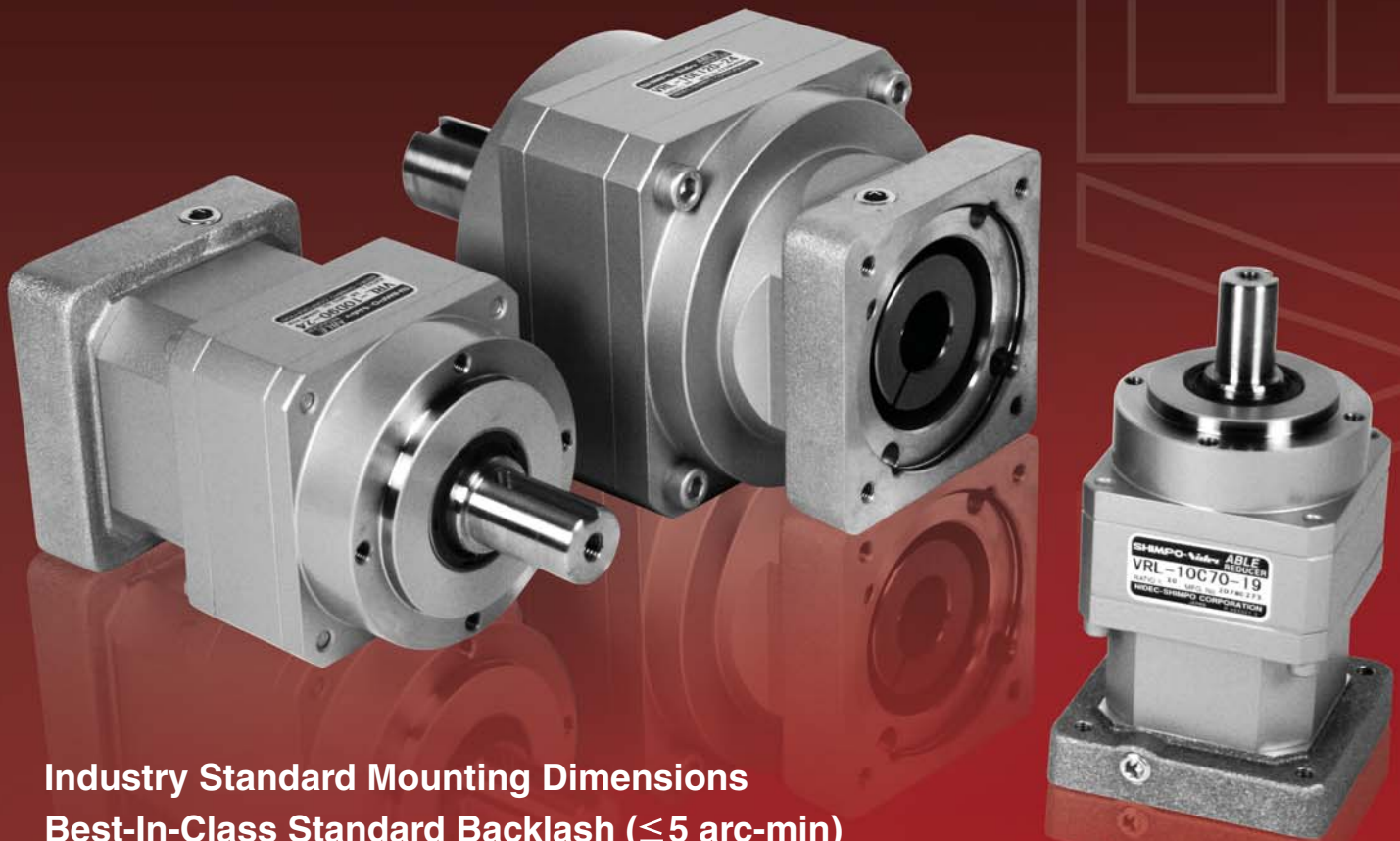


# SHIMPO

## VRAL-Series

# ABLE

## Planetary Servo Reducers



Industry Standard Mounting Dimensions

Best-In-Class Standard Backlash ( $\leq 5$  arc-min)

20,000 Hour Service Life

Available Selection Guides Match Reducers to Motors

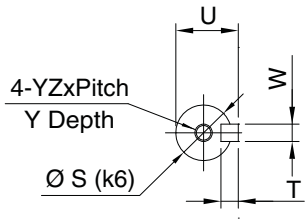
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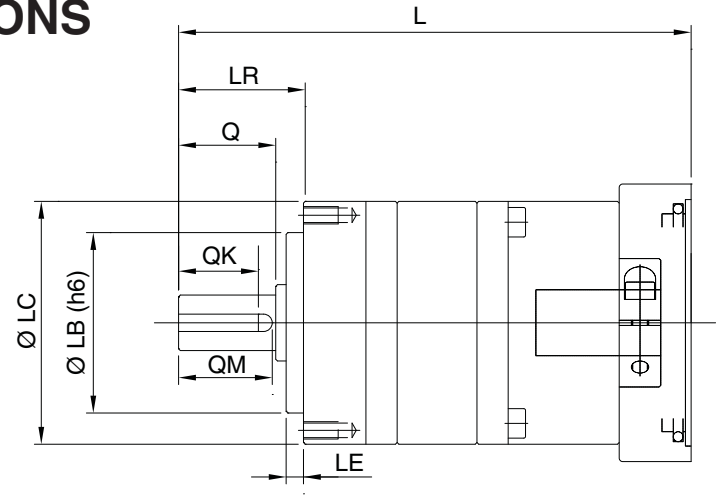
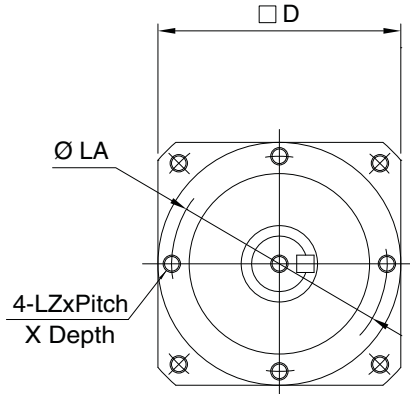
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# VRAL DIMENSIONS & SPECIFICATIONS



Output Shaft



DIMENSION		SYMBOLS	FRAME SIZE							
			B		C		D		E	
			mm	in	mm	in	mm	in	mm	in
OVERALL LENGTH	Single Reduction	L	109	4.291	145	5.709	178	7.008	211	8.307
	Double Reduction		126	4.961	160.5	6.319	195.5	7.697	232.5	9.154
OUTPUT SHAFT	Length	LR	24.5	0.965	36	1.417	46	1.811	70	2.756
	Shaft Length	Q	18	0.709	28	1.102	36	1.417	58	2.283
	Key Length	QK	13	0.512	23	0.906	28	1.102	45	1.772
	Keyway Length	QM	16	0.630	27	1.063	34	1.339	54	2.126
	Diameter	S	12	0.472	16	0.630	22	0.866	32	1.260
	Width	U	13.5	0.531	18	0.709	24.5	0.965	35	1.378
	Key Size	WxT	4x4	---	5x5	---	6x6	---	8x10	---
	Tap Size x Pitch	YZ	M4x0.7	---	M5x0.8	---	M8x1.25	---	M12x1.75	---
Depth	Y	8	0.315	10	0.394	13	0.512	22	0.866	
OUTPUT FLANGE	Square	D	50	1.969	70	2.756	90	3.543	120	4.724
	Bolt Circle	LA	44	1.732	62	2.441	80	3.150	108	4.252
	Pilot Diameter	LB	35	1.378	52	2.047	68	2.677	90	3.543
	Flange Diameter	LC	50	1.969	70	2.756	90	3.543	120	4.724
	Pilot Depth	LE	4	0.157	5	0.197	5	0.197	8	0.315
	Tap Size x Pitch	LZ	M4x0.7	---	M5x0.8	---	M6x1.0	---	M8x1.25	---
	Depth	X	8.0	0.315	10	0.394	12	0.472	16	0.630

Note 1: Depending on installed Servo Motor, the "L" dimension varies slightly.

Note 2: Single Reduction 3-10:1, Double Reduction 15-100:1.

## Typical Specifications\*

SPECIFICATIONS	UNITS	B50	C70	D90	E120
Reduction Ratios - 3/5/7/10/15/25/30/50/100	-	-	-	-	-
Efficiency (at Rating Torque)	%	90	90	90	90
Max. Acceleration Torque	Nm	15	50	100	225
Maximum Input Speed	rpm	8000	6000	6000	4800
Emergency Stop Torque •Based on 1000 cycles	Nm	30	100	200	450
Nominal Torque	Nm	7.5	25	50	113
Nominal Input Speed	rpm	4000	3700	3400	2600
Backlash	arc-min	5	5	5	5
Output Shaft Thrust Load	N	700	1700	3400	4800
Output Shaft Radial Load	N	700	1700	3400	4800
Unit Life	h	20000	20000	20000	20000
Weight	kg	1.0	2.5	4.9	9.3
Noise Level (at No Load)	dB-A	66	68	72	74
Maximum Unit Temp.	°C	100	100	100	100
Ambient Temp.	°C	0-40	0-40	0-40	0-40
Lubrication		Grease	Grease	Grease	Grease
Painting		Silver	Silver	Silver	Silver
Protection		IP65	IP65	IP65	IP65

## VRAL Concentric Shaft Configuration

10	Ratio
B (50 mm)	3, 5, 7, 10:1
	15, 25, 30, 50, 100:1
C (70 mm)	3, 5, 7, 10:1
	15, 25, 30, 50, 100:1
D (90 mm)	3, 5, 7, 10:1
	15, 25, 30, 50, 100:1
E (120 mm)	3, 5, 7, 10:1
	15, 25, 30, 50, 100:1

Price includes standard motor attachment and bushing, if necessary.

Contact Shimpo Drives Customer Service for pricing for non-standard motor attachment dimensions.

\*See catalog for exact specs per ratio