	89
	750	3.8	1.9	3.1	4.6	7.5	12.2	18.2	29.7	35	51	74
224	1800	8	4.1	6.1	8.9	14	24.3	41	63	75	111	164
	1500	6.7	3.4	5	7.5	11.8	20	30	52	63	93	136
	1200	5.4	2.7	4	5.9	9.4	16.2	25	42	50	74	110
	1000	4.5	2.2	3.3	4.9	7.8	13.5	20.8	35	42	62	92
	900	4	1.9	3.1	4.5	7.1	12.1	18.8	31	38	55	83
	750	3.3	1.7	2.5	3.8	5.9	10.1	15.6	26.5	31	47	68
250	1800	7.2	—	—	8.7	14.4	22.2	32.4	56	66	99	135
	1500	6	—	—	7.3	11.9	18.5	27	47	55	83	113
	1200	4.8	—	—	5.8	9.6	14.8	22.1	38	45	66	91
	1000	4	—	—	4.8	8	12.4	18.5	32	37	55	76
	900	3.6	—	—	4.4	6.4	11.2	16.6	28	33	49	67
	750	3	—	—	3.6	6	9.4	13.8	24	28	41	57
280	1800	6.4	—	—	7.1	11.3	18.5	27.9	50	60	92	135
	1500	5.4	—	—	5.9	9.4	15.5	23.9	42	50	76	112
	1200	4.3	—	—	4.7	7.6	12.4	19.1	33	40	61	90
	1000	3.6	—	—	3.9	6.3	10.3	16	28	33	51	76
	900	3.2	—	—	3.6	5.7	9.3	14.4	25.5	31	46	67
	750	2.7	—	—	2.9	4.7	8.4	11.9	21.2	25.6	38	57
315	1800	5.7	—	—	6.7	10.1	16	25.1	45.9	54	82	111
	1500	4.8	—	—	5.6	8.5	13.5	20.9	38.7	45	68.4	92.7
	1200	3.8	—	—	4.5	6.8	10.8	16.7	30.6	36	54	74.7
	1000	3.2	—	—	3.8	5.7	9	13.9	25.9	29.7	45	62.1
	900	2.9	—	—	3.3	5.1	8.1	12.6	23.3	27	40.5	56
	750	2.4	—	—	2.8	4.2	6.7	10.5	19.4	22.7	34.2	46.8
355	1800	5.1	—	—	5.7	9.1	15.2	22.5	40.5	49.5	72	94.5
	1500	4.2	—	—	4.8	7.6	12.7	18.8	33.3	40.5	60.3	78
	1200	3.4	—	—	3.8	6.1	10.1	15	27	32.4	47.7	63
	1000	2.8	—	—	3.3	5.1	8.4	12.5	22.6	27	40.5	52
	900	2.5	—	—	2.8	4.6	7.6	11.2	20.3	24.8	36	47
	750	2.1	—	—	2.4	3.8	6.4	9.5	17	20.7	29.7	39.6
400	1800	4.5	—	—	5.3	7.9	13	20.2	37.8	43.2	63	83
	1500	3.8	—	—	4.4	6.5	10.9	16.9	31.5	36	53	68
	1200	3	—	—	3.5	5.3	8.7	13.6	25.5	28.8	42.3	55
	1000	2.5	—	—	2.9	4.4	7.3	11.3	21.2	24	35.1	46
	900	2.3	—	—	2.6	3.9	6.5	10.1	19	21.7	31.5	41
	750	1.9	—	—	2.2	3.3	5.5	8.5	15.9	18.1	26.6	34

## Right Angle / Triple Reduction

Nominal reduction ratio	High Speed Shaft (rpm)	Low speed shaft (rpm)	Size of Reducer									
			A	B	C	D	E	F	G	H	I	J
20	1800	90	44	71	112	185	270	401	682	—	—	—
	1500	75	36.9	59	94	153	225	335	585	—	—	—
	1200	60	29.7	47	74	124	108	270	474	—	—	—
	1000	50	24.9	39	63	103	151	225	396	—	—	—
	900	45	22.4	36	57	94	136	203	357	—	—	—
	750	38	18.7	29	47	78	114	170	298	—	—	—
22.4	1800	80	39	58	92	145	225	347	624	682	1026	1350
	1500	67	33	48	77	121	188	297	522	585	883	1161
	1200	54	26.8	39	62	97	151	234	420	485	720	963
	1000	45	22.4	33	52	81	126	195	351	415	603	827
	900	40	20	29	46	73	113	176	316	380	544	756
	750	33	16.8	25.5	39	62	95	147	264	319	455	637
25	1800	72	35	57	86	141	216	331	561	641	954	1206
	1500	60	29.7	48	72	117	180	277	380	550	799	1035
	1200	48	23.8	38	58	95	145	222	380	447	642	858
	1000	40	19.9	32	48	88	121	186	318	374	534	731
	900	36	18	29	42	72	109	167	286	337	484	658
	750	30	15	25	36	60	91	140	240	281	405	550
28	1800	64	31.5	47	71	112	180	286	502	561	861	1134
	1500	54	26.8	39	59	93	151	239	420	481	731	972
	1200	43	21.5	32	47	74	121	192	337	399	587	806
	1000	36	18	26.4	40	63	101	161	282	340	491	691
	900	32	16.2	23.5	36	56	90	144	254	306	442	632
	750	27	13.5	20.1	30	47	76.5	121	212	256	370	542
31.5	1800	57	27	45	71	118	172	257	459	529	778	1008
	1500	48	23	37.8	59	100	144	215	384	430	651	866
	1200	38	18.5	30.6	48	80	116	172	308	360	522	712
	1000	32	17.2	25.6	40	66	97	144	258	300	437	594
	900	29	15.5	23.1	36	66	87	129	233	270	394	536
	750	24	11.6	19.3	30	50	73	109	194	226	329	449
35.5	1800	51	24.8	37	59	93	145	222	391	472	702	936
	1500	42	20.8	30.6	49	82	120	186	341	405	587	809
	1200	34	16.6	25	40	63	97	149	273	329	472	670
	1000	28	13.9	21	33	53	81	125	228	275	395	575
	900	25	12.5	19	30	47	73	112	206	248	355	501
	750	21	10.4	15.8	24	39	61	93	171	207	297	436
40	1800	45	22	36.9	55	90	138	211	369	433	625	839
	1500	38	18.5	30.6	46	75	116	177	308	355	522	711
	1200	30	14.8	24.7	36	61	93	142	248	291	420	571
	1000	25	12.4	20.6	31	51	77	118	207	244	351	477
	900	23	11.6	18.5	27	51	70	107	186	219	316	431
	750	19	9.3	15.5	23.7	38	58	89	155	183	264	360
45	1800	40	19.9	29.7	45	72	116	183	327	388	572	788
	1500	33	16.6	25	38	60	97	153	273	329	478	675
	1200	27	13.3	20.2	30	48	77	123	219	264	384	560
	1000	22	11.1	16.9	25.1	40	64	102	183	221	321	471
	900	20	10	15	22.3	36	58	92	165	199	289	425
	750	17	8.3	12.7	19.1	29	48	77	137	166	242	355

Nominal reduction ratio	High Speed Shaft (rpm)	Low speed shaft (rpm)	Size of Reducer									
			A	B	C	D	E	F	G	H	I	J
50	1800	36	17.8	28.8	44	73	108	160	286	349	509	693
	1500	30	14.9	24.4	37	60	90	132	237	291	426	579
	1200	24	11.9	19.6	29.7	49	70	106	190	234	342	465
	1000	20	10	18.2	25.1	41	61	94	159	195	286	388
	900	18	9	16.4	22.6	37	50	88	144	176	257	351
	750	15	7.5	12.3	18.9	31	45	66	119	146	215	293
56	1800	32	16.1	23.9	36.9	58	90	136	252	304	451	645
	1500	27	13.4	20	30.6	48	75	114	210	253	442	553
	1200	21	10.8	16	24.7	42	61	91	169	203	302	444
	1000	18	9	13.4	20.6	32	50	76.5	141	170	253	371
	900	16	8.1	12	18.6	29	45	68	141	153	227	334
	750	13	6.7	10	15.5	25	38	57.6	106	127	190	280
63	1800	29	14.3	23.4	34.2	56	87	129	228	269	401	546
	1500	24	11.9	19.6	27.9	48	70	109	190	224	335	457
	1200	19	9.5	15.7	23.4	38	58	87	153	180	270	367
	1000	16	8	13.1	19.1	34	48	72.9	127	150	225	306
	900	14	7.2	11.8	17.2	31	44	65	115	136	202	276
	750	12	6	9.9	14.4	24	36	55	96	113	169	230
71	1800	25	12.8	19.2	27.9	44	70	112	202	244	367	539
	1500	21	10.7	16.1	23.5	37	61	93.6	169	203	307	450
	1200	17	8.6	12.8	18.9	27	48	75	135	163	246	361
	1000	14	8	12	15.8	24	40	63	113	136	206	336
	900	13	6.5	10.8	14.2	22	35	56	101	123	185	272
	750	11	5.4	8.1	11.8	18	30	56	85	102	155	227
80	1800	23	—	—	—	—	—	—	185	216	326	445
	1500	19	—	—	—	—	—	—	154	180	273	371
	1200	15	—	—	—	—	—	—	124	144	219	298
	1000	13	—	—	—	—	—	—	103	120	183	249
	900	11	—	—	—	—	—	—	94	108	183	225
	750	9.4	—	—	—	—	—	—	78	91	137	187



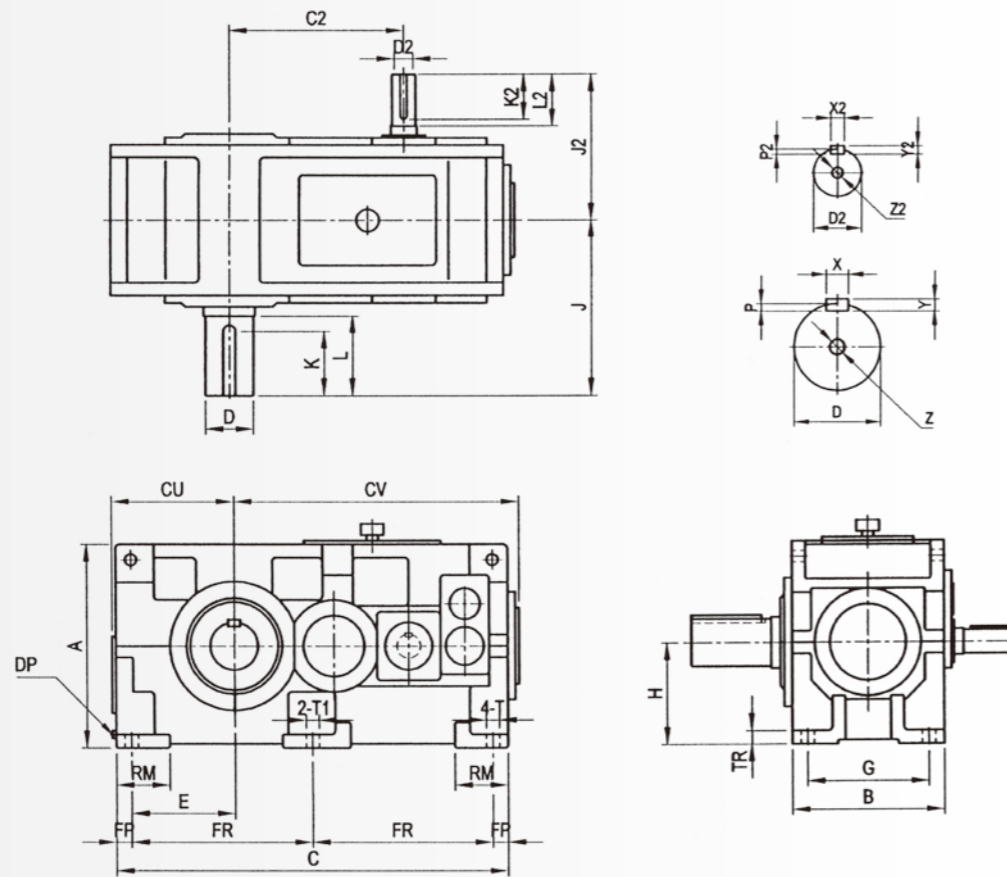
## Right Angle / Quadruple Reduction

Nominal reduction ratio	High Speed Shaft (rpm)	Low speed shaft (rpm)	Size of Reducer									
			A	B	C	D	E	F	G	H	I	J
80	1800	23	11.1	18	26.2	40.5	66	104	—	—	—	—
	1500	19	9.3	15.2	22.2	33.3	55	87	—	—	—	—
	1200	15	7.5	12.1	17.7	27	44	69	—	—	—	—
	1000	13	6.2	10	14.8	22.8	37	58	—	—	—	—
	900	11	5.6	9.2	13.3	20.5	33	52	—	—	—	—
	750	9.4	4.7	7.6	11.1	17.1	28	43	—	—	—	—
90	1800	20	10	14.8	23.2	36.9	58	90	162	—	—	—
	1500	17	8.4	12.4	19.3	30.6	49	75	135	—	—	—
	1200	13	6.6	10	15.5	24.6	39	60	108	—	—	—
	1000	11	5.6	8.3	12.9	20.6	33	50	90	—	—	—
	900	10	5	7.5	11.7	18.5	29	45	82	—	—	—
	750	8.3	4.2	6.2	9.7	15.5	25	37	67	—	—	—
100	1800	18	8.9	14.3	21.6	35	56	85	146	173	247	335
	1500	15	7.5	12.3	18	29.7	46	71	122	144	206	280
	1200	12	5.9	9.8	14.5	24	38	57	98	115	165	225
	1000	10	4.9	8.2	12	20	31	47	82	95	137	188
	900	9	4.5	7.4	10.9	18	28	43	74	81	124	169
	750	7.5	3.8	6.1	9	15	24	36	61	72	103	141
112	1800	16	8	11.9	17.7	27.9	47	73	129	156	226	331
	1500	13	6.6	10	14.8	23.6	40	62	108	130	188	277
	1200	11	5.9	8	11.8	18.9	31	49	87	104	151	222
	1000	8.9	4.5	6.6	9.9	15.7	26.5	41	72	87	126	185
	900	8	4	6	8.9	14	24	37	65	78	113	167
	750	6.7	3.3	5	7.5	11.8	20	30	54	66	94	139
125	1800	14	7.2	11.8	17.3	28	43	65.7	118	138	200	274
	1500	12	6	9.9	14.4	13.7	36	55	98	115	167	227
	1200	9.6	4.7	7.9	11.6	19.3	28.8	43	78	93	134	182
	1000	8	4	6.6	9.6	16	24.3	36	66	77	111	153
	900	7.2	3.6	5.9	8.7	14.5	21.9	32.4	59	69	100	137
	750	6	2.9	4.9	7.3	11.8	18.3	27	49	57	85	114
140	1800	13	6.5	9.7	14.2	22.7	36	56.7	104	125	185	272
	1500	11	5.4	8.1	11.8	19	29.7	46.8	190	104	154	227
	1200	8.6	4.3	6.5	9.7	15.2	24.3	38	87	83	124	182
	1000	7.1	3.6	5.4	7.9	12.7	20.3	31.5	69	70	103	152
	900	6.4	3.3	4.8	7.1	11.4	18.3	27.9	57	63	93	137
	750	5.4	2.7	4	5.9	9.5	15.3	23.8	43	52	83	114
160	1800	11	5.6	9	14.2	21.8	33.2	52.2	89	110	165	225
	1500	9.4	4.7	7.5	11.8	18.1	27.7	43	74	93	137	187
	1200	7.5	3.7	6.1	9.5	14.6	22.2	35	59	74	110	150
	1000	6.3	3.2	5	7.9	12.1	18	29	49	62	92	125
	900	5.6	2.8	4.6	7.1	10.9	16.5	26.5	44	55	83	113
	750	4.7	2.3	3.8	5.8	9.1	13.3	22.1	37	46	69	93
180	1800	10	5	7.4	11.7	18.5	29.7	45	78	94	137	215
	1500	8.3	4.2	6.2	9.7	15.4	25.3	37.8	66	79	114	179
	1200	6.7	3.3	4.9	7.8	12.3	20.3	29.7	52	63	92	144
	1000	5.6	2.8	4.1	6.5	10.3	16.9	25.5	44	53	76	119
	900	5	2.5	3.8	5.8	9.3	15.2	22.9	39	47	69	108
	750	4.2	2	3.1	4.8	7.7	12.7	19	32	39	57	90

Nominal reduction ratio	High Speed Shaft (rpm)	Low speed shaft (rpm)	Size of Reducer									
			A	B	C	D	E	F	G	H	I	J
200	1800	9	4.5	7.4	10.1	17.9	28	43.2	71	84	122	177
	1500	7.5	3.8	6.1	9	14.9	24	36	59	70	102	147
	1200	6	2.9	4.9	7.3	11.9	19.4	28.8	47	56	82	118
	1000	5	2.5	4.1	6	9.9	16.2	24.2	39	46	68	99
	900	4.5	2.2	4	5.5	9	14.5	21.8	39	42	61	89
	750	3.8	1.9	3.1	4.6	7.5	12.2	18.2	29.7	35	51	74
224	1800	8	4.1	6.1	8.9	14	24.3	41	63	75	111	164
	1500	6.7	3.4	5	7.5	11.8	20	30	52	63	93	136
	1200	5.4	2.7	4	5.9	9.4	16.2	25	42	50	74	110
	1000	4.5	2.2	3.3	4.9	7.8	13.5	20.8	35	42	62	92
	900	4	1.9	3.1	4.5	7.1	12.1	18.8	31	38	55	83
	750	3.3	1.7	2.5	3.8	5.9	10.1	15.6	26.5	31	47	68
250	1800	7.2	—	—	8.7	14.4	22.2	32.4	56	66	99	135
	1500	6	—	—	7.3	11.9	18.5	27	47	55	83	113
	1200	4.8	—	—	5.8	9.6	14.8	22.1	38	45	66	91
	1000	4	—	—	4.8	8	12.4	18.5	32	37	55	76
	900	3.6	—	—	4.4	6.4	11.2	16.6	28	33	49	67
	750	3	—	—	3.6	6	9.4	13.8	24	28	41	57
280	1800	6.4	—	—	7.1	11.3	18.5	27.9	50	60	92	135
	1500	5.4	—	—	5.9	9.4	15.5	23.9	42	50	76	112
	1200	4.3	—	—	4.7	7.6	12.4	19.1	33	40	61	90
	1000	3.6	—	—	3.9	6.3	10.3	16	28	33	51	76
	900	3.2	—	—	3.6	5.7	9.3	14.4	25.5	31	46	67
	750	2.7	—	—	2.9	4.7	8.4	11.9	21.2	25.6	38	57
315	1800	5.7	—	—	6.7	10.1	16	25.1	45.9	54	82	111
	1500	4.8	—	—	5.6	8.5	13.5	20.9	38.7	45	68.4	92.7
	1200	3.8	—	—	4.5	6.8	10.8	16.7	30.6	36	54	74.7
	1000	3.2	—	—	3.8	5.7	9	13.9	25.9	29.7	45	62.1
	900	2.9	—	—	3.3	5.1	8.1	12.6	23.3	27	40.5	56
	750	2.4	—	—	2.8	4.2	6.7	10.5	19.4	22.7	34.2	46.8
355	1800	5.1	—	—	5.7	9.1	15.2	22.5	40.5	49.5	72	94.5
	1500	4.2	—	—	4.8	7.6	12.7	18.8	33.3	40.5	60.3	78
	1200	3.4	—	—	3.8	6.1	10.1	15	27	32.4	47.7	63
	1000	2.8	—	—	3.3	5.1	8.4	12.5	22.6	27	40.5	52
	900	2.5	—	—	2.8	4.6	7.6	11.2	20.3	24.8	36	47
	750	2.1	—	—	2.4	3.8	6.4	9.5	17	20.7	29.7	39.6
400	1800	4.5	—	—	5.3	7.9	13	20.2	37.8	43.2	63	83
	1500	3.8	—	—	4.4	6.5	10.9	16.9	31.5	36	53	68
	1200	3	—	—	3.5	5.3	8.7	13.6	25.5	28.8	42.3	55
	1000	2.5	—	—	2.9	4.4	7.3	11.3	21.2	24	35.1	46
	900	2.3	—	—	2.6	3.9	6.5	10.1	19	21.7	31.5	41
	750	1.9	—	—	2.2	3.3	5.5	8.5	15.9	18.1	26.6	34

## Parallel Shaft / Double Reduction

### Dimension

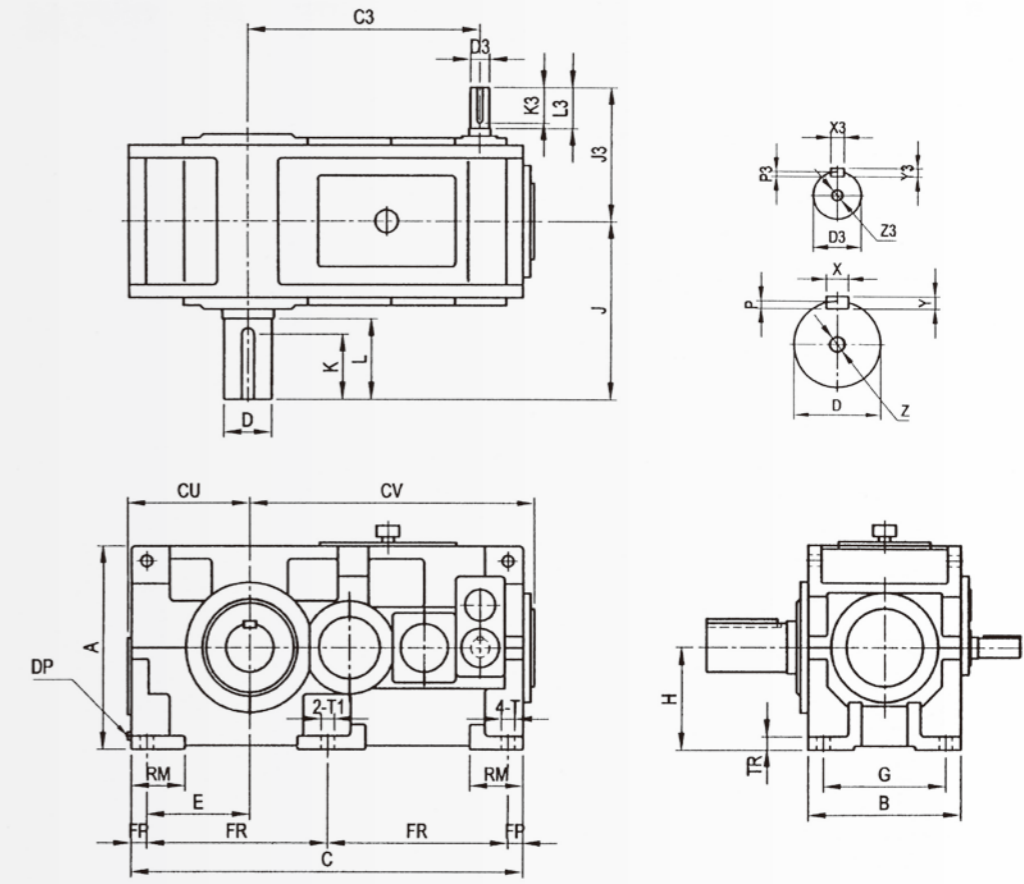


Type	A	B	C	C2	CU	CV	E	FP	FR	G	H	J	J2	RM	T	T1	TR	DP	Weight (kg)	Oil Capacity (ℓ)
TK-P2A	360	235	550	264	205	439	165	30	275	190	180	300	269	95	ø24	-	28	1"	190	11
TK-P2B	400	270	700	306	230	511	185	40	310	215	200	349	284	105	ø28	-	30	1"	265	16
TK-P2C	450	310	820	358	270	588	225	40	370	255	225	411	303	115	ø28	24	32	1"	400	24
TK-P2D	530	350	940	414	305	669	250	50	420	280	265	440	360	130	ø35	24	35	1.25"	610	37
TK-P2E	600	400	1080	482	340	782	275	60	480	320	300	509	385	150	ø42	28	40	1.25"	880	55
TK-P2F	670	440	1260	556	380	926	315	60	570	360	335	582	434	175	ø42	35	45	1.25"	1250	79
TK-P2G	750	570	1440	640	410	1070	345	60	660	480	375	650	500	270	ø42	42	50	1.5"	2050	120
TK-P2H	800	570	1500	670	440	1100	375	60	690	480	400	700	500	290	ø42	42	50	1.5"	2300	140
TK-P2I	900	650	1680	758	485	1238	410	70	770	560	450	740	585	320	ø48	48	55	1.5"	3290	205
TK-P2J	1000	710	1910	873	550	1403	470	75	880	610	500	830	615	350	ø48	56	60	1.5"	4410	290

Type	Low Speed Shaft							High Speed Shaft						
	D	L	K	X	Y	P	Z	D2	L2	K2	X2	Y2	P2	Z2
TK-P2A	78m6	140	120	22	14	9	M16	40m6	110	95	12	8	5	M10
TK-P2B	95m6	170	150	25	14	9	M16	50m6	110	95	14	9	5.5	M10
TK-P2C	110m6	210	190	28	16	10	M16	55m6	110	95	16	10	6	M10
TK-P2D	125m6	210	185	32	18	11	M16	65m6	140	125	18	11	7	M12
TK-P2E	145m6	250	225	36	20	12	M20	75m6	140	125	20	12	7.5	M12
TK-P2F	165m6	300	275	40	22	13	M20	80m6	170	150	22	14	9	M16
TK-P2G	180m6	300	275	45	25	15	M20	90m6	170	150	25	14	9	M16
TK-P2H	190m6	350	320	45	25	15	M20	90m6	170	150	25	14	9	M16
TK-P2I	220m6	350	320	50	28	17	M24	100m6	210	190	28	16	10	M16
TK-P2J	240m6	410	375	56	32	20	M24	110m6	210	190	28	16	10	M16

## Parallel Shaft / Triple Reduction

### Dimension

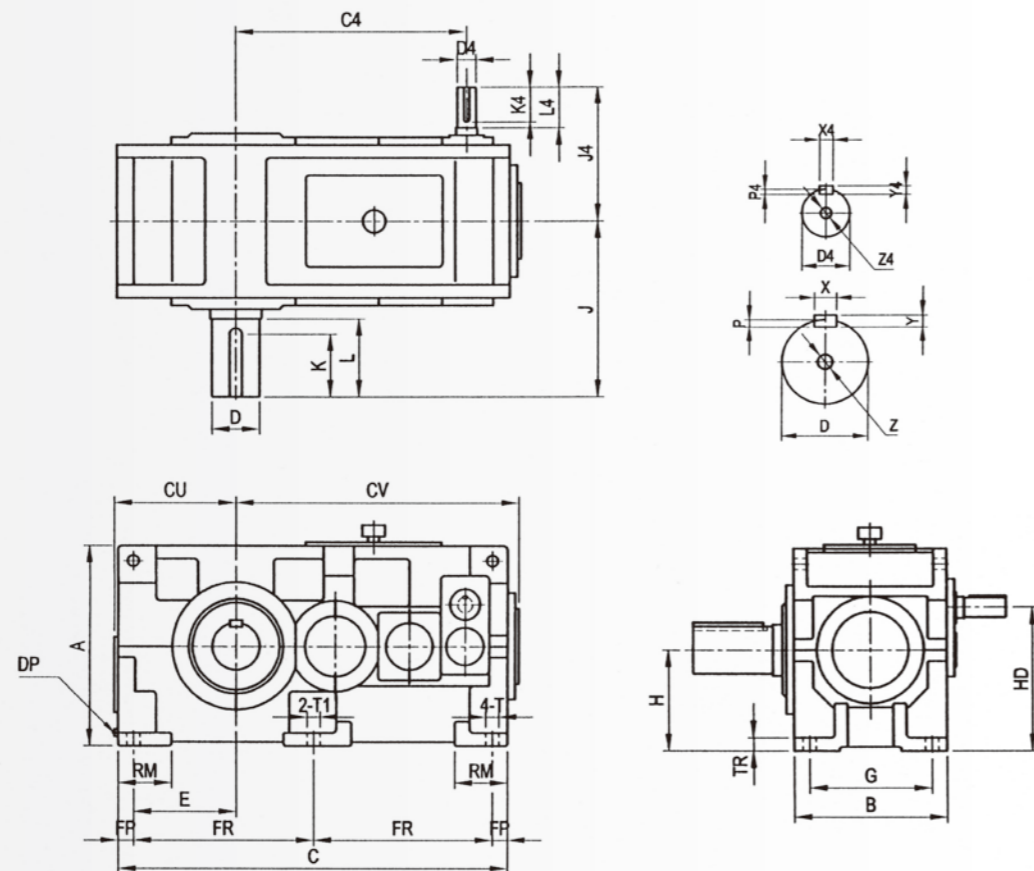


Type	A	B	C	C3	CU	CV	E	FP	FR	G	H	J	J3	RM	T	T1	TR	DP	Weight (kg)	Oil Capacity (ℓ)
TK-P3A	360	235	620	343	205	439	165	30	275	190	180	300	241	95	ø24	-	28	1"	195	12
TK-P3B	400	270	700	398	230	511	185	40	310	215	200	349	256	105	ø28	-	30	1"	275	17
TK-P3C	450	310	820	467	270	588	225	40	370	255	225	411	304	115	ø28	24	32	1"	410	26
TK-P3D	530	350	940	540	305	669	250	50	420	280	265	440	329	130	ø35	24	35	1.25"	630	42
TK-P3E	600	400	1080	630	340	782	275	60	480	320	300	509	354	150	ø42	28	40	1.25"	900	60
TK-P3F	670	440	1260	725	380	926	315	60	570	360	335	582	405	175	ø42	35	45	1.25"	1290	86
TK-P3G	750	570	1440	837	410	1070	345	60	660	480	375	650	470	270	ø42	42	50	1.5"	2100	120
TK-P3H	800	570	1500	867	440	1100	375	60	690	480	400	700	470	290	ø42	42	50	1.5"	2350	155
TK-P3I	900	650	1680	984	485	1238	410	70	770	560	450	740	515	320	ø48	48	55	1.5"	3340	225
TK-P3J	1000	710	1910	1099	550	1403	470	75	880	610	500	830	575	350	ø48	56	60	1.5"	4460	325

Type	Low Speed Shaft							High Speed Shaft						
	D	L	K	X	Y	P	Z	D3	L3	K3	X3	Y3	P3	Z3
TK-P3A	78m6	140	120	22	14	9	M16	30m6	80	70	8	7	4	M8
TK-P3B	95m6	170	150	25	14	9	M16	35m6	80	70	10	8	5	M8
TK-P3C	110m6	210	190	28	16	10	M16	40m6	110	95	14	9	5.5	M10
TK-P3D	125m6	210	185	32	18	11	M16	50m6	110	95	14	9	5.5	M10
TK-P3E	145m6	250	225	36	20	12	M20	55m6	110	95	16	10	6	M10
TK-P3F	165m6	300	275	40	22	13	M20	65m6	140	125	18	11	7	M12
TK-P3G	180m6	300	275	45	25	15	M20	65m6	140	125	18	11	7	M12
TK-P3H	190m6	350	320	45	25	15	M20	65m6	140	125	18	11	7	M12
TK-P3I	220m6	350	320	50	28	17	M24	75m6	140	125	20	12	7.5	M12
TK-P3J	240m6	410	375	56	32	20	M24	80m6	170	150	22	14	9	M16

## Parallel Shaft / Quadruple Reduction

Dimension

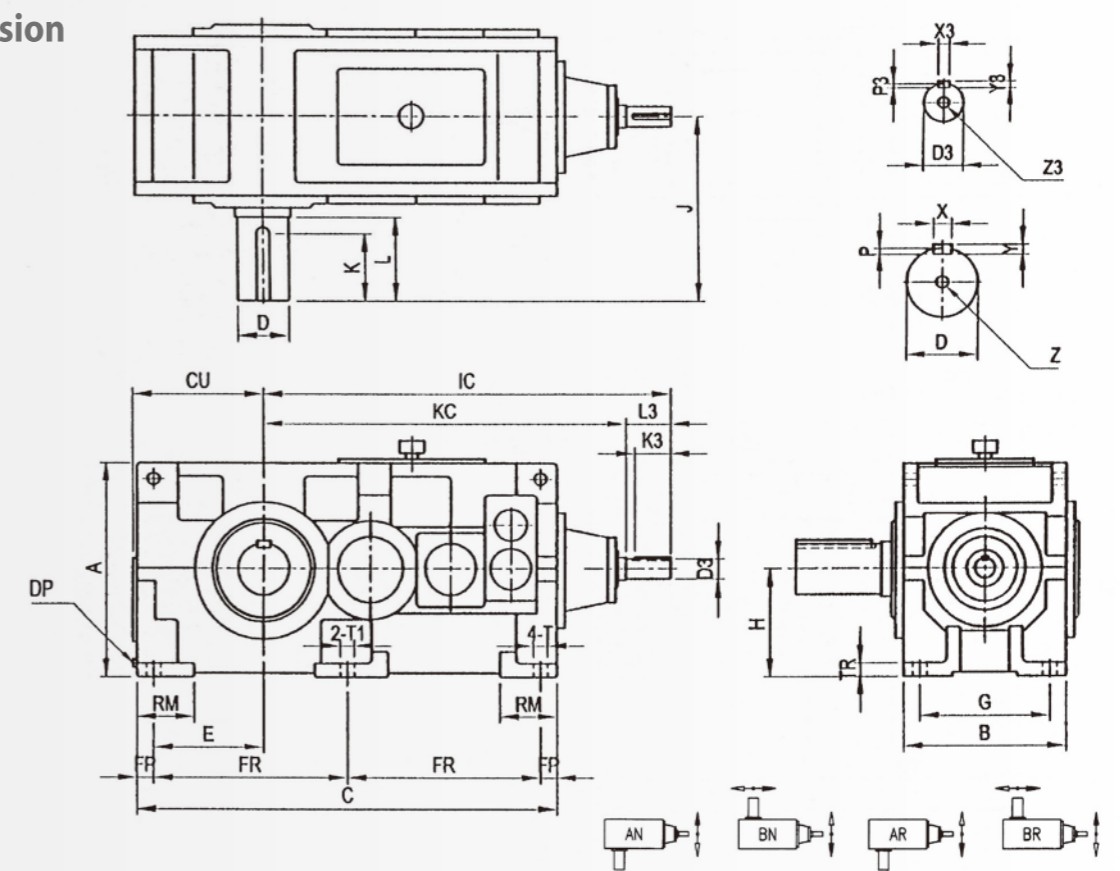


Type	A	B	C	C4	CU	CV	E	FP	FR	G	H	HD	J	J4	RM	T	T1	TR	DP	Weight (kg)	Oil Capacity (L)
TK-P4A	360	235	620	343	205	439	165	30	275	190	180	243	300	219	95	ø24	-	28	1"	200	12
TK-P4B	400	270	700	398	230	511	185	40	310	215	200	279	349	235	105	ø28	-	30	1"	280	18
TK-P4C	450	310	820	467	270	588	225	40	370	255	225	304	411	275	115	ø28	24	32	1"	415	28
TK-P4D	530	350	940	540	305	669	250	50	420	280	265	357	440	301	130	ø35	24	35	1.25"	630	43
TK-P4E	600	400	1080	630	340	782	275	60	480	320	300	409	509	354	150	ø42	28	40	1.25"	910	62
TK-P4F	670	440	1260	725	380	926	315	60	570	360	335	461	582	374	175	ø42	35	45	1.25"	1300	90
TK-P4G	750	570	1440	837	410	1070	345	60	660	480	375	517	650	440	270	ø42	42	50	1.5"	2150	150
TK-P4H	800	570	1500	867	440	1100	375	60	690	480	400	542	700	440	290	ø42	42	50	1.5"	2400	180
TK-P4I	900	650	1680	984	485	1238	410	70	770	560	450	612	740	515	320	ø48	48	55	1.5"	3390	260
TK-P4J	1000	710	1910	1099	550	1403	470	75	880	610	500	662	830	545	350	ø48	56	60	1.5"	4510	365

Type	Low Speed Shaft							High Speed Shaft						
	D	L	K	X	Y	P	Z	D4	L4	K4	X4	Y4	P4	Z4
TK-P4A	78m6	140	120	22	14	9	M16	25m6	60	50	8	7	4	M8
TK-P4B	95m6	170	150	25	14	9	M16	28m6	60	50	8	7	4	M8
TK-P4C	110m6	210	190	28	16	10	M16	30m6	80	70	8	7	4	M8
TK-P4D	125m6	210	185	32	18	11	M16	35m6	80	70	10	8	5	M8
TK-P4E	145m6	250	225	36	20	12	M20	40m6	110	95	12	8	5	M10
TK-P4F	165m6	300	275	40	22	13	M20	45m6	110	95	14	9	5.5	M10
TK-P4G	180m6	300	275	45	25	15	M20	50m6	110	95	14	9	5.5	M10
TK-P4H	190m6	350	320	45	25	15	M20	50m6	110	95	14	9	5.5	M10
TK-P4I	220m6	350	320	50	28	17	M24	60m6	140	125	18	11	7	M10
TK-P4J	240m6	410	375	56	32	20	M24	60m6	140	125	18	11	7	M12

## Right Angle / Triple Reduction

Dimension

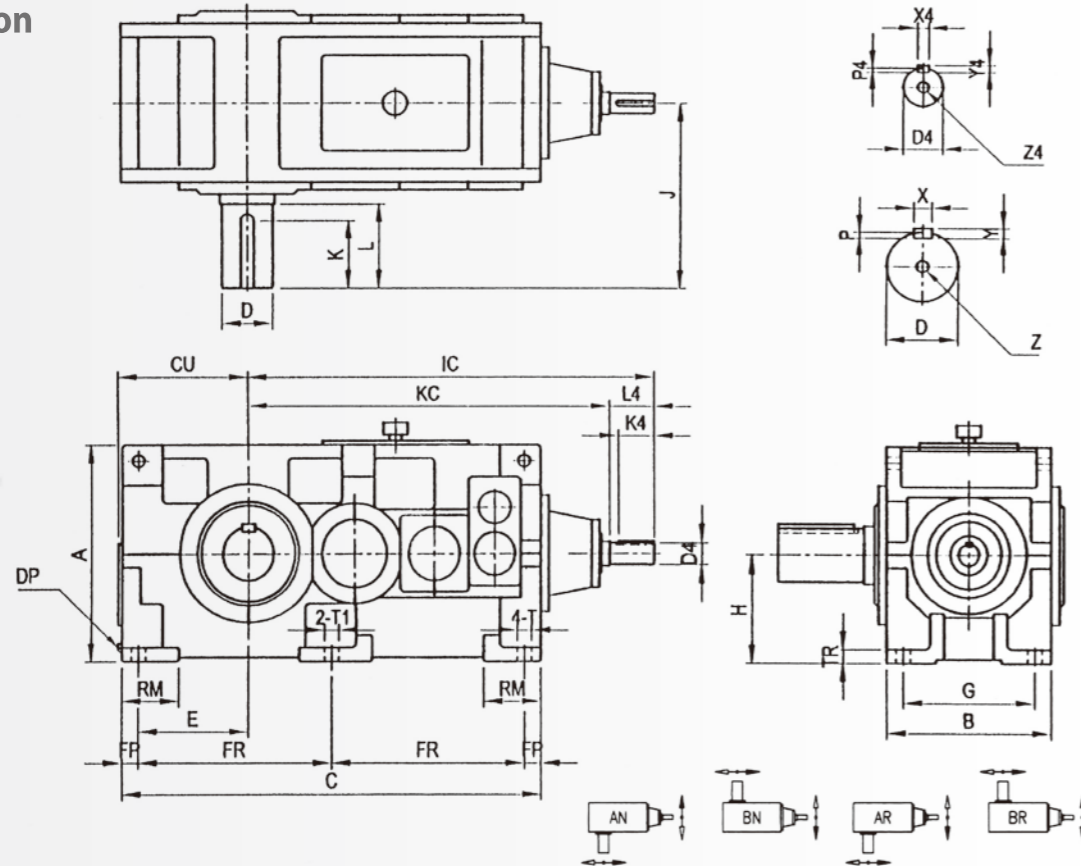


Type	A	B	C	CU	IC	KC	E	FP	FR	G	H	J	RM	T	TR	DP	Weight (kg)	Oil Capacity (L)
TK-R3A	360	235	620	205	636	576	165	30	280	190	180	300	95	ø24	28	1"	210	11
TK-R3B	400	270	700	230	716	636	185	40	310	215	200	349	105	ø28	30	1"	295	16
TK-R3C	450	310	820	270	808	728	225	40	370	255	225	411	115	ø28	32	1"	435	25
TK-R3D	530	350	940	305	939	829	250	50	420	280	265	440	130	ø35	35	1.25"	660	40
TK-R3E	600	400	1080	340	1027	917	275	60	480	320	300	509	150	ø42	40	1.25"	940	57
TK-R3F	670	440	1260	380	1176	1036	315	60	570	360	335	582	175	ø42	45	1.25"	1340	83
TK-R3G	750	570	1440	410	1320	1180	345	60	660	480	375	650	270	ø42	50	1.5"	2150	120
TK-R3H	800	570	1500	440	1350	1210	375	60	690	480	400	700	290	ø42	50	1.5"	2400	155
TK-R3I	900	650	1680	485	1508	1368	410	70	770	560	450	740	320	ø48	55	1.5"	3440	220
TK-R3J	1000	710	1910	550	1733	1563	470	75	880	610	500	830	350	ø48	60	1.5"	4610	310

Type	Low Speed Shaft							High Speed Shaft						
	D	L	K	X	Y	P	Z	D3	L3	K3	X3	Y3	P3	Z3
TK-R3A	78m6	140	120	22	14	9	M20	28m6	60	50	8	7	4	M10
TK-R3B	95m6	170	150	25	14	9	M24	30m6	80	70	8	7	4	M10
TK-R3C	110m6	210	190	28	16	10	M24	35m6	80	70	10	8	5	M12
TK-R3D	125m6	210	185	32	18	11	M24	45m6	110	95	14	9	5.5	M16
TK-R3E	145m6	250	225	36	20	12	M30	50m6	110	95	14	9	5.5	M16
TK-R3F	165m6	300	275	40	22	13	M30	60m6	140	125	18	11	7	M20
TK-R3G	180m6	300	275	45	25	15	M30	65m6	140	125	18	11	7	M20
TK-R3H	190m6	350	320	45	25	15	M30	65m6	140	125	18	11	7	M20
TK-R3I	220m6	350	320	50	28	17	M30	75m6	140	125	20	12	7.5	M20
TK-R3J	240m6	410	375	56	32	20	M30	85m6	170	150	22	14	9	M20

## Right Angle / Quadruple Reduction

### Dimension

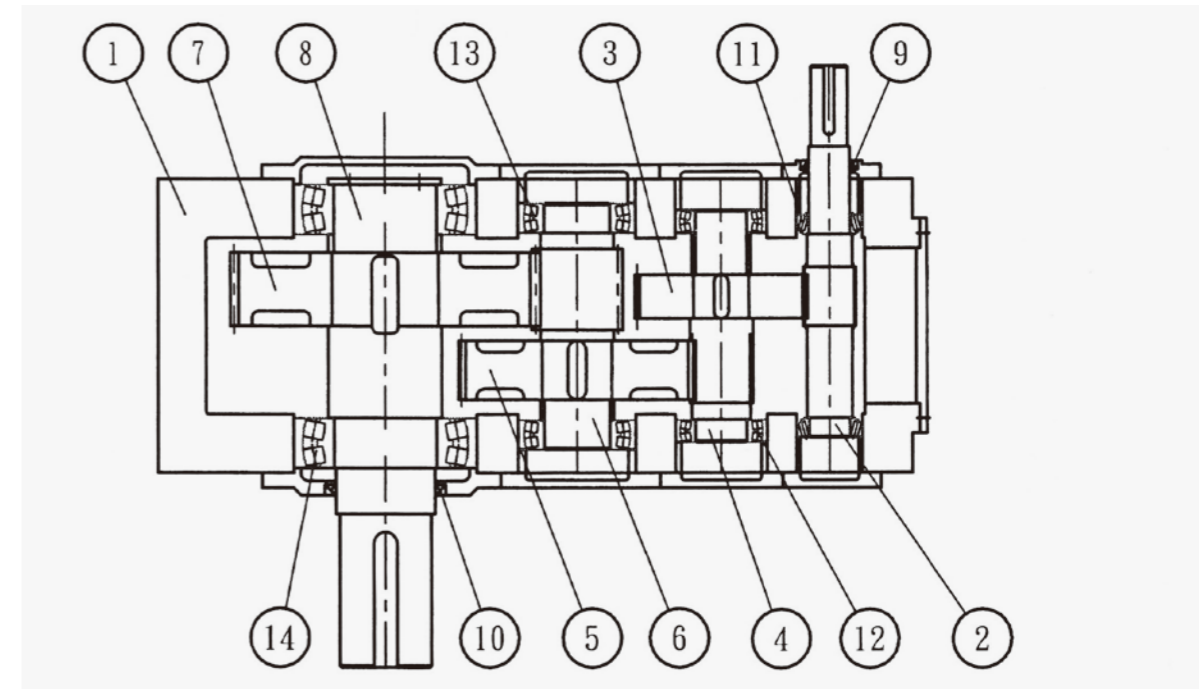


Type	A	B	C	CU	IC	KC	E	FP	FR	G	H	J	RM	T	TR	DP	Weight (kg)	Oil Capacity (L)
TK-R4B	400	270	700	230	770	710	185	40	310	215	200	349	105	ø28	30	1"	295	16
TK-R4C	450	310	820	270	839	779	225	40	370	255	225	411	115	ø28	32	1"	435	25
TK-R4D	530	350	940	305	950	870	250	50	420	280	265	440	130	ø3	35	1.25"	660	40
TK-R4E	600	400	1080	340	1080	1100	275	60	480	320	300	509	150	ø42	40	1.25"	940	57
TK-R4F	670	440	1260	380	1250	1140	315	60	570	360	335	582	175	ø42	45	1.25"	1340	83
TK-R4G	750	570	1440	410	1382	1272	345	60	660	480	375	650	270	ø42	50	1.5"	2150	120
TK-R4H	800	570	1500	440	1412	1302	375	60	690	480	400	700	290	ø42	50	1.5"	2400	155
TK-R4I	900	650	1680	485	1604	1464	410	70	770	560	450	740	320	ø48	55	1.5"	3440	220
TK-R4J	1000	710	1910	550	1719	1579	470	75	880	610	500	830	350	ø48	60	1.5"	4610	310

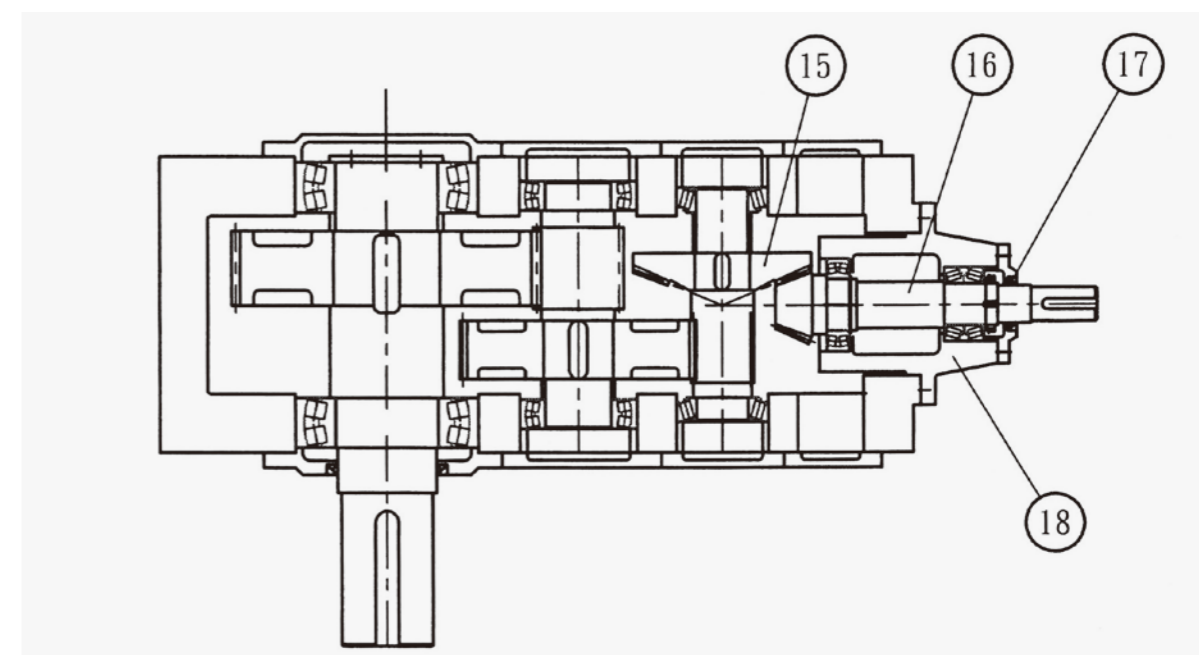
Type	Low Speed Shaft							High Speed Shaft						
	D	L	K	X	Y	P	Z	D4	L4	K4	X4	Y4	P4	Z4
TK-R4B	95m6	170	150	25	14	9	M24	28m6	60	50	8	7	4	M10
TK-R4C	110m6	210	190	28	16	10	M24	28m6	60	50	8	7	4	M10
TK-R4D	125m6	210	185	32	18	11	M24	30m6	80	70	8	8	4	M10
TK-R4E	145m6	250	225	36	20	12	M30	35m6	80	70	10	8	5	M12
TK-R4F	165m6	300	275	40	22	13	M30	45m6	110	95	14	9	5.5	M16
TK-R4G	180m6	300	275	45	25	15	M30	50m6	110	95	14	9	5.5	M16
TK-R4H	190m6	350	320	45	25	15	M30	50m6	110	95	14	9	5.5	M16
TK-R4I	220m6	350	320	50	28	17	M30	60m6	140	125	18	11	7	M20
TK-R4J	240m6	410	375	56	32	20	M30	60m6	140	125	18	11	7	M20

## STRUCTURAL DIAGRAM

### Parallel Shaft - Triple Reduction



### Right Angle Shaft - Triple Reduction



### Item Name of Parts

1. GEAR BOX	7. GEAR	13. BEARING
2. HIGH SPEED SHAFT	8. LOW SPEED SHAFT	14. BEARING
3. GEAR	9. OIL SEAL	15. BEVEL-HELICAL GEAR
4. GEAR SHAFT	10. OIL SEAL	16. HIGH SPEED SHAFT
5. GEAR	11. BEARING	17. OIL SEAL
6. GEAR SHAFT	12. BEARING	18. SHAFT SOCKET