

VR Series Planetary Helical Gear Head

Key Features:

- Low Backlash (as low as 3 arcmin.)
- Very Low noise: (3~10 dB(A) lower than PL series)
- Long life (30,000 Hours)
- High Efficiency (98%)
- Multiple motor mounting options



Production Number Code for VR Series Reducer:

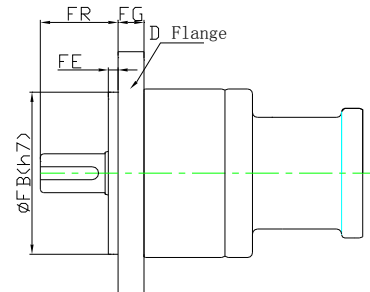
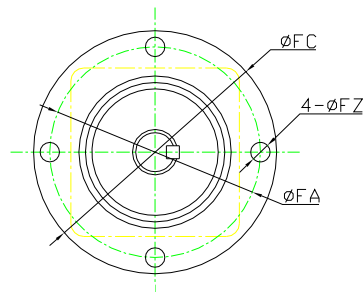
78
VR
S
F
- XX
- 20
/ 60
D
14

①
②
③
④
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⑧

- ① Gear Reducer Frame Size: 52, 78, 98, 125
- ② Reducer Type: VR Series Helical Gear
- ③ Input Shaft type: S: Clamp; K: Key A: Adaptor (special made per customer's request)
- ④ Front Flange type: F = Standard Flange; D = D Flange (see drawing below)
- ⑤ Precision Class: No symbol = Standard, PB = Precision; LB = Super Precision
- ⑥ Reduction Ratio: 1 stage (3, 4, 5, 6, 7, 8, 9, 10), 2 stages(15, 20, 25, 35, 45, 81)
- ⑦ Input Flange Size: 38, 40, 60, 80, 90, 100, 120, 130
- ⑧ Input Shaft Diameter.

D Flange Dimensions (mm):

FC	75	110	130
FA	65	95	115
FB	50	72	90
FR	24	33.5	48
FG	8	12	13
FE	3	3	5
FZ	6	7	8.8



Note: Special design available per customer's request.

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Technical Data

Model		52VS	78VS	98VS	125VS	Ratio	Stage
Rated Output Torque	N.m	3.43	6.86	18.3	44.1	3	1
		2.84	11.5	23.5	56.8	5	
		2.35	9.7	18.2	73.5	9	
		4.02	16.2	30.4	91.4	15	
	N.m	5	21.1	40.6	78.4	20	2
		3.84	15.5	37	71	35	
			9.5	28.3	91.3	45	
			9.7	17.8	43.3	81	
Life	Hour	30,000					
Max. Torque	N.m	3 times of the rated output torque					

Frame Size (mm)	52	78	98	125	Unit	Stage
Full Load Efficiency	98				%	1
	95					2
Weight	0.72	1.7	3.9	13	Kg	1
	0.7	2.1	3.8	12.5		2
Permissible Radial Load	882	1670	2060	3530	N	
Permissible Axial Load	441	833	1030	1765	N	
Working Temperature	-25°C ~ +90°C					
Protection Class	IP54					
Lubrication	Life time					
Mounting Orientation	Any					

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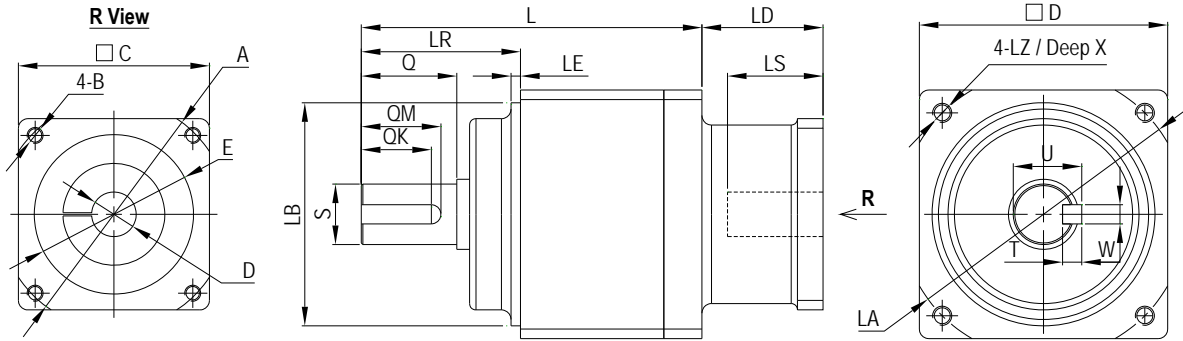
Technical Data

Model		52VS	78VS	98VS	125VS	Ratio
Load Inertia	X10 ⁴ Kg.cm ²	0.145	0.913	2.43	5.78	3
		0.118	0.713	1.85	3.75	5
		0.035	0.275	0.65	2.81	9
		0.035	0.3	0.7	2.8	15
		0.034	0.294	0.69	2.72	20
		0.0325	0.288	0.68	2.71	25
		0.03	0.262	0.269	0.473	35
			0.0285	0.0256	1.77	45
	0.027	0.03	0.24	81		
Backlash	arcmin	15	15	15	15	Standard
		10	5	5	5	Precision
		3	3	3	3	Super Pre.
Noise	dB(A)	60-73	63-73	64-75	73-80	
Max. Input Speed	RPM	5000	5000	5000	5000	
Rated Input speed	RPM	3000	3000	3000	3000	

Note: Noise tested @ 50cm, no load Input speed of 3000RPM

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Mechanical Dimensions:



Unit (单位): mm

Model	52VS		78VS		98VS		125VS	
Stage	1	2	1	2	1	2	1	2
L=Body Length	73.5	84	107.5	118	119.5	132	158	178
Output side								
LR=Shaft Length	32		50		61		75	
Q=Usable Length	20		30		40		55	
QM=Key to Shaft end	18		26		35		52	
LE=Pilot Height	3		3		5		5	
LB=Pilot Diameter	Φ50		Φ70		Φ90		Φ110	
S=Shaft Diameter	Φ12		Φ19		Φ24		Φ32	
W=Key Width	4		6		8		10	
T=Key Thickness	4		6		7		8	
U=Key Height	13.5		21.5		27		35	
QK=Key Length.	16		22		30		45	
LZ=Mounting Screw	M5 Deep 12		M6 Deep 20		M8 Deep 20		M10 Deep 20	
Screw Location Dia.	Φ60		Φ90		Φ115		Φ135	
D = Body Size	□52		□78		□98		□125	
Input Side								
C = Adaptor Size (□)	(38/40)	60	(38/40)	60/80	(38/40)/60	80/(90/100)	60/80/90	100/120/130
LD = Adaptor Length	26	31	24	32/42	26/33	39/57.5	32/57/57	57/57/67
A=Mounting Circle Dia. (Φ)	45/46	70	45/46	70/90	45/46/70	90/100/115	70/90/100	115/130/145
B=Mounting Screw	M3/M4	M4/M5	M3/M4	M4/M5/M6	M3/M4/M5	M5/M6/M8	M5/M6/M8	M8
E=Pilot Diameter (Φ)	30	50	30	50/70	30/50	70/80/95	50/70/80	95/110/110
D=Shaft Diameter (Φ)	6/8	11/14	6/8	11~19	8~14	19~24	14~24	19~28
LS=Max. Shaft Length	25	25	30	30	40	40	50	50

Notes: Input diameter, mounting circle diameter, mounting screw size can all be changed to match the desired motor.