

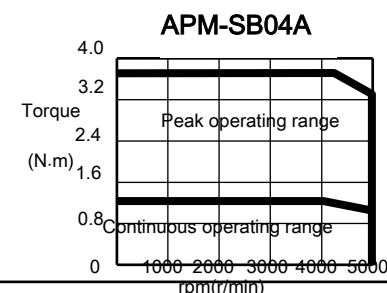
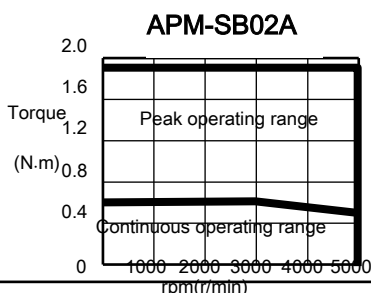
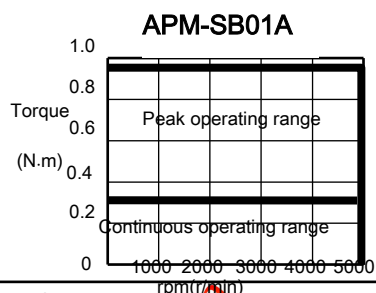
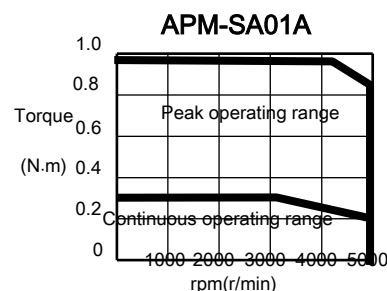
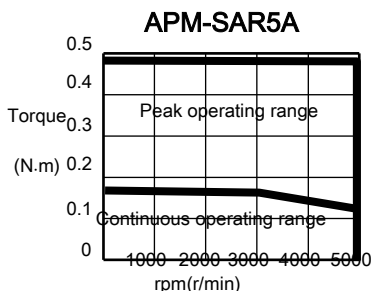
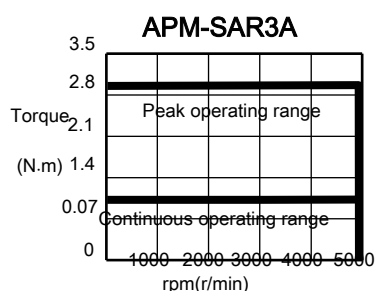
# APD-VS[Standard Type] Manual

## 7.1 Servo Motor

### 7.1.1 Features

Servo Motor Model (APM- )		SAR3A	SAR5A	SA01A	SB01A	SB02A	SB04A
Applicable drive (APD- )		VSR5		VS01		VS02	VS04
Rated Output	[kW]	0.03	0.05	0.1	0.1	0.2	0.4
Rated Torque	[N·m]	0.095	0.159	0.318	0.318	0.637	1.274
	[kgf·cm]	0.97	1.62	3.25	3.25	6.50	13.0
Maximum Instantaneous Torque	[N·m]	0.286	0.477	0.955	0.955	1.912	3.822
	[kgf·cm]	2.92	4.87	9.74	9.74	19.5	39.0
Rated rpm	[r/min]	3,000					
Maximum rpm	[r/min]	5,000					
Inertia	[kg·m <sup>2</sup> ×10 <sup>-4</sup> ]	0.011	0.021	0.045	0.114	0.182	0.321
	[gf·cm·s <sup>2</sup> ]	0.0112	0.0214	0.0459	0.116	0.186	0.327
Allowable load inertia ratio		30 times of motor inertia			20 times of motor inertia		
Rated power rate	[kW/s]	5.57	10.52	23.80	8.92	22.26	50.65
Speed/Position Detector	Standard	Incremental 2,048[P/R]			Incremental 3,000[P/R]		
	Option	Absolute, 11/13bit Manchester communication					
Specification & Features	Structure	Totally enclosed Non ventilated IP55(Excluding the shaft-through section and connectors)					
	Rated time	Continuous					
	Ambient temp	0~+40[°C]					
	Ambient humidity	20~80[%](Avoid freezing)					
	Atmosphere	Avoid direct sunlight, no corrosive gas, inflammable gas, oil mist, or dust					
	E/V	Elevation/Vibration 49[m/s <sup>2</sup> ](5G)					
Weight	[kg]	0.3	0.4	0.52	0.84	1.11	1.63

#### ◆ Speed-Torque characteristics ◆

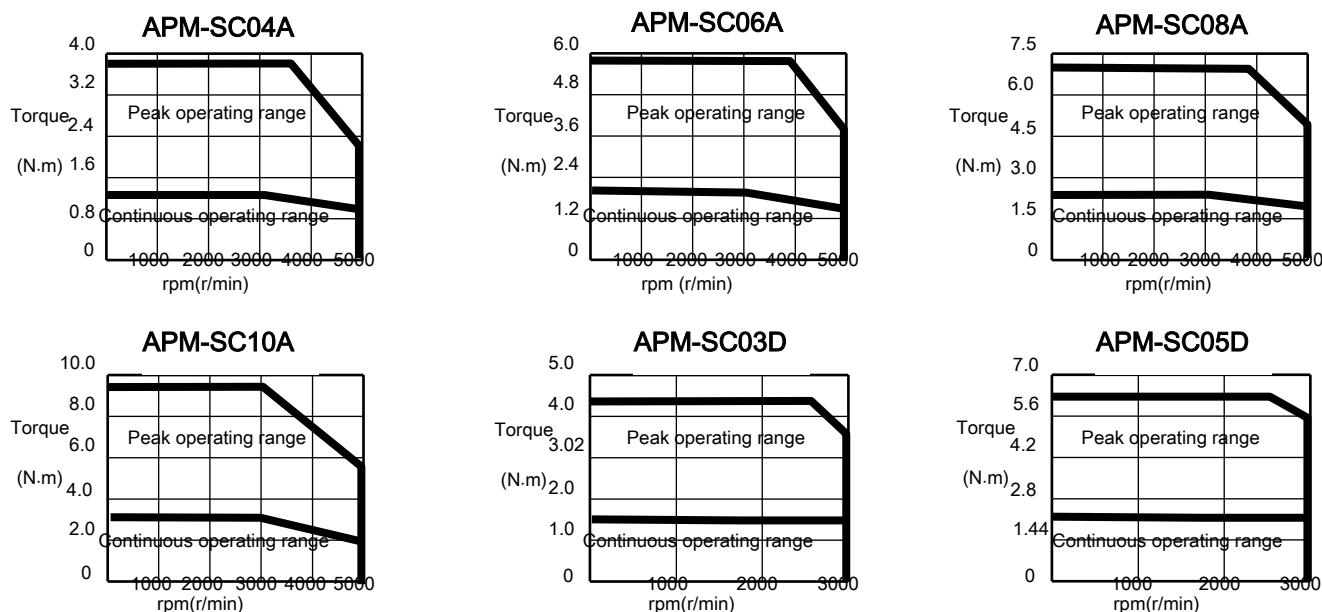


# APD-VS[Standard Type] Manual

## ■ Product Features

Servo Motor Model (APM- )		SC04A	SC06A	SC08A	SC10A	SC03D	SC05D
Applicable drive (APD- )		VS04		VS05	VS10	VS04	
Rated Output	[kW]	0.4	0.6	0.8	1.0	0.3	0.45
Rated Torque	[N·m]	1.27	1.91	2.55	3.19	1.43	2.15
	[kgf·cm]	13.0	19.5	26.0	32.5	14.6	21.9
Maximum Instantaneous Torque	[N·m]	3.82	5.34	6.88	9.56	4.29	6.44
	[kgf·cm]	39.0	54.5	70.2	97.5	43.8	65.7
Rated rpm	[r/min]	3,000				2,000	
Maximum rpm	[r/min]	5,000				3,000	
Inertia	[kg·m <sup>2</sup> ×10 <sup>-4</sup> ]	0.674	1.092	1.509	1.927	0.674	1.092
	[gf·cm·s <sup>2</sup> ]	0.687	1.114	1.539	1.966	0.687	1.114
Allowable load inertia ratio		15 times of motor inertia				15 times of motor inertia	
Rated power rate	[kW/s]	24.07	33.45	43.02	52.65	30.36	42.19
Speed/Position detector	Standard	Incremental 5[V] Line Drive 3,000[P/R]					
	Option	Absolute, 11/13bit Manchester communication					
Specification & Features	Structure	Totally enclosed Non ventilated IP65(Excluding the shaft-through section and connectors)					
	Rated time	Continuous					
	Ambient temp	0~+40[°C]					
	Ambient humidity	20~80[%](Avoid freezing)					
	Atmosphere	Avoid direct sunlight, no corrosive gas, inflammable gas, oil mist, or dust					
	E/V	Elevation/Vibration 49[m/s <sup>2</sup> ](5G)					
Weight	[kg]	1.85	2.49	3.15	3.80	1.85	2.49

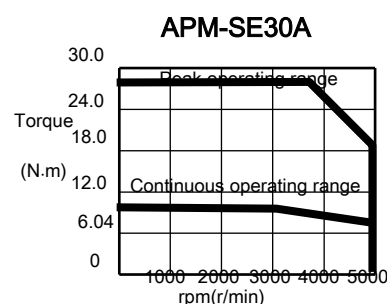
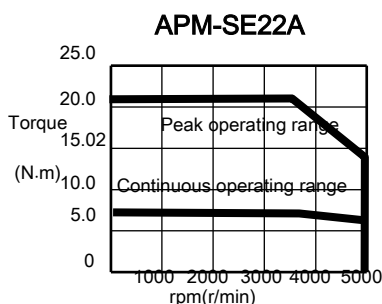
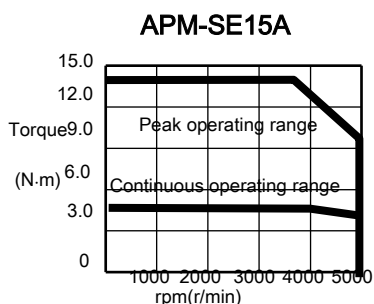
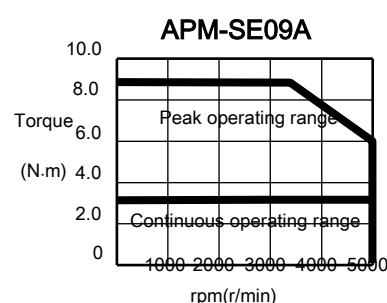
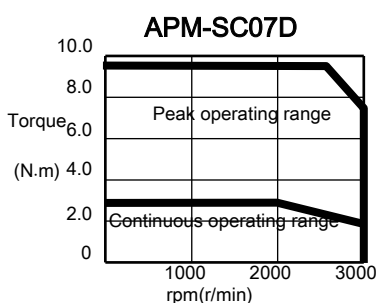
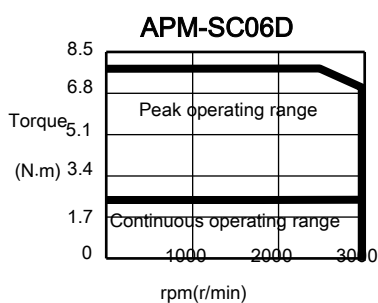
## ◆ Speed-Torque characteristics ◆



## ■ Product Features

Servo Motor Model (APM- )		SC06D	SC07D	SE09A	SE15A	SE22A	SE30A
Applicable drive (APD- )		VS05		VS10	VS15	VS20	VS35
Rated Output	[kW]	0.55	0.65	0.9	1.5	2.2	3.0
Rated Torque	[N·m]	2.63	3.09	2.86	4.77	7.0	9.55
	[kgf·cm]	26.8	31.6	29.2	48.7	71.4	97.4
Maximum Instantaneous Torque	[N·m]	7.88	9.29	8.59	14.32	21.01	28.65
	[kgf·cm]	80.4	94.8	87.7	146.1	214.3	292.2
Rated rpm	[r/min]	2,000		3,000			
Maximum rpm	[r/min]	3,000		5,000			
Inertia	[kg·m <sup>2</sup> ×10 <sup>-4</sup> ]	1.509	1.927	6.659	11.999	17.339	22.679
	[gf·cm·s <sup>2</sup> ]	1.539	1.966	6.792	12.238	17.685	23.132
Allowable load inertia ratio		15 times of motor inertia		10 times of motor inertia			
Rated power rate	[kW/s]	43.68	47.90	12.31	18.98	28.25	40.17
Speed/Position deceptor	Standard	Incremental 5[V] Line Drive 3,000[P/R]					
	Option	Absolute, 11/13bit Manchester communication					
Specification & Features	Structure	Totally enclosed Non ventilated IP65(Excluding the shaft-through section and connectors)					
	Rated time	Continuous					
	Ambient temp	0~+40[°C]					
	Ambient humidity	20~80[%](Avoid freezing)					
	Atmosphere	Avoid direct sunlight, no corrosive gas, inflammable gas, oil mist, or dust.					
	E/V	49[m/s <sup>2</sup> ](5G)					
Weight	[kg]	3.15	3.80	5.6	7.2	8.7	10.2

◆ Speed-Torque characteristics ◆

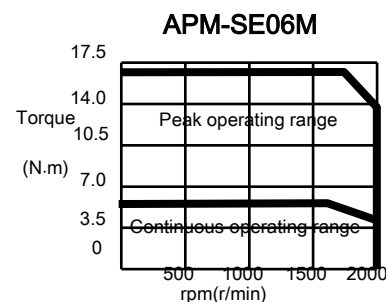
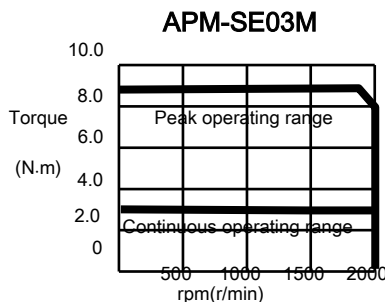
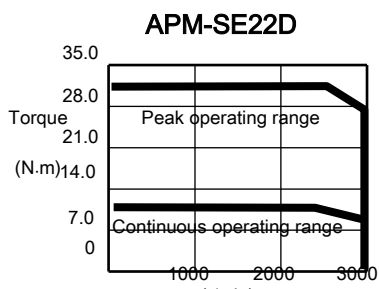
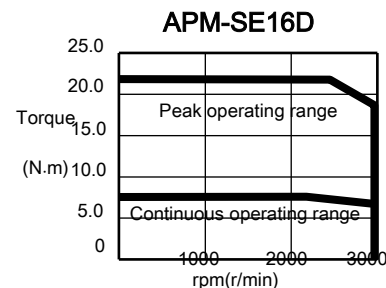
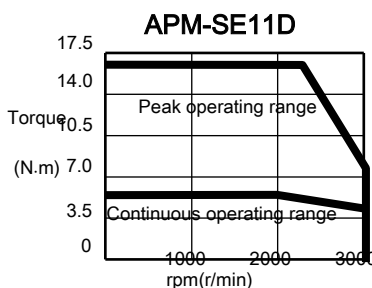
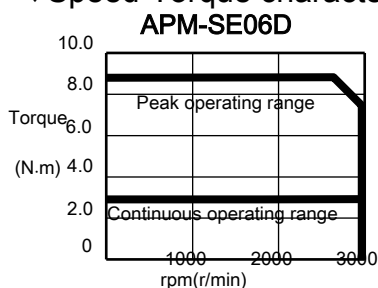


# APD-VS[Standard Type] Manual

## ■ Product Features

Servo Motor Model (APM- )		SE06D	SE11D	SE16D	SE22D	SE03M	SE06M
Applicable drive (APD- )		VS05	VS10	VS15	VS20	VS04	VS05
Rated Output	[kW]	0.6	1.1	1.6	2.2	0.3	0.6
Rated Torque	[N·m]	2.86	5.25	7.63	10.5	2.86	5.72
	[kgf·cm]	29.2	53.6	77.9	107.1	29.2	58.4
Maximum Instantaneous Torque	[N·m]	8.59	15.75	22.92	31.51	8.59	17.18
	[kgf·cm]	87.7	160.7	233.8	321.4	87.7	175.3
Rated rpm	[r/min]	2,000				1,000	
Maximum rpm	[r/min]	3,000				2,000	
Inertia	[kg·m <sup>2</sup> ×10 <sup>-4</sup> ]	6.659	11.999	17.339	22.679	6.659	11.999
	[gf·cm <sup>-2</sup> ]	6.792	12.238	17.685	23.132	6.792	12.238
Allowable load inertia ratio		10 times of motor inertia				10 times of motor inertia	
Rated power rate	[kW/s]	12.31	22.97	33.63	48.61	12.31	27.34
Speed/Position detector	Standard	Incremental 5[V] Line Drive 3,000[P/R]					
	Option	Absolute, 11/13bit Manchester communication					
Specification & Features	Structure	Totally enclosed Non ventilated IP65(Excluding the shaft-through section and connectors)					
	Rated time	Continuous					
	Ambient temp	0~+40[°C]					
	Ambient humidity	20~80[%](Avoid freezing)					
	Atmosphere	Avoid direct sunlight, no corrosive gas, inflammable gas, oil mist, or dust.					
	E/V	49[m/s <sup>2</sup> ](5G)					
Weight	[kg]	5.6	7.2	8.7	10.2	5.6	7.2

## ◆ Speed-Torque characteristics ◆



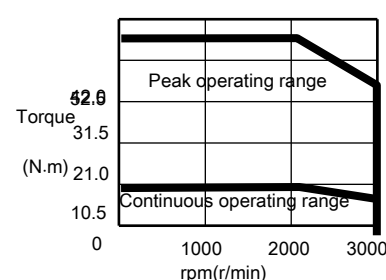
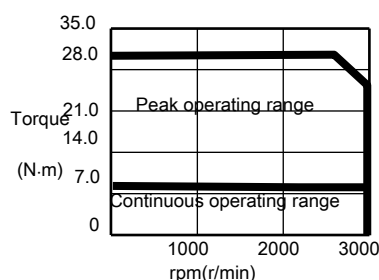
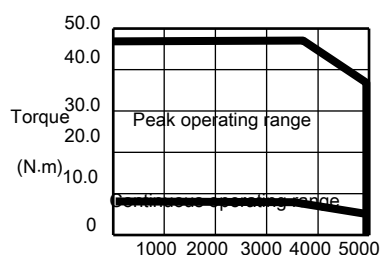
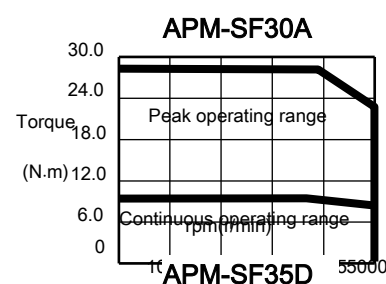
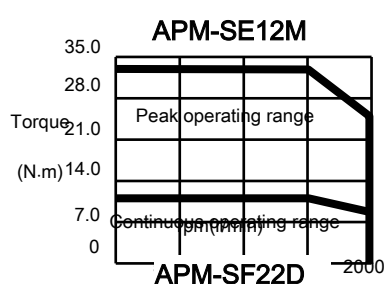
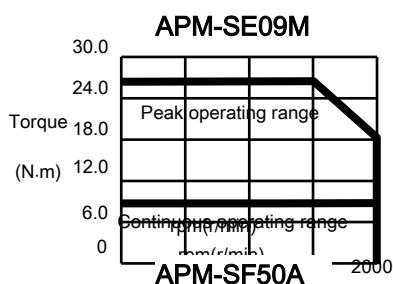
## ■ Product Features

Servo Motor Model (APM- )	SE09M	SE12M	SF30A	SF50A	SF22D	SF35D
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## Chapter7 Product Specification

Applicable drive (APD- )		VS10	VS15	VS35	VS50	VS20	VS35
Rated Output	[kW]	0.9	1.2	3.0	5.0	2.2	3.5
Rated Torque	[N·m]	8.59	11.46	9.55	15.91	10.5	16.7
	[kgf·cm]	87.7	116.9	97.4	162.3	107.1	170.4
Maximum Instantaneous Torque	[N·m]	25.77	34.22	28.64	47.74	31.5	50.12
	[kgf·cm]	262.9	349.1	292.2	487.0	321.3	511.3
Rated speed	[r/min]	1,000		3,000		2,000	
Maximum speed	[r/min]	2,000		5,000		3,000	
Inertia	[kg·m <sup>2</sup> ×10 <sup>-4</sup> ]	17.339	22.679	30.74	52.13	30.74	52.13
	[gf·cm·s <sup>2</sup> ]	17.685	23.132	31.35	53.16	31.35	53.16
Allowable load inertia ratio		10 times of motor inertia		5 times of motor inertia		5 times of motor inertia	
Rated power rate	[kW/s]	42.56	57.85	29.66	48.56	35.88	53.56
Speed/Position detector	Standard	Incremental 5[V] Line Drive 3,000[P/R]					
	Option	Absolute, 11/13bit Manchester communication					
Specification & Features	Structure	Totally enclosed Non ventilated IP65(Excluding the shaft-through section and connectors)					
	Rated time	Continuous					
	Ambient temp	0~+40[°C]					
	Ambient humidity	20~80[%](Avoid freezing)					
	Atmosphere	Avoid direct sunlight, no corrosive gas, inflammable gas, oil mist, or dust.					
	E/V	49[m/s <sup>2</sup> ](5G)					
Weight	[kg]	8.7	10.2	12.4	17.7	12.4	17.7

### ◆ Speed-Torque characteristics ◆



### ■ Product Features

Servo Motor model (APM- )	SF55D	SF75D	SF12M	SF20M	SF30M	SF44M
Applicable drive (APD- )	VS50	VS75	VS15	VS20	VS35	VS50

# APD-VS[Standard Type] Manual

<b>Rated Output</b>	[kW]	5.5	7.5	1.2	2.0	3.0	4.4
<b>Rated Torque</b>	[N·m]	26.25	35.81	11.46	19.09	28.64	42.02
	[kgf·cm]	267.8	365.41	116.9	194.8	292.2	428.7
<b>Maximum Instantaneous Torque</b>	[N·m]	78.76	89.53	34.38	57.29	85.94	126.05
	[kgf·cm]	803.4	913.53	350.7	584.4	876.6	1286.2
<b>Rated rpm</b>	[r/min]	2,000		1,000			
<b>Maximum rpm</b>	[r/min]	3,000	2,500	2,000			
<b>Inertia</b>	[kg·m <sup>2</sup> ×10 <sup>-4</sup> ]	83.60	121.35	30.74	52.13	83.60	121.35
	[gf·cm·s <sup>2</sup> ]	85.24	123.74	31.35	53.16	85.24	123.74
<b>Allowable load inertia ratio</b>		5 times of motor inertia		5 times of motor inertia			
<b>Rated power rate</b>	[kW/s]	82.56	105.75	42.70	69.96	98.16	145.55
<b>Speed/Position detector</b>	<b>Standard</b>	Incremental 5[V] Line Drive 3,000[P/R]					
	<b>Option</b>	Absolute, 11/13bit Manchester communication					
<b>Specification &amp; Features</b>	<b>Structure</b>	Totally enclosed Non ventilated IP65(Excluding the shaft-through section and connectors)					
	<b>Rated time</b>	Continuous					
	<b>Ambient temp.</b>	0~+40[°C]					
	<b>Atmosphere</b>	20~80[%](Avoid freezing)					
	<b>Atmosphere</b>	Avoid direct sunlight, no corrosive gas, inflammable gas, oil mist, or dust.					
	<b>E/V</b>	49[m/s <sup>2</sup> ](5G)					
<b>Weight</b>	[kg]	26.3	35.6	12.4	17.7	26.3	35.6

◆ Speed-Torque characteristics ◆

