





## \* Introduction

### **Models:**

RN-2M,RN-4M,RN-6M,RN-7M,RN-8M,RN-10M,RN-12M,RN-16M,RN-20M,RN-25M

### **Configurations:**

spiral bevel gears,bearings,housing,oil sealing,input and output shafts etc.

### **Features:**

1. Function: right angles change transmission directions
2. 2 ways,3ways,4 ways gearboxes are available
3. Compared to worm gear reducer, spiral bevel gear box is of flexible operational capacity, high transmission torque and save more money.
4. Speed Ratio: 1:1,2:1,3:1,4:1,5:1. Special ratio, following clients' orders
5. Transmission Efficiency: 95%

### **Materials:**

- 1.Spiral bevel gears: alloy steel,case hardened,be of high rigidity and wear resistance
- 2.Bearings: taper roller bearings, bear larger torque
- 3.Gearbox: cast iron, six faces of gearbox are machined by milling machine,gloss surfaces
- 4.Input&Output shaft: S45C,heat treated

### **User Details:**

Gear Oil: HD320~680

Max Revolutions: 1450 rpm

Ambient Temperature: -20°C~+80°C, special temperature,consult our engineers

Noise Level: less than 80 dB

Temperature Level: less than 50°C

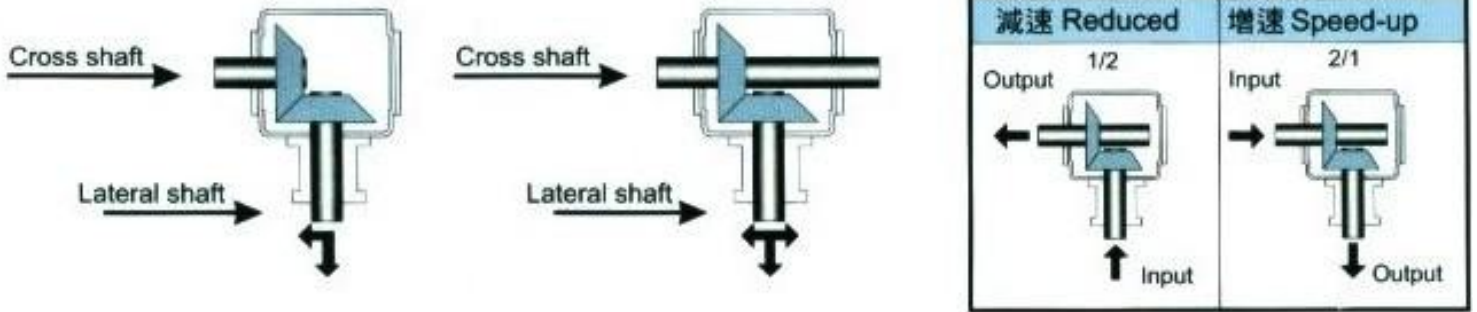
Test Equipments: noise meter and infrared thermometer

## \* Technical Datasheet

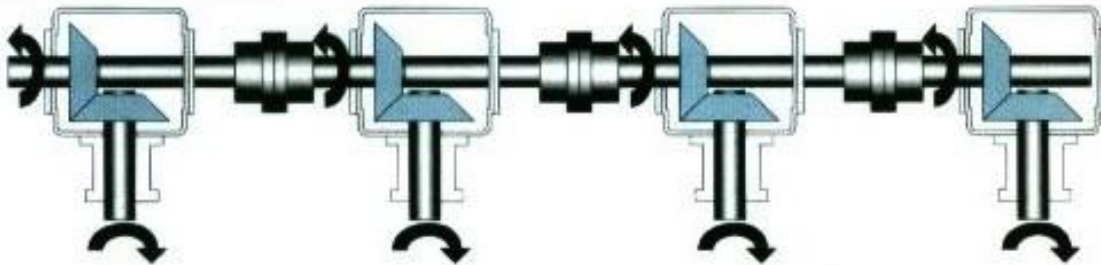
Ratio	rpm	RN-2M		RN-4M		RN-6M		RN-7M		RN-8M		RN-10M		RN-12M		RN-16M		RN-20M		RN-25M	
		N.m	kw	N.m	kw	N.m	kw	N.m	kw	N.m	kw	N.m	kw	N.m	kw	N.m	kw	N.m	kw	N.m	kw
1:1	1450	11.6	1.79	31.9	4.94	96.0	14.9	142	22.0	294	45.6	421	65.3	619	96.0	1019	163				
	1150	11.7	1.43	34.1	4.19	103	12.7	150	18.4	305	37.5	453	55.7	665	81.1	1098	139	1842	234		
	870	12.1	1.12	37.2	3.46	113	10.5	164	15.2	312	29.0	479	44.6	726	67.5	1186	114	2009	193	3489	335
	580	12.1	0.75	39.5	2.45	119	7.35	184	11.4	319	19.8	493	30.6	802	49.7	1343	85.9	2274	145	3940	252
	400	12.3	0.52	40.2	1.72	122	5.20	195	8.34	326	14.0	504	21.5	821	35.1	1499	66.1	2538	112	4410	195
	300	12.3	0.4	40.5	1.30	123	3.93	198	6.35	331	10.6	513	16.4	835	26.8	1637	54.1	2744	90.8	4792	159
	200	12.4	0.23	41.2	0.880	124	2.66	201	4.30	338	7.2	521	11.1	852	18.2	1784	39.3	3125	69	5390	119
	100	12.7	0.14	41.9	0.448	127	1.36	206	2.20	346	3.70	535	5.72	875	9.36	1842	20.3	3206	35.3	5439	60
	10	13.0	0.01	43.0	0.046	132.0	0.14	214	0.23	361	0.386	561	0.6	919	0.98	1940	2.14	3205	3.35	5713	6.3

Ratio	rpm	RN-2M		RN-4M		RN-6M		RN-7M		RN-8M		RN-10M		RN-12M		RN-16M		RN-20M		RN-25M	
		N.m	kw	N.m	kw	N.m	kw	N.m	kw	N.m	kw	N.m	kw	N.m	kw	N.m	kw	N.m	kw	N.m	kw
2:1	1450	12.1	0.94	42.8	3.32	102	7.90	137	10.6	180	14.0	305	23.6	516	40.0	921	73.7	1578	126		
	1150	12	0.74	43.4	2.67	104	6.39	139	8.55	183	11.3	309	19.0	516	31.7	938	59.5	1607	102	3146	199
	870	12	0.56	43.8	2.04	105	4.88	141	6.56	187	8.70	315	14.6	516	24.0	958	46	1646	79	3224	155
	580	11.9	0.37	44.4	1.38	108	3.34	144	4.47	191	5.92	322	10.0	524	16.3	980	31.3	1695	54.2	3332	107
	400	12.2	0.26	45.1	0.96	109	2.33	146	3.12	194	4.15	328	7.02	538	11.5	1000	22	1725	38	3420	75
	300	11.9	0.19	45.5	0.73	110	1.76	148	2.37	196	3.14	332	5.33	543	8.71	1009	16.7	1754	29	3479	58
	200	12.2	0.13	46.1	0.49	111	1.18	149	1.59	198	2.12	338	3.61	551	5.89	1029	11.3	1784	19.7	3557	39
	100	11.2	0.06	46.6	0.25	114	0.61	152	0.81	202	1.08	344	1.84	563	3.01	1058	5.84	1833	10.1	3646	20
	10	28.1	0.02	48.5	0.026	116	0.06	157	0.08	209	0.112	357	0.19	586	0.31	1098	0.61	1921	1.06	3822	2.1

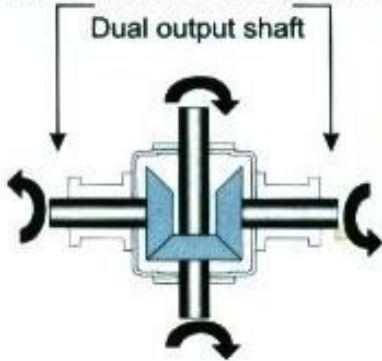
## \* Basic Type Of Transmission

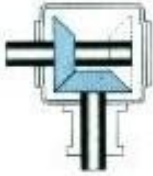
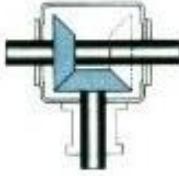
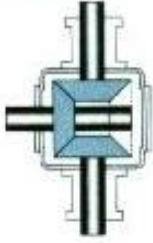



### Example of applications





















### Two sides rotate in opposite directions



單出力軸 Single output shaft		雙出力軸 Dual output shaft	
2 Shaft Type	3 Shaft Type	3 Shaft Type	4 Shaft Type
			

## \* Mounting&Lubrication

	臥式 Horizontal	吊掛式 Over Hung	側壁式 Side Wall		
ILR ILR-O IR IR-O IL IL-O					
IUD IUD-O IU IU-O ID ID-O					
ULR ULR-O UR UR-O UL UL-O					
DLR DLR-O DR DR-O DL DL-O					

### Lubrication:

Proper application of lubricating oil will raise the efficiency and prolong the life of spiral bevel gearbox. The first 2 weeks or first 300 hours are break-in period. There might be some tiny metal powders during this time. Please clean interior and replace with new lubricating oil after break-in. For normal operation, replace lubricating oil every 500 hours whichever comes sooner.

### The choices of lubricating oil:

HD320~680

**Notes:** For special operation, please consult our engineers





## \* Selection Guide

### 1. Model Selection

**For example, input 5 kw, 4 pole motor drive, 1450 rpm, gear ratio 1:1.**

We check technical data sheets, RN-4M, 1450 rpm, 4.94 kw < required 5 kw, so RN-4M isn't available.

Then we check next model, RN-6M, 1450 rpm, 14.9 kw > required 5 kw, so RN-6M is available.

Ratio	rpm	RN-2M		RN-4M		RN-6M		RN-7M		RN-8M		RN-10M		RN-12M		RN-16M		RN-20M		RN-25M	
		N.m	kw	N.m	kw	N.m	kw	N.m	kw	N.m	kw	N.m	kw	N.m	kw	N.m	kw	N.m	kw	N.m	kw
1:1	1450	11.6	1.79	31.9	4.94	96.0	14.9	142	22.0	294	45.6	421	65.3	619	96.0	1019	163				
	1150	11.7	1.43	34.1	4.19	103	12.7	150	18.4	305	37.5	453	55.7	665	81.1	1098	139	1842	234		
	870	12.1	1.12	37.2	3.46	113	10.5	164	15.2	312	29.0	479	44.6	726	67.5	1186	114	2009	193	3489	335
	580	12.1	0.75	39.5	2.45	119	7.35	184	11.4	319	19.8	493	30.6	802	49.7	1343	85.9	2274	145	3940	252
	400	12.3	0.52	40.2	1.72	122	5.20	195	8.34	326	14.0	504	21.5	821	35.1	1499	66.1	2538	112	4410	195
	300	12.3	0.4	40.5	1.30	123	3.93	198	6.35	331	10.6	513	16.4	835	26.8	1637	54.1	2744	90.8	4792	159
	200	12.4	0.23	41.2	0.880	124	2.66	201	4.30	338	7.2	521	11.1	852	18.2	1784	39.3	3125	69	5390	119
	100	12.7	0.14	41.9	0.448	127	1.36	206	2.20	346	3.70	535	5.72	875	9.36	1842	20.3	3206	35.3	5439	60
	10	13.0	0.01	43.0	0.046	132.0	0.14	214	0.23	361	0.386	561	0.6	919	0.98	1940	2.14	3205	3.35	5713	6.3

**For example, input 5 kw, 4 pole motor drive, 1450 rpm, gear ratio 1:1.**

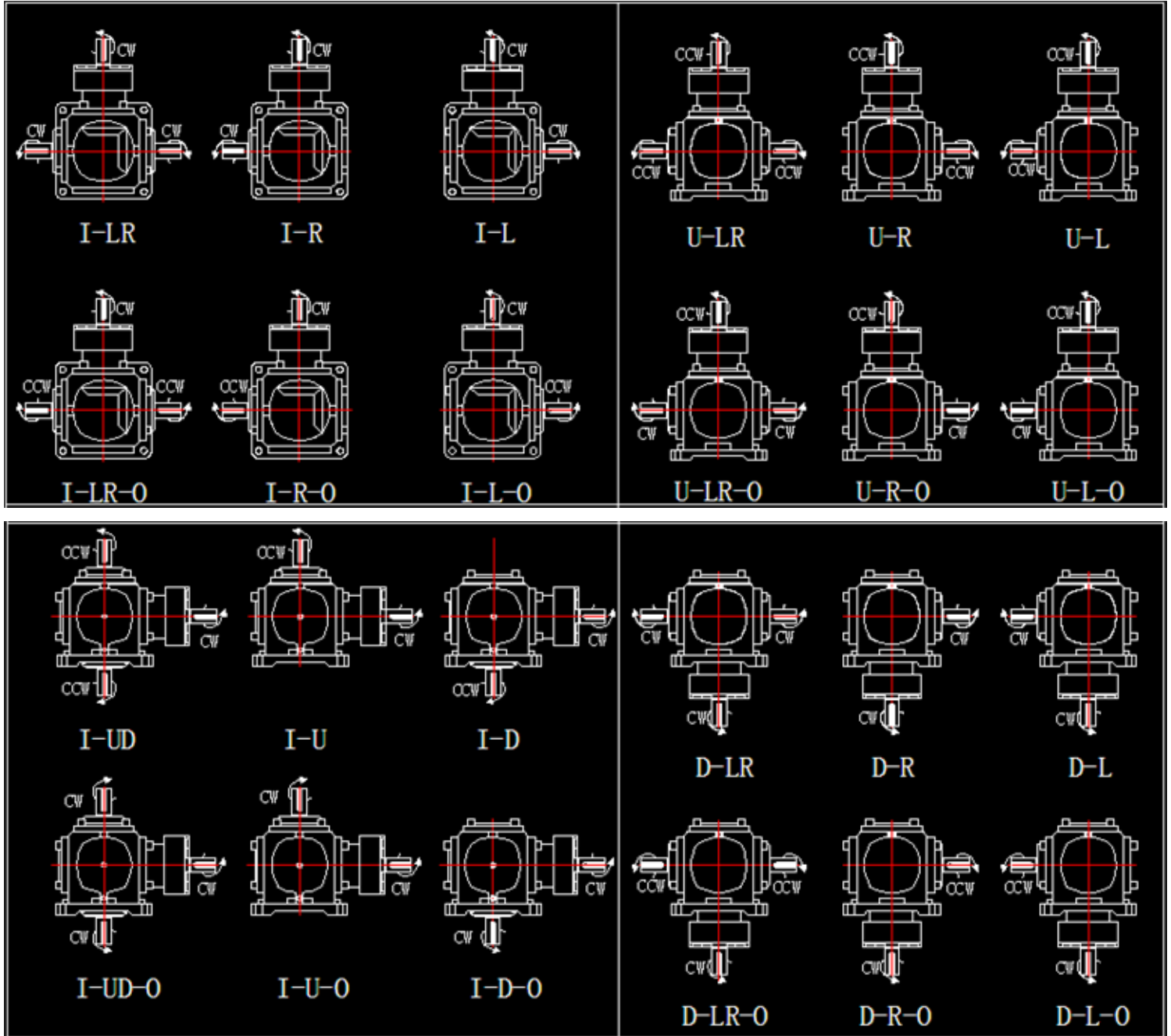
We check technical data sheet, RN-4M, 1450 rpm, 4.94 kw < required 5 kw, so RN-4M isn't available.

Then we check next model, RN-6M, 1450 rpm, 14.9 kw > required 5 kw, so RN-6M is available.

Ratio	rpm	RN-2M		RN-4M		RN-6M		RN-7M		RN-8M		RN-10M		RN-12M		RN-16M		RN-20M		RN-25M	
		N.m	kw	N.m	kw	N.m	kw	N.m	kw	N.m	kw	N.m	kw	N.m	kw	N.m	kw	N.m	kw	N.m	kw
1:1	1450	11.6	1.79	31.9	4.94	96.0	14.9	142	22.0	294	45.6	421	65.3	619	96.0	1019	163				
	1150	11.7	1.43	34.1	4.19	103	12.7	150	18.4	305	37.5	453	55.7	665	81.1	1098	139	1842	234		
	870	12.1	1.12	37.2	3.46	113	10.5	164	15.2	312	29.0	479	44.6	726	67.5	1186	114	2009	193	3489	335
	580	12.1	0.75	39.5	2.45	119	7.35	184	11.4	319	19.8	493	30.6	802	49.7	1343	85.9	2274	145	3940	252
	400	12.3	0.52	40.2	1.72	122	5.20	195	8.34	326	14.0	504	21.5	821	35.1	1499	66.1	2538	112	4410	195
	300	12.3	0.4	40.5	1.30	123	3.93	198	6.35	331	10.6	513	16.4	835	26.8	1637	54.1	2744	90.8	4792	159
	200	12.4	0.23	41.2	0.880	124	2.66	201	4.30	338	7.2	521	11.1	852	18.2	1784	39.3	3125	69	5390	119
	100	12.7	0.14	41.9	0.448	127	1.36	206	2.20	346	3.70	535	5.72	875	9.36	1842	20.3	3206	35.3	5439	60
	10	13.0	0.01	43.0	0.046	132.0	0.14	214	0.23	361	0.386	561	0.6	919	0.98	1940	2.14	3205	3.35	5713	6.3

## \* Selection Guide

### 2. Rotate Directions Selection



### 3. Gear Ratio Selection

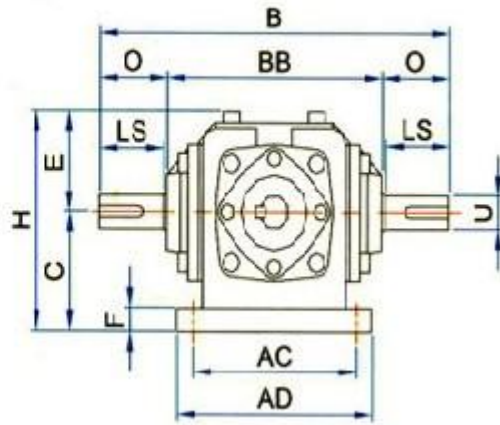
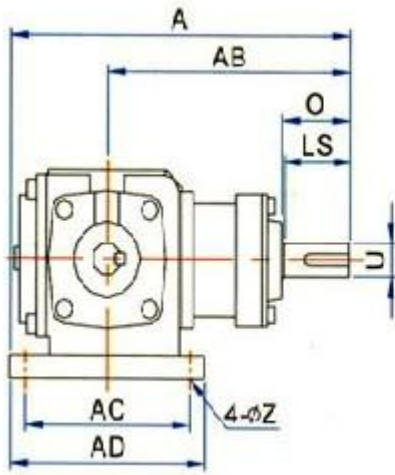
1:1, 2:1 speed ratio as our standard, others reduction ratio 1.5:1, 2.5:1, 3:1, 4:1, 5:1.

Special increase speed ratio 1:1.5, 1:2, 1:3, 1:4, we can produce them, but depend on orders quantities.



## \* Dimensions

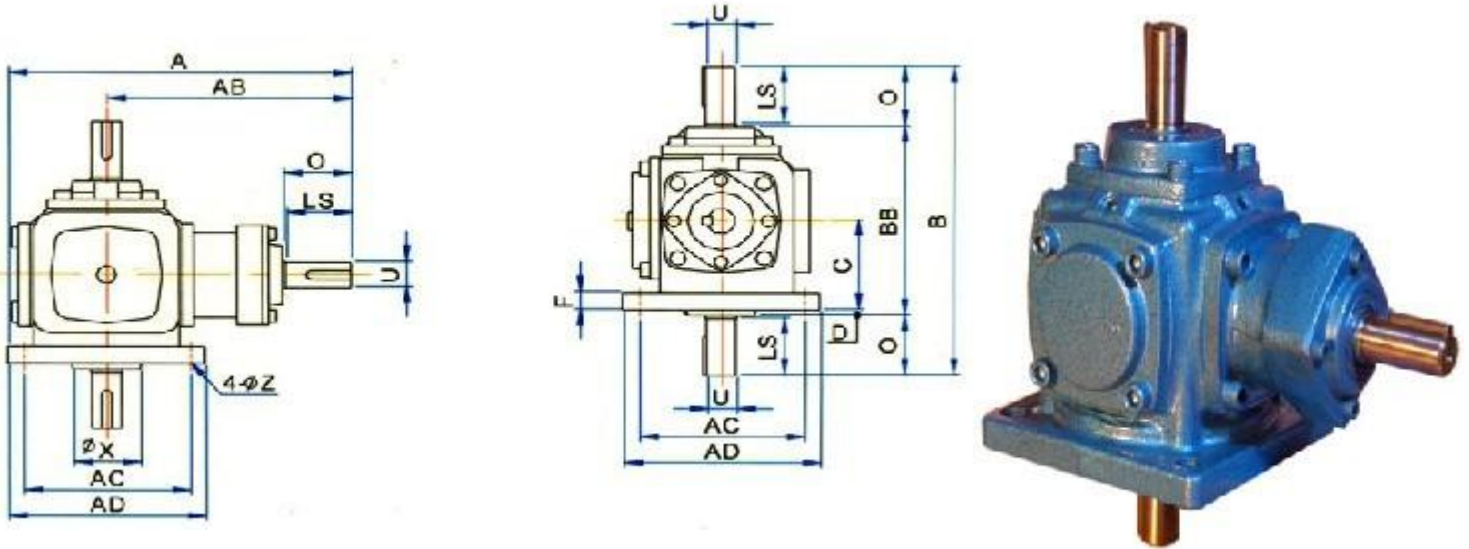
### I-LR (-O)



Model	RN-2M	RN-4M	RN-6M	RN-8M	RN-10M	RN-12M	RN-16M	RN-20M	RN-25M
<b>A</b>	174	257.5	317	425.5	502.5	585	650	790	950
<b>AB</b>	124	180	222	308	360	415	455	545	660
<b>O</b>	35	40	54	78	95	106	110	110	135
<b>LS</b>	33	38	50	75	90	100	105	105	130
<b>U</b>	15	19	25	40	45	50	60	72	85
<b>Z</b>	4- $\phi$ 9	4- $\phi$ 10	4- $\phi$ 14	4- $\phi$ 14	4- $\phi$ 16	4- $\phi$ 21	4- $\phi$ 25	8- $\phi$ 21	8- $\phi$ 24
<b>AC</b>	84	125	152	195	240	290	330	430	520
<b>AD</b>	100	155	190	235	285	340	390	490	580
<b>B</b>	180	232	314	416	480	550	630	720	860
<b>BB</b>	110	152	206	260	290	338	410	500	590
<b>C</b>	52	76	90	115	140	175	200	245	290
<b>E</b>	45	66	76	106	118	165	186	217	255
<b>F</b>	10	17	20	22	25	32	40	32	35
<b>H</b>	97	142	166	221	258	340	386	462	545
<b>Key</b>	5*3	6*3	8*4	10*5	14*5	14*5	18*5	20*5	22*5
<b>Key L</b>	20	25	35	55	80	75	90	90	100

## \* Dimensions

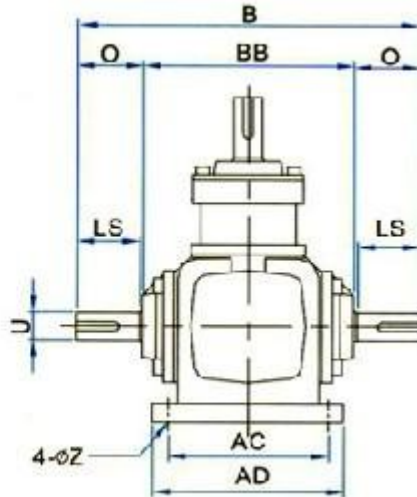
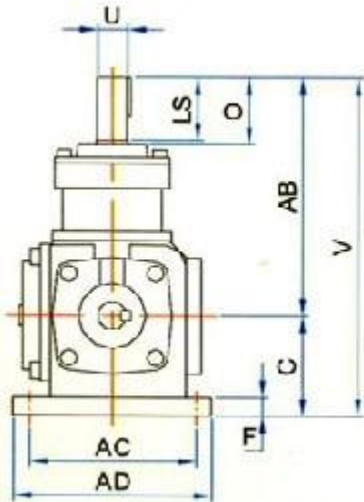
### I-UD (-O)



Model	RN-2M	RN-4M	RN-6M	RN-8M	RN-10M	RN-12M	RN-16M	RN-20M	RN-25M
<b>A</b>	174	257.5	317	425.5	502.5	585	650	790	950
<b>AB</b>	124	180	222	308	360	415	455	545	660
<b>O</b>	35	40	54	78	95	106	110	110	135
<b>LS</b>	33	38	50	75	90	100	105	105	130
<b>U</b>	15	19	25	40	45	50	60	72	85
<b>Z</b>	4-φ9	4-φ10	4-φ14	4-φ14	4-φ16	4-φ21	4-φ25	8-φ21	8-φ24
<b>AC</b>	84	125	152	195	240	290	330	430	520
<b>AD</b>	100	155	190	235	285	340	390	490	580
<b>B</b>	180	232	314	416	480	550	630	720	860
<b>BB</b>	110	152	206	260	290	338	410	500	590
<b>C</b>	52	76	90	115	140	175	200	245	290
<b>D</b>	3	2	13	15	10	6	10	10	10
<b>F</b>	10	17	20	22	25	32	40	32	35
<b>Key</b>	5*3	6*3	8*4	10*5	14*5	14*5	18*5	20*5	22*5
<b>Key L</b>	20	25	35	55	80	75	90	90	100

## \* Dimensions

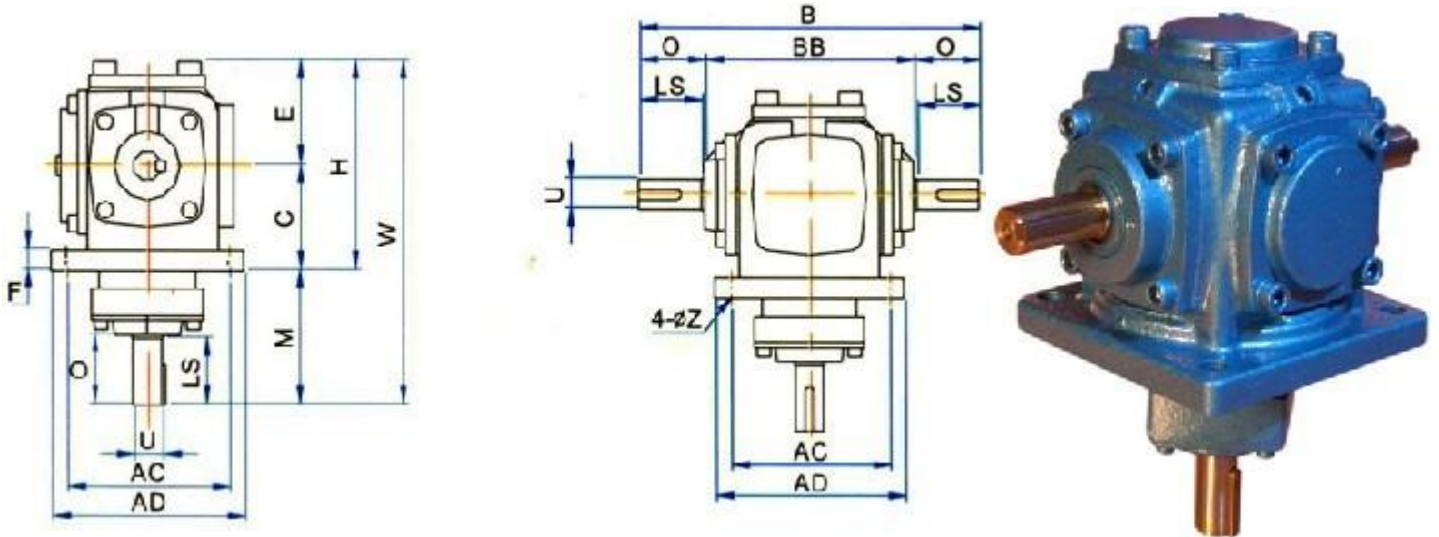
### U-LR (-O)



Model	RN-2M	RN-4M	RN-6M	RN-8M	RN-10M	RN-12M	RN-16M	RN-20M	RN-25M
<b>V</b>	176	256	312	423	500	590	655	790	950
<b>AB</b>	124	180	222	308	360	415	455	545	660
<b>O</b>	35	40	54	78	95	106	110	110	135
<b>LS</b>	33	38	50	75	90	100	105	105	130
<b>U</b>	15	19	25	40	45	50	60	72	85
<b>Z</b>	4-φ9	4-φ10	4-φ14	4-φ14	4-φ16	4-φ21	4-φ25	8-φ21	8-φ24
<b>AC</b>	84	125	152	195	240	290	330	430	520
<b>AD</b>	100	155	190	235	285	340	390	490	580
<b>B</b>	180	232	314	416	480	550	630	720	860
<b>BB</b>	110	152	206	260	290	338	410	500	590
<b>C</b>	52	76	90	115	140	175	200	245	290
<b>E</b>	45	66	76	106	118	165	186	217	255
<b>F</b>	10	17	20	22	25	32	40	32	35
<b>Key</b>	5*3	6*3	8*4	10*5	14*5	14*5	18*5	20*5	22*5
<b>Key L</b>	20	25	35	55	80	75	90	90	100

## \* Dimensions

### D-LR (-O)



Model	RN-2M	RN-4M	RN-6M	RN-8M	RN-10M	RN-12M	RN-16M	RN-20M	RN-25M
W	169	246	311.5	414	498	569	641	762	915
AB	124	180	222	308	360	415	455	545	660
O	35	40	54	78	95	106	110	110	135
LS	33	38	50	75	90	100	105	105	130
U	15	19	25	40	45	50	60	72	85
Z	4-φ 9	4-φ 10	4-φ 14	4-φ 14	4-φ 16	4-φ 21	4-φ 25	8-φ 21	8-φ 24
AC	84	125	152	195	240	290	330	430	520
AD	100	155	190	235	285	340	390	490	580
B	180	232	314	416	480	550	630	720	860
BB	110	152	206	260	290	338	410	500	590
C	52	76	90	115	140	175	200	245	290
E	45	66	89.5	106	138	154	186	217	255
F	10	17	20	22	25	32	40	32	35
H	97	142	179.5	221	278	329	386	462	545
Key	5*3	6*3	8*4	10*5	14*5	14*5	18*5	20*5	22*5
Key L	20	25	35	55	80	75	90	90	100