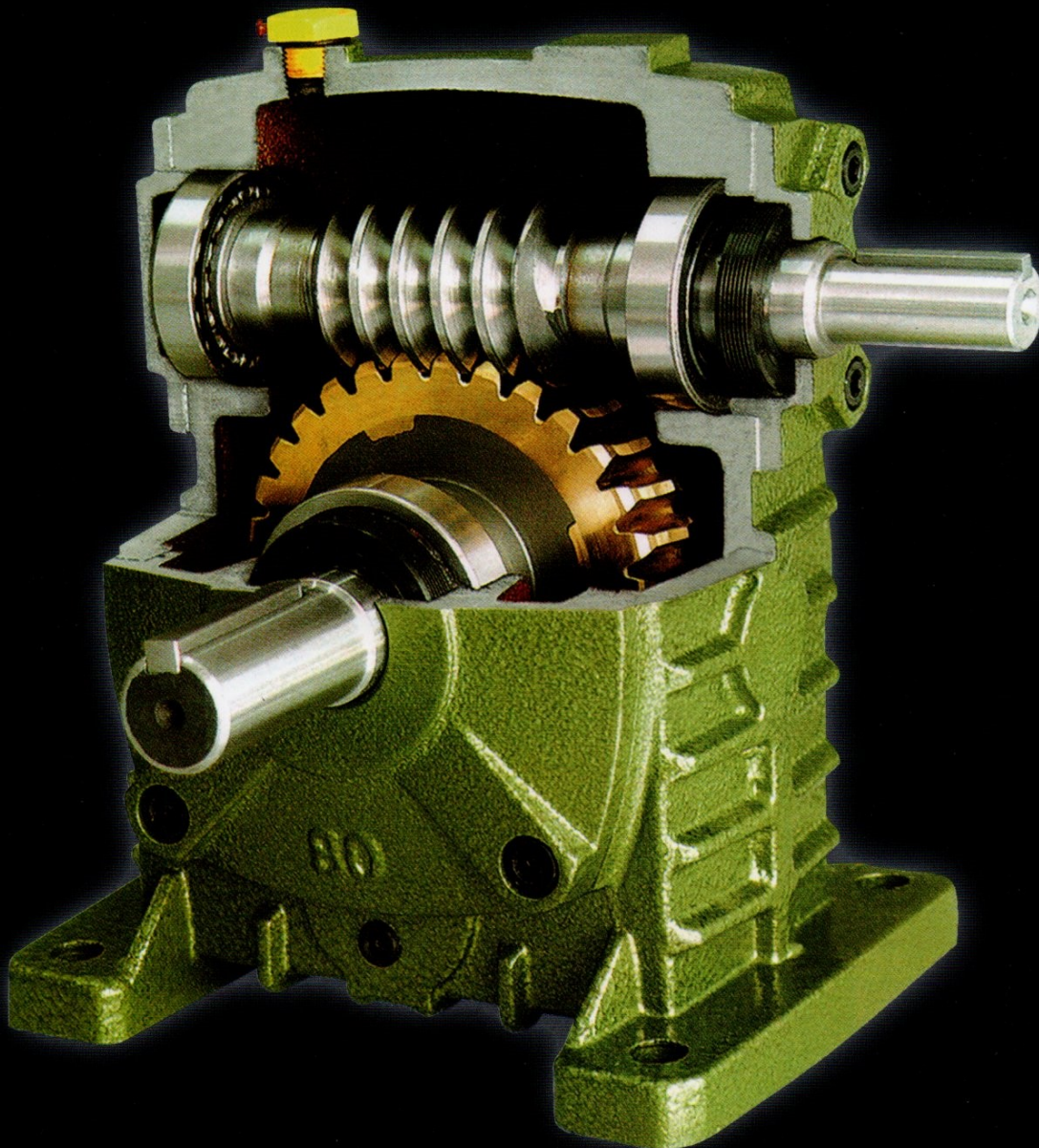


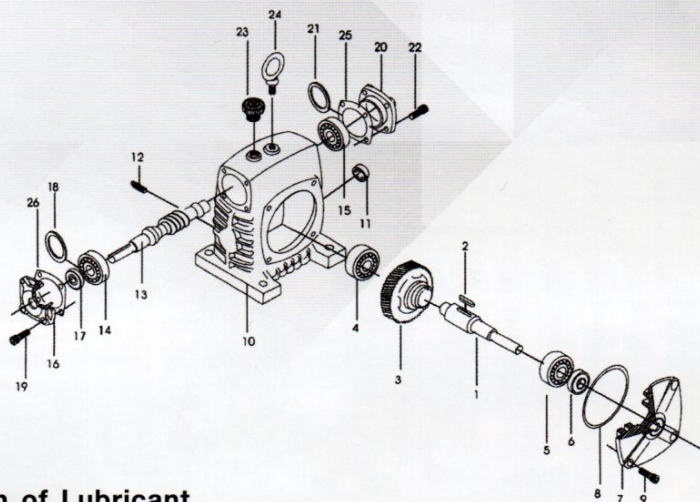


WORM GEAR SPEED REDUCER



Explosive View of PR (Fundamental) Main Parts

1. OUTPUT SHAFT
Medium carbon steel S45C, precision process and grinding with CNC lathe.
3. WORM WHEEL
Aluminum brass ALBC3 & FC20, shaping cutter and computer auxiliary design low friction coefficient durability in use.
7. OUTPUT SHAFT COVER
Cast iron FC20 or cast aluminum AL.
10. OUTER SHELL
Cast iron FC20, one-line body, high intensity, elegant appearance, remarkable radiating effect.
13. WORM SHAFT
Medium carbon steel S45C or SCM21, Cut by precision tooth-rolling machine; after being heated grind the tooth so that the tooth is correct and smooth; high efficiency in operation; without noise.
16. INPUT SHAFT COVER
Cast iron FC20 or cast aluminum AL.
20. INPUT SHAFT COVER
Cast iron FC20 or cast aluminum AL.



PARTS NAME	
1	OUTPUT SHAFT
2	KEY
3	WORM WHEEL
4	BALL BEARING
5	BALL BEARING
6	OIL SEAL
7	OUTPUT SHAFT COVER
8	O-RING
9	HEX. SCREW
10	OUTER SHELL
11	OIL GAUGE
12	OIL DRAIN PLUG
13	WORM SHAFT
14	TAPER ROLLER BEARING
15	TAPER ROLLER BEARING
16	INPUT SHAFT COVER
17	OIL SEAL
18	PACKING
19	HEX. SCREW
20	INPUT SHAFT COVER
21	PACKING
22	HEX. SCREW
23	OIL PLUG
24	HOISTING RING * 100#
25	PAPER PACKING
26	PAPER PACKING
14,15	BALL BEARING OF 60# BELOW

Selection of Lubricant

Before operation, input N220~N320 (Ambient temperature-30°C~40°C) N320~N460 (Ambient temperature 25°C~65°C) lubrication oil up to the center line of the oil gauge, In the meanwhile, remove the small screw of the air-vent. After working for 100 hours in the first time, clear the inside and add new lubrication oil in it, then renew the lubricant oil per 2500 hours.

Lubricants for a reducer are optional in foreign as the below table.

Worm shaft speed (r/min)		Lubricant	Operating position Worm shaft, upper Worm shaft vertical	Operating position Worm shaft, lower Output shaft vertical
over	up to			
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

Ambient Temp	Load	ISO VG	GB3141-82	Shell	Mobil	AGMA	
-30°C ~ -15°C	Commonly	VG-100	N100	Shell Omala 100	Gear 627	5	HD-100
	Heavy	VG-150	N150	Shell Omala 150	Gear 629	7	HD-150
-15°C ~ 5°C	Commonly	VG-150	N150	Shell Omala 150	Gear 629	7	HD-150
	Heavy	VG-220	N220	Shell Omala 220	Gear 630	7EP	HD-220
5°C ~ 25°C	Commonly	VG-220	N220	Shell Omala 220	Gear 630	7EP	HD-220
	Heavy	VG-320	N320	Shell Omala 320	Gear 632	6	HD-320
25°C ~ 40°C	Commonly	VG-320	N320	Shell Omala 320	Gear 632	6	HD-320
	Heavy	VG-460	N460	Shell Omala 460	Gear 634	8	HD-460
40°C ~ 65°C	Commonly	VG-460	N460	Shell Omala 460	Gear 634	8	HD-460
	Heavy	VG-680	N680	Shell Omala 680	Gear 636	8EP	HD-680

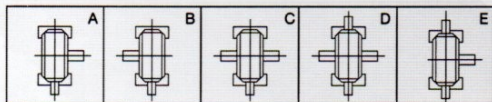
After the first 100 hours of operation :
Drain unit and flush with light oil. Refill.

Every 2500 hours of operation :
Drain ; flush and refill.

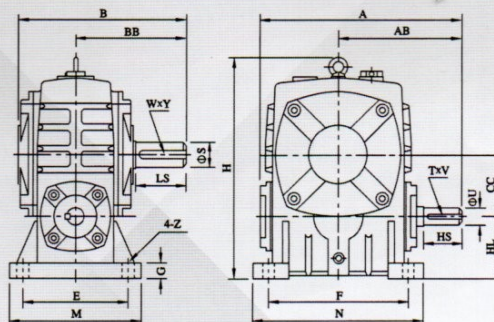
MODEL : PA



SHAFT DIRECTION



Worm Reducer Geared Reducer Dimensions of Outline Installation and Connection



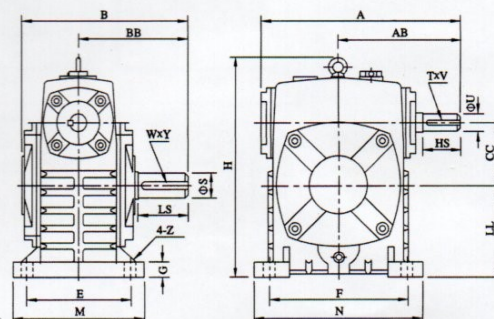
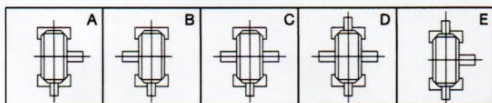
MM.

Ratio		HP		A	AB	B	BB	CC	H	HL	M	N	E	F	G	Z	Input Shaft			Output Shaft			Weight (kg)
Model	1/10-1/30	1/40-1/60	HS														U	TxV	LS	S	WxY		
12(50)	1/4	1/8	175	107	150	97	50	173	50	120	140	95	110	15	12	30	12	4x2.5	40	17	5x3	7	
15(60)	1/2	1/4	198	122	168	112	60	204	60	130	150	105	120	20	12	40	15	5x3	50	22	6x3.5	10	
18(70)	1	1/2	231	140	194	131	70	236	70	150	190	115	150	20	15	40	18	6x3.5	60	28	8x4	15	
22(80)	2	1	261	160	214	142	80	268	80	170	220	135	180	20	15	50	22	6x3.5	65	32	10x5	20	
25(100)	3	2	322	190	254	169	100	329	100	190	270	155	220	25	15	50	25	8x4	75	38	10x5	35	
30(120)	5	3	381	229	282	190	120	430	120	230	320	180	260	30	18	65	30	8x4	85	45	14x5.5	60	
35(135)	7 1/2	5	433	260	317	210	135	480	135	250	350	200	290	30	18	75	35	10x5	95	55	16x6	80	
40(155)	10	7 1/2	504	302	382	252	155	531	135	275	390	220	320	35	21	85	40	12x5	110	60	18x7	110	
45(175)	15	10	545	325	402	262	175	600	160	310	430	250	350	40	21	85	45	14x5.5	110	65	18x7	150	
50(200)	20	15	587	350	467	305	200	667	175	360	480	290	390	40	24	95	50	14x5.5	125	70	20x7.5	215	
60(250)	30	25	705	420	552	360	250	800	200	460	560	380	480	45	28	110	60	18x7	155	90	25x9	360	

MODEL : PR



SHAFT DIRECTION



MM.

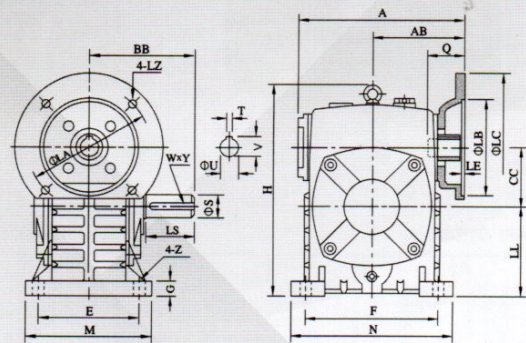
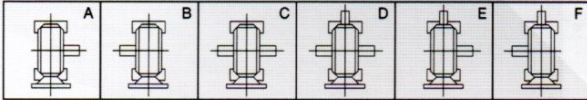
Ratio		HP		A	AB	B	BB	CC	H	LL	M	N	E	F	G	Z	Input Shaft			Output Shaft			Weight (kg)
Model	1/10-1/30	1/40-1/60	HS														U	TxV	LS	S	WxY		
12(50)	1/4	1/8	175	107	150	97	50	180	80	120	140	95	110	15	12	30	12	4x2.5	40	17	5x3	7	
15(60)	1/2	1/4	198	122	168	112	60	207	90	130	150	105	120	20	12	40	15	5x3	50	22	6x3.5	10	
18(70)	1	1/2	231	140	194	131	70	238	105	150	190	115	150	20	15	40	18	6x3.5	60	28	8x4	15	
22(80)	2	1	261	160	214	142	80	270	120	170	220	135	180	20	15	50	22	6x3.5	65	32	10x5	20	
25(100)	3	2	322	190	254	169	100	331	150	190	270	155	220	25	15	50	25	8x4	75	38	10x5	35	
30(120)	5	3	381	229	282	190	120	423	180	230	320	180	260	30	18	65	30	8x4	85	45	14x5.5	60	
35(135)	7 1/2	5	433	260	317	210	135	482	215	250	350	200	290	30	18	75	35	10x5	95	55	16x6	80	
40(155)	10	7 1/2	504	302	382	252	155	541	235	275	390	220	320	35	21	85	40	12x5	110	60	18x7	110	
45(175)	15	10	545	325	402	262	175	594	260	310	430	250	350	40	21	85	45	14x5.5	110	65	18x7	150	
50(200)	20	15	587	350	467	305	200	677	290	360	480	290	390	40	24	95	50	14x5.5	125	70	20x7.5	215	
60(250)	25	20	705	420	552	360	250	824	350	460	560	380	480	45	28	110	60	18x7	155	90	25x9	360	

MODEL : PRF

Transmission Solution Expert



SHAFT DIRECTION



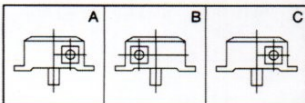
Ratio			HP												Flange					Input Hole			Output Shaft			Weight (kg)
Model	1/10~ 1/30	1/40~ 1/60	A	AB	BB	CC	H	LL	M	N	E	F	G	Z	LA	LB	LC	LE	LZ	Q	U	TxV	LS	S	WxY	
12(50)	1/4	1/8	151	83	97	50	180	80	120	140	95	110	15	12	115	95	140	4	M8	31	11	4x12.8	40	17	5x3	8
15(60)	1/2	1/4	167	91	112	60	207	90	130	150	105	120	20	12	130	110	160	4	M8	33	14	5x16.3	50	22	6x3.5	11
18(70)	1	1/2	200 202	109 111	131	70	238	105	150	190	115	150	20	15	130 165	110 130	160 200	4	M8 M10	40 42	14 19	5x16.3 6x21.8	60	28	8x4	17
22(80)	2	1	225	125	142	80	273	120	170	220	135	180	20	15	165	130	200	4.5	M10	48 52	19 24	6x21.8 8x27.3	65	32	10x5	22
25(100)	3	2	280	148	169	100	334	150	190	270	155	220	25	15	165	130	200	4.5	M10	52	24	8x27.3	75	38	10x5	38
30(120)	5	3	333	181	190	120	423	180	230	320	180	260	30	18	215	180	250	5	M12	63	28	8x31.3	85	45	14x5.5	64
35(135)	7 1/2	5	375	202	210	135	482	215	250	350	200	290	30	18	215	180	250	5	M12	63	28	8x31.3	95	55	16x6	85
40(155)	10	7 1/2	425 448	224 247	252	155	541	235	275	390	220	320	35	21	215 265	180 230	250 300	5	M12	63 83	28 38	8x31.3 10x41.3	110	60	18x7	118
45(175)	15	10	481	262	262	175	600	260	310	430	250	350	40	21	265	230	300	5	M12	83	38	10x41.3	110	65	18x7	165
50(200)	20	15	516 543	258 285	305	200	677	290	360	480	290	390	40	24	265 300	230 250	300 350	5	M12 M16	83 114	38 42	10x41.3 12x45.3	125	70	20x7.5	236
60(250)	30	25	615	330	360	250	824	350	460	560	380	480	45	28	300	250	350	6	M16	114	42	12x45.3	155	90	25x9	396

MODEL : PORD

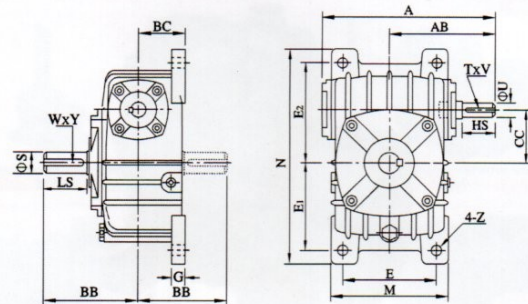
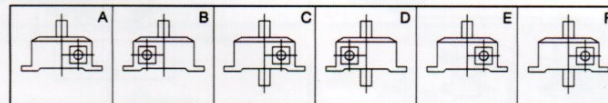
MODEL : PORU



SHAFT DIRECTION

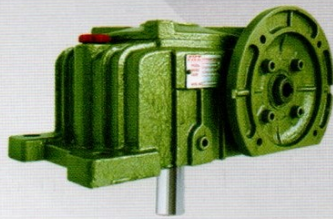


SHAFT DIRECTION

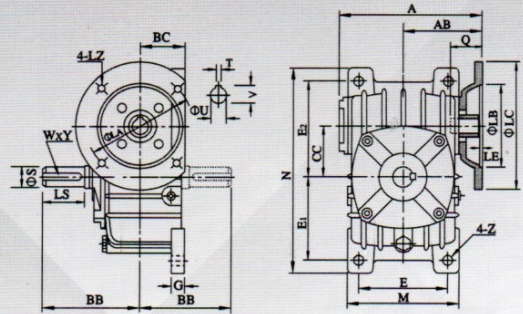
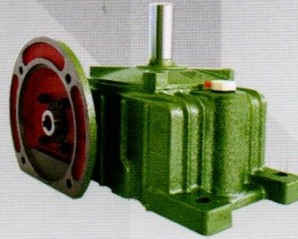


MM.																					
Ratio			HP												Input Shaft			Output Shaft			Weight (kg)
Model	1/10~1/30	1/40~1/60	A	AB	BB	BC	CC	M	N	E	E ₁	E ₂	G	Z	HS	U	TxV	LS	S	WxY	
12(50)	1/4	1/8	175	107	97	50	50	116	220	90	93	102	15	12	30	12	4x2.5	40	17	5x3	6
15(60)	1/2	1/4	198	122	112	55	60	126	260	100	105	120	20	12	40	15	5x3	50	22	6x3.5	10
18(70)	1	1/2	231	140	131	65	70	156	295	120	120	135	20	15	40	18	6x3.5	60	28	8x4	15
22(80)	2	1	261	160	142	70	80	175	320	140	130	150	20	15	50	22	6x3.5	65	32	10x5	20
25(100)	3	2	322	190	169	90	100	224	375	190	155	180	26	15	50	25	8x4	75	38	10x5	35
30(120)	5	3	381	229	190	100	120	266	450	220	185	215	30	18	65	30	8x4	85	45	14x5.5	50
35(135)	7 1/2	5	433	260	210	110	135	306	495	260	210	235	30	18	75	35	10x5	95	55	16x6	75
40(155)	10	7 1/2	504	302	252	140	155	350	590	290	245	295	35	21	85	40	12x5	110	60	18x7	115
45(175)	15	10	545	325	262	150	175	394	640	320	267	323	40	21	85	45	14x5.5	110	65	18x7	140
50(200)	20	15	587	350	305	175	200	440	710	370	290	360	40	24	95	50	14x5.5	125	70	20x7.5	200
60(250)	30	25	705	420	360	200	250	510	860	440	350	440	45	28	110	60	18x7	155	90	25x9	340

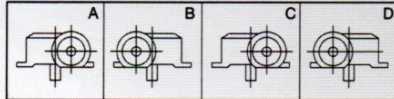
MODEL : PORDF



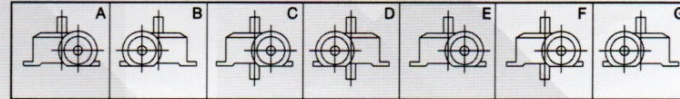
MODEL : PORUF



SHAFT DIRECTION

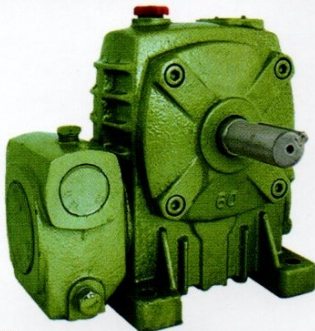


SHAFT DIRECTION

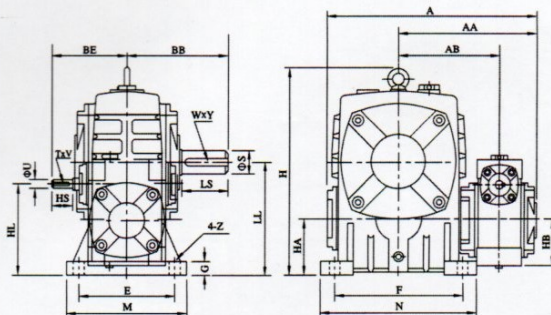
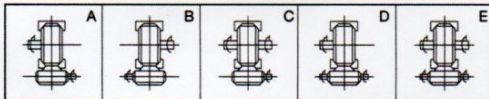


Ratio		HP													Flange					Input Hole			Output Shaft			Weight (kg)
Model	1/10~1/30	1/40~1/60	A	AB	BB	BC	CC	M	N	E	E ₁	E ₂	G	Z	LA	LB	LC	LE	LZ	Q	U	TxV	LS	S	WxY	
12(50)	1/4	1/8	151	83	97	50	50	116	220	90	93	102	15	12	115	95	140	4	M8	31	11	4x12.8	40	17	5x3	8
15(60)	1/2	1/4	167	91	112	55	60	126	260	100	105	120	20	12	130	110	160	4	M8	33	14	5x16.3	50	22	6x3.5	11
18(70)	1	1/2	200	109	131	65	70	156	295	120	120	135	20	15	130	110	160	4	M8	40	14	5x16.3	60	28	8x4	17
22(80)	2	1	225	125	142	70	80	175	320	140	130	150	20	15	165	130	200	4.5	M10	48	19	6x21.8	65	32	10x5	22
25(100)	3	2	280	148	169	90	100	224	375	190	155	180	26	15	165	130	200	4.5	M10	52	24	8x27.3	75	38	10x5	38
30(120)	5	3	333	181	190	100	120	266	450	220	185	215	30	18	215	180	250	5	M12	63	28	8x31.3	85	45	14x5.5	54
35(135)	7 1/2	5	375	202	210	110	135	306	495	260	210	235	30	18	215	180	250	5	M12	63	28	8x31.3	95	55	16x6	80
40(155)	10	7 1/2	425	224	252	140	155	350	590	290	245	295	35	21	215	180	250	5	M12	63	28	8x31.3	110	60	18x7	122
45(175)	15	10	481	262	262	150	175	394	640	320	267	323	40	21	265	230	300	5	M12	83	38	10x41.3	110	65	18x7	154
50(200)	20	15	516	258	305	175	200	440	710	370	290	360	40	24	265	230	300	5	M12	83	38	10x41.3	125	70	20x7.5	220
60(250)	30	25	615	330	360	200	250	510	860	440	350	440	45	28	300	250	350	6	M16	114	42	12x45.3	155	90	25x9	374

MODEL : PDA



SHAFT DIRECTION

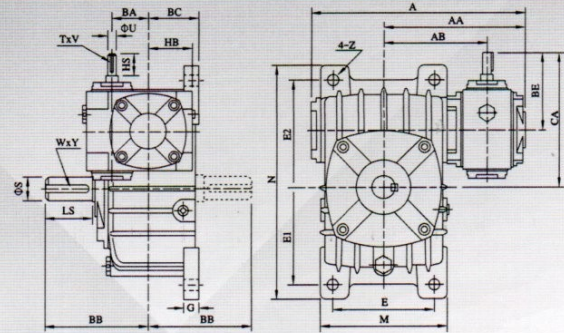


Model	Ratio	A	AA	AB	BB	BE	HL	LL	H	HA	HB	M	N	E	F	G	Z	Input Shaft			Output Shaft			Weight (kg)
																		HS	U	TxV	LS	S	WxY	
18(70)		262	171	126	131	89	110	140	236	70	50	150	190	115	150	20	15	25	12	4x2.5	60	28	8x4	20
22(80)		297	197	144	142	107	130	160	268	80	65	170	220	135	180	20	15	30	12	4x2.5	65	32	10x5	27
25(100)		363	231	175	169	122	160	200	336	100	75	190	270	155	220	25	15	40	15	5x3	75	38	10x5	44
30(120)	1/100	408	256	193	190	140	190	240	430	120	90	230	320	180	260	30	18	40	18	6x3.5	85	45	14x5.5	73
35(135)	1/900	471	298	226	210	160	215	270	480	135	105	250	350	200	290	30	18	50	22	6x3.5	95	55	16x6	101
40(155)		555	354	269	252	190	235	290	531	135	130	275	390	220	320	35	21	50	25	8x4	110	60	18x7	144
45(175)		598	379	287	262	229	280	335	600	160	155	310	430	250	350	40	21	65	30	8x4	110	65	18x7	201
50(200)		662	425	318	305	260	310	375	666	175	185	360	480	290	390	40	24	75	35	10x5	125	70	20x7.5	293
60(250)		795	510	380	360	302	355	450	800	200	203	460	560	380	480	45	28	85	40	12x5	155	90	25x9	462

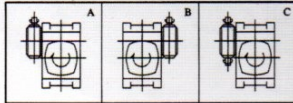
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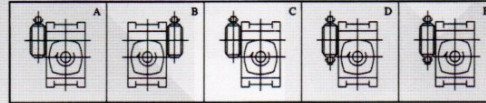
MODEL : PDO-RU



SHAFT DIRECTION



SHAFT DIRECTION



MM.

Model	Ratio	A	AA	AB	BA	BB	BC	BE	HB	CA	M	N	E	E ₁	E ₂	G	Z	Input Shaft			Output Shaft			Weight(kg)
																		HS	U	TxV	LS	S	WxY	
18(70)		262	171	126	40	131	65	89	50	159	156	295	120	120	135	20	15	25	12	4x2.5	60	28	8x4	19
22(80)		297	197	144	50	142	70	107	65	187	175	320	140	130	150	20	15	30	12	4x2.5	65	32	10x5	27
25(100)		363	231	175	60	169	90	122	75	222	224	375	190	155	180	26	15	40	15	5x3	75	38	10x5	44
30(120)	1/100	408	256	193	70	190	100	140	90	260	266	450	220	185	215	30	18	40	18	6x3.5	85	45	14x5.5	63
35(135)	~	471	298	226	80	210	110	160	105	295	306	495	260	210	235	30	18	50	22	6x3.5	95	55	16x6	96
40(155)	1/900	555	354	269	100	252	140	190	130	345	350	590	290	245	295	35	21	50	25	8x4	110	60	18x7	149
45(175)		598	379	287	120	262	150	229	155	404	394	640	320	267	323	40	21	65	30	8x4	110	65	18x7	191
50(200)		662	425	318	135	305	175	260	185	460	440	710	370	290	360	40	24	75	35	10x5	125	70	20x7.5	278
60(250)		795	510	380	155	360	200	302	203	552	510	860	440	350	440	45	28	85	40	12x5	155	90	25x9	442

