

MODEL: PER

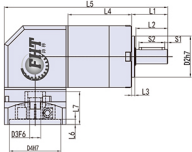
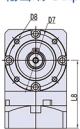
雙段 2-Stage

速比: 15, 20, 25, 30, 35, 40, 50, 70, 80, 100
120, 140, 160, 180, 200

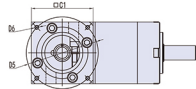


外形尺寸圖 Dimensions:

輸出端 Output



輸入端 Input



Unit:mm

尺寸 Size	PER060-L2	PER080-L2	PER120-L2	PER160-L2
D1	φ14(16)	φ20 (22)	φ25 (32)	φ40
D2	φ40	φ60	φ80	φ130
D3	φ14 (φ8.35-19)	φ19 (φ11-24)	φ22 (φ16-24)	φ35 (φ22-38)
D4	φ50 (φ30-70)	φ70 (φ50-110)	φ110 (φ55.5-110)	φ114.3 (φ110-114.3)
D5	φ70 (φ45-90)	φ90 (φ70-145)	φ145 (φ90-155)	φ200 (φ145-200)
D6	4-M4 (M3-M6)	4-M5 (M4-M8)	4-M8 (M6-M12)	4-M12 (M8-M12)
D7	φ52	φ70	φ100	φ145
D8	4-MSX10L	4-MBX12L	4-M10X20L	4-M12X24L
D9	MSX0.8P	MBX1.25P	M10X1.5P	M16X2P
L1	35	40	55	87
L2	31	35	49	80
L3	3	3	4	5
L4	62	78.5	110	149
L5	159	213.5	303	333
L6	5(4-6)	8(5-8)	8(5-8)	5 (5-7)
L7	32(32-44)	42(42-60)	70 (59-70)	86 (82-86)
L8	86(86-88)	95.5(95.5-113.5)	130 (119-130)	165.5 (165.5-189.5)
C1	60(60-90)	90(90-130)	130 (120)	175 (142)
S1	3	3	5	5
S2	25	30	40	70
S3	16	22.5	28	43
B	5	6	8	12
K1	4	6	8	10
K2	φ11	φ22	φ28	φ38
K3	12.8	24.5	31.3	41.3
K4	φ16	φ32	φ38	φ48
K5	15	20	27	35
K6	18	24	32	40

PRECISION PLANETARY REDUCERS

精密行星減速機

VRSF



- 1.靜音**
使用斜齒輪實現順靜安地運轉。
- 2.高精度**
背隙低於3分、定位精確。
- 3.高剛性、高扭矩**
使用整體式滾子軸承，大大提高了剛性和扭矩。
- 4.法蘭、連接器方式**
可以安裝到世界上任何一臺馬達上。
- 5.無潤滑脂滲漏**
使用高粘度、不易分離的潤滑脂，有效防止潤滑脂滲漏。
- 6.維護方便**
在產品壽命期內無需更換潤滑脂，安裝更便捷。

- 1. Quiet operation**
Helical gears contribute to reduce vibration and noise.
- 2. High precision**
Standard backlash is 3 arc-min, ideal for precision control.
- 3. High rigidity & torque**
High rigidity & high torque were achieved by uncaged needle roller bearings.
- 4. Adapter-bushing connection**
Can be attached to any motor all over the world.
- 5. No grease leakage**
Perfect solution using high viscosity anti-separation grease.
- 6. Maintenance-free**
No need to replace the grease for the life of the unit. Can be attached in any position.

減速機的選型/Indication of Model Numbers

VRSF 系列/VRSF Series

VRSF 080 - 10 - S1 - P1 / 馬達

減速機型式/Type

VRSF060, VRSF080, VRSF100
VRSF125

出力軸鍵槽
Output Shaft Keyway

S1: 實心軸, 無鍵槽
(Solid Output Shaft No Keyway)
S2: 標準品, 有鍵槽
Standard (Keyway)

馬達型號/Motor Type

馬達製造商及型號

減速比/Ratio

單節: 3, 4, 5, 7, 10
雙節: 15, 20, 25, 30, 35, 40, 50, 70, 100

背隙等級Backlash Class

P0: 高精度背隙/Micro Backlash P0
P1: 精密背隙/Precision Backlash P1
P2: 標準背隙/Standard Backlash P2

選型範例: VRSF080-100-S2-P1/Panasonic MSMJ 082S1A

VRSF 減速機性能資料 Specification Table

規格 Model No	單位 Unit	級數 Stage	減速比 Ratio	VRSF060	VRSF080	VRSF100	VRSF125		
額定輸出力矩T _{2N} Rated Output Torque	Nm	1	3	54	112	165	286		
			4	48	110	146	255		
			5	45	108	160	264		
			7	41	105	149	245		
			10	40	100	141	234		
		2	15	54	112	165	286		
			20	48	110	146	255		
			25	45	108	160	264		
			30	41	112	165	286		
			35	41	105	149	245		
最大輸出扭矩 T _{200%} / Max Output Torque	Nm	1.2	3-100	3倍額定輸出力矩/3Times of Nominal Output Torque					
			1.2	3-100	3000	3000	3000	3000	
			1.2	3-100	5000	5000	5000	5000	
			1	3-10	≤5	≤5	≤5	≤5	
			2	12-100	≤7	≤7	≤7	≤7	
		標準背隙P1 / Precision Backlash P1	arcmin	1	3-10	≤5	≤5	≤5	≤5
				2	12-100	≤7	≤7	≤7	≤7
		標準背隙P2 / Standard Backlash P2	arcmin	1	3-10	≤8	≤8	≤8	≤8
				2	12-100	≤10	≤10	≤10	≤10
		扭轉剛性/Torsional Rigidity	Nm/arcmin	1.2	3-100	5	12	14	23
N	1.2			3-100	800	1200	3200	5220	
最大彎曲力矩M _{max} / Max Axial Force	N	1.2	3-100	400	600	1600	2600		
		hr	1.2	3-100	21000 h				
使用壽命 / Service Life	%	1	3-10	≥97%					
		2	15-100	≥94%					
重量/Weight	kg	1	3-10	1.2	1.6	3.76	7.43		
		2	15-100	2.1	2.8	5.92	10.3		
使用溫度 / Operating Temperature	°C	1.2	3-100	-25°C ~ +90°C					
		1.2	3-100	全合成潤滑油/Synthetic Grease					
潤滑/Lubrication		1.2	3-100	IP65					
防護等級 / Protection Class		1.2	3-100	任意Any					
安裝方向 / Mounting Position		1.2	3-100						
噪音值 (n1=3000rpm, 無負載) / Noise Level	dB(A)	1.2	3-100	≤60	≤62	≤65	≤67		

減速機轉動慣量/Moment of Inertia/

規格 Model No	單位 Unit	級數 Stage	減速 Ratio	VRSF060	VRSF080	VRSF100	VRSF125	
轉動慣量J ₁ Moment of Inertia	kg.cm ²	1	3	0.16	0.61	3.25	9.21	
			4	0.14	0.48	2.74	7.54	
			5	0.13	0.47	2.71	7.42	
			6	0.13	0.45	2.65	7.25	
			7	0.13	0.45	2.62	7.14	
			8	0.13	0.44	2.58	7.07	
			9	0.13	0.44	2.57	7.04	
			10	0.13	0.44	2.57	7.03	
			2	12-40	0.03	0.13	0.47	2.71
				50-100	0.03	0.13	0.44	2.57

- 1.減速比(i=Nin/Nout)。
- 2.最大輸出力矩T_{2B}=60% of T_{2N0T}。
- 3.輸出轉數100rpm時，作用於輸出法蘭位置，*連續運轉使用壽命為15000hrs。

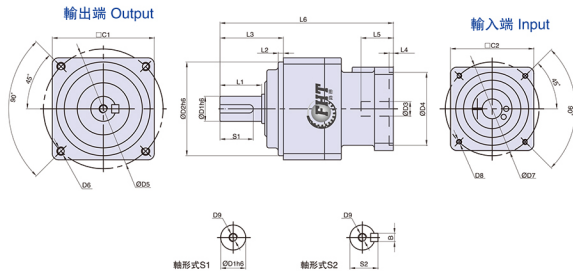
MODEL: VRSF

單段 1-Stage

速比: 3, 4, 5, 7, 10



外形尺寸圖 Dimensions:



尺寸 Size	VRSF060-L1	VRSF080-L1	VRSF100-L1	VRSF125-L1
D1	12	19	24	32
D2	50	70	90	110
D3	8(8 - 14)	14(14 - 19)	19	22(22 - 24)
D4	30(30 - 50)	50(50 - 70)	70	110
D5	60	90	115	135
D6	M5	M6	M8	M10
D7	45(45 - 70)	70(70 - 90)	90	145
D8	M4 - M5	M4 - M5	M6	M8
D9	M4	M6	M8	M12
L1	20	30	40	55
L2	3	3	5	5
L3	32	50	61	75
L4	4	4	4	8
L5	27 - 32	32	38	65.5
L6	109	143.5 - 148.5	177	215.5
C1	52	78	98	125
C2	40(40 - 52)	60(60 - 80)	90	125(125 - 130)
S1	18	22	32	52
S2	13.5	21.5	27	35
B	4	6	6	10

- 注1: () 括號內為可選擇範圍尺寸, () 括號外為標準尺寸。
 注2: 減速機出力軸可以為客戶定制大小和長度。
 注3: 輸入尺寸根據各品牌傳動箱或多步傳動箱可以有所變動。

- Note 1: Inside of () is the optional range of sizes, outside of () is the standard sizes.
 Note 2: The reducer output shaft size and length can be customized for customers.
 Note 3: Input sizes can be subject to be changed according to the brand servo motors or stepper motors sizes.

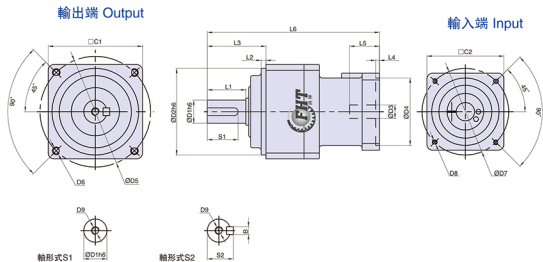
MODEL: VRSF

雙段 2-Stage

速比: 15, 20, 25, 30, 35, 40, 50, 70, 100



外形尺寸圖 Dimensions:



Unit:mm

尺寸 Size	VRSF060-L2	VRSF080-L2	VRSF100-L2	VRSF125-L2
D1	12	19	24	32
D2	50	70	90	110
D3	11(11 - 14)	14(14 - 19)	14 - 19	22(22 - 24)
D4	50	50(50 - 70)	50(50 - 70)	110
D5	60	90	115	135
D6	M5	M8	M8	M10
D7	45(45 - 70)	70(70 - 90)	70 - 90	145
D8	M4 - M5	M4 - M5	M4 - M5	M8
D9	M4	M5	M8	M12
L1	20	30	40	55
L2	3	3	5	5
L3	32	50	61	75
L4	4	4	4	8
L5	32	32	38	65.5
L6	109	150 - 155	165 - 179	250.5
C1	52	78	98	125
C2	52	60(60 - 80)	60(60 - 80)	125(125 - 130)
S1	18	22	32	52
S2	13.5	21.5	27	35
B	4	6	8	10

注1: () 括號內為可選擇標尺寸, () 括號外為標準尺寸。
注2: 減速輸出力矩可以為客戶定制大小和行程。
注3: 輸入尺寸數值各品類同規同速同步速同減速可以有別數。

Note 1: Inside of () is the optional range of sizes, outside of () is the standard sizes.
Note 2: The reducer output shaft size and length can be customized for customers.
Note 3: Input sizes can be subject to changed according to the brand servo motors or stepper motors sizes.

PRECISION PLANETARY 直角減速機

ZR

角度旋轉低背隙
小于10秒

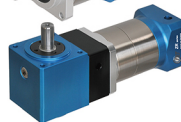
- 採用先進六軸精密機械加工, 一次裝夾同時加工完成, 確保最佳幾何精度。
- 傳動齒輪經精密研削, 運轉低背隙、高精度。
- 精密傳動、寂靜、穩定、順暢、流程; 達到精密傳動、低噪音、高剛性等高品質要求。

Low Rotating Backlash
Less Than 10sec

- The right angle reducer is precision machined on b-axis controlled machining center which allows for one-piece machining in one setup to assure the best geometric accuracy
- The transmission gears are precision ground providing low rotating backlash and high accuracy
- precise transmission low noise maximum stability and smoothness

特性: Features

- 本體結構紮實、體積小、有效節省安裝空間。
- 雖然體積小、重量輕。但具有高扭矩輸出及低背隙的優異特性。
- 訂購時請告知馬達法蘭及心軸尺寸。



- The reducer body is compactly constructed with small volume to save considerable installation space
- Although the reducer is small in volume and light in weight it is capable of providing high torque output and low backlash
- When ordering please advise the sizes of flange and shaft of your motor