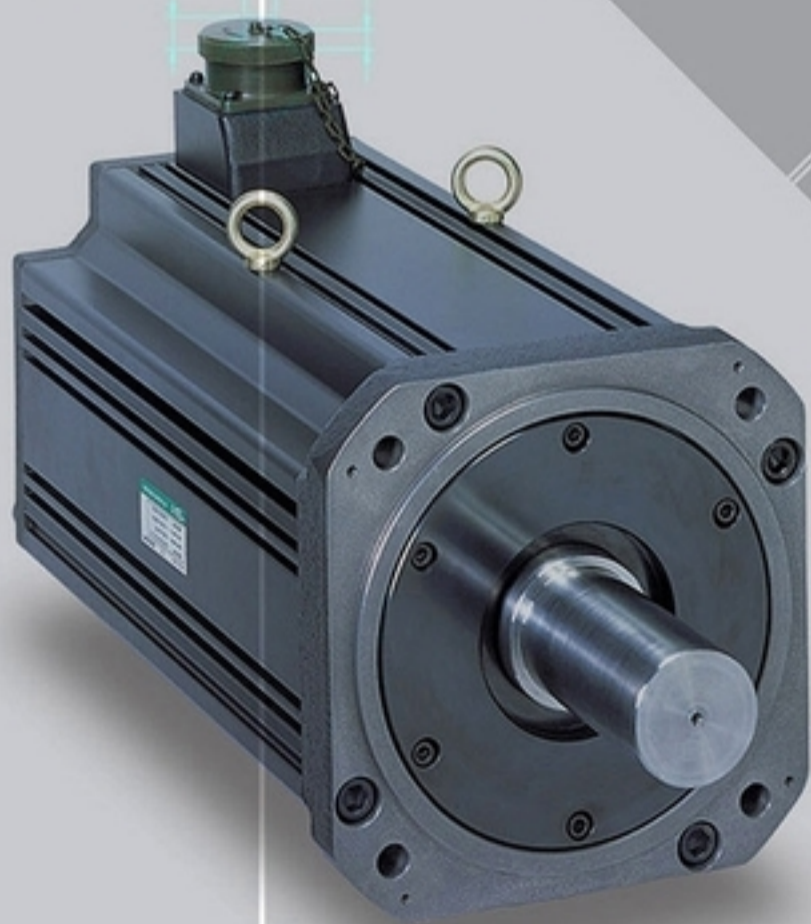


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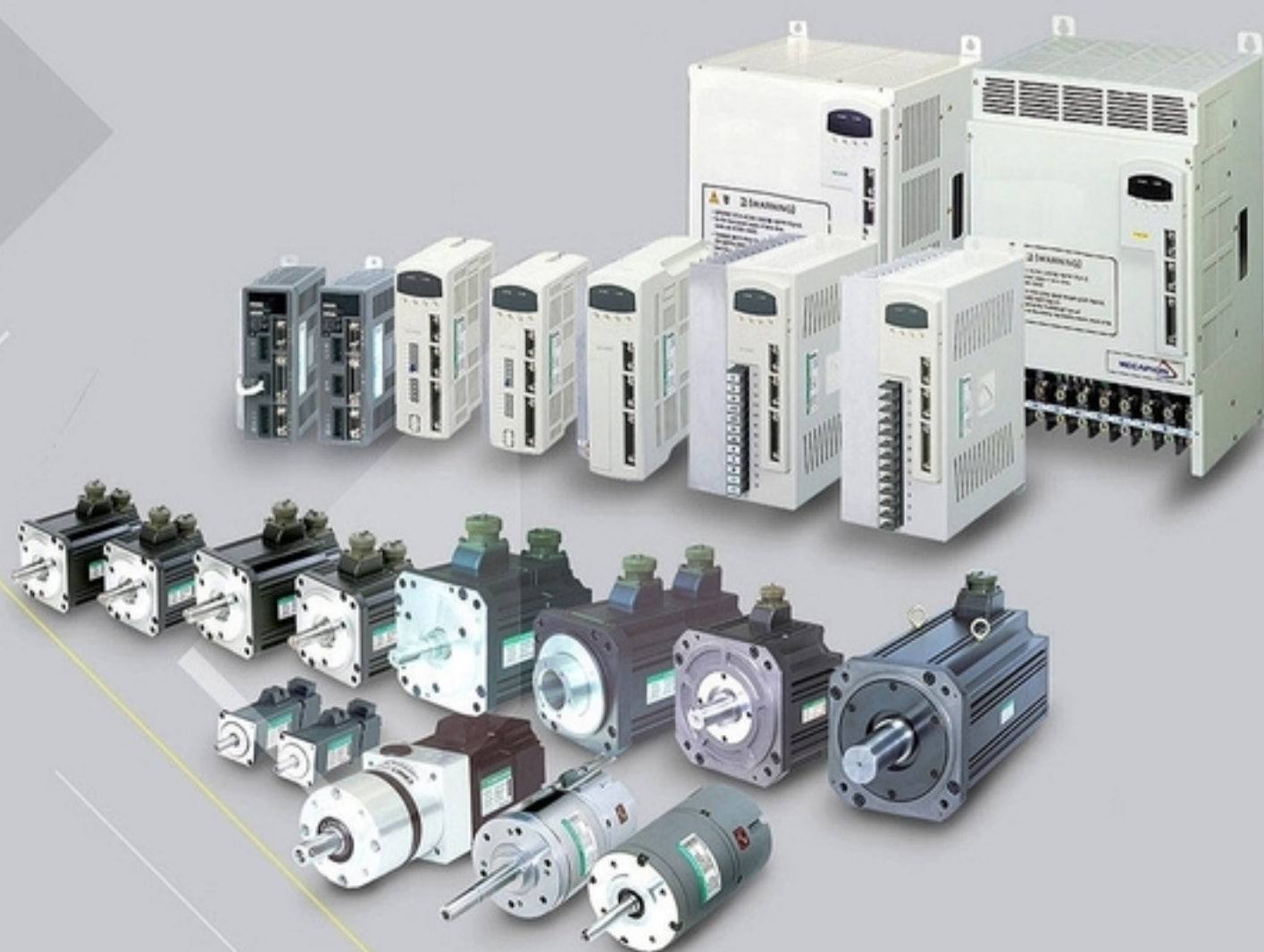


New name of **metronix** in korea

AC Servo System

Products Collection

Vol. 5.2



C · O · N · T · E · N · T · S



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Servo & Sensors

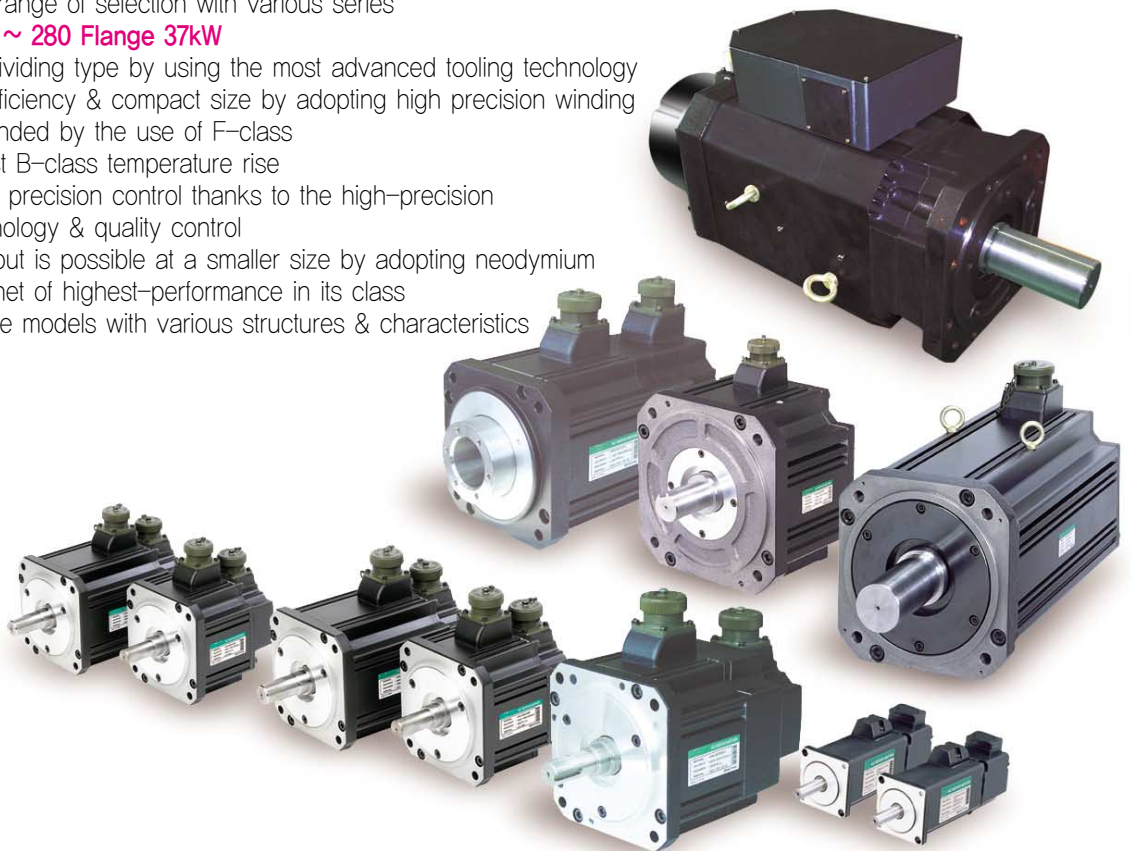
Motion & Robot System



AC Servo Motor

30W~37kW Servo Motor & Drive released

- Provide a wide range of selection with various series
- **40 Flange 30W ~ 280 Flange 37kW**
- Adopted core-dividing type by using the most advanced tooling technology
- Realized high efficiency & compact size by adopting high precision winding
- Motor's life extended by the use of F-class insulation against B-class temperature rise
- Suitable for high precision control thanks to the high-precision fabricating technology & quality control
- High torque output is possible at a smaller size by adopting neodymium permanent magnet of highest-performance in its class
- Provide exclusive models with various structures & characteristics



Spinner Motor

- **Spinner Motor for semi-conductor equipment 8" & 12" developed**
- Used at Coater, Developer & Scrubber
- Realized high instantaneous acceleration characteristic- higher than 100,000 rps
- Manufactured custom made-spinner motor in response to customer's demands
- Secured various diameters of hollow shaft as per customer's requirement
- Environment-resistance strengthened by adopting magnetic fluid seal
- Anti-corrosion strengthened by the special coating process on the surface



Hollow Shaft Motor

- **Provide various diameters of hollow shaft(Max. ϕ 50-130 Flange)**
- Realized a compact size by the use of high-performance permanent magnet
- Compact design by adopting an exclusive encoder
- Motor's life extended by the use of F-class insulation against B-class temperature rise
- Designing various shapes of Exclusive Motor(customized type) is provided for customer's requirement





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MECAPION AC Servo System

AC Servo Drive

The Rated Specifications of Standard Servo Drive 「APD - VS Series」

- High-efficiency power transformation technologies realized by developing dedicated ASIC featuring latest control theory.
- Diversified functions added and convenience of use strengthened by the use of large-capacity flash memory.
- Precision control realized by the application of high-performance control algorithm.
- Additional services provided through various kinds of communication options, (PC Communication, Touch Screen, High-order Network Communication)
- Loader(6 digits) is basically mounted for the convenience of use
- Various menu function that is applied instantly after changing.

The Rated Specifications of Servo Drive with controller-embeded 「APD - VP Series」

- Products are subdivided by application sector and private control functions are provided so that anyone can use the system easily.
- Linear Coordinates Position Operation Type (VP-1): Linear motion machine, X-Y table
- Rotary Coordinates Position Operation Type (VP-2): Index, Turret,
- Position operation type after feeder and sensor (VP-3): Packing machine, All sorts of feeder, conveyor, I-mark,
- Program operation type (VP-5): 800 step operation,
- Other private soft : Program operation, All sorts of private machine,
- Tension control Operation type : Winder

Compact Servo Drive 「APD - VK Series」

- Quick : Hi-Performance, Hi-Response, Hi-Efficiency,
- Simple : Position Control, Digital Speed Control,
- Easy Operation,

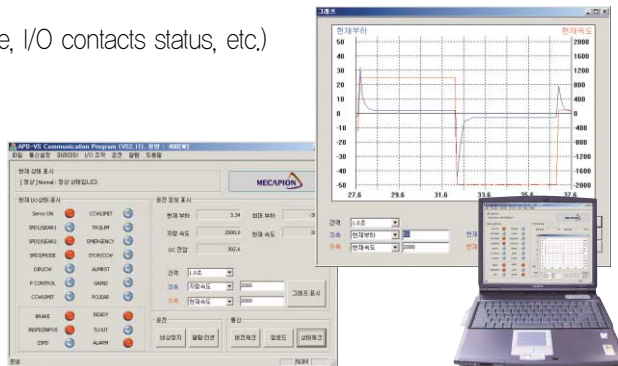


PC Loader

PC communication software also provides the graphic function in which the operation by using a computer. Reading/writing the menu data and displaying speed & torque information are all possible

Characteristics

- Display the current status information (Motor Speed, Load Rate, I/O contacts status, etc.)
- Saving the menu data & download function,
- Display the motor speed & torque with a graph,
- Easy changing of mode & menu data,
- Display function of Alarm status,
- Operation handling function by using communication protocol
- Data editing function by using communication-code
- Auto Jog operation test function
- PC Specifications : Window 98,WindowXP





Feature for Servo System

Encoder and Servo Motor Provide the Optimized Servo System for Customer needs with various Design and Characteristics

Servo Motor

APM — **S** **B** **04** **A** **D** **K** **1** **G2** **3**

Flange Size	Rated Rotation Speed	Shape of Shaft	Speed Reducer (Gearbox)
A : 40 Flange B : 60 Flange C : 80 Flange E : 130 Flange F : 180 Flange G : 220 Flange H : 250 Flange J : 280 Flange	A : 3000 rpm D : 2000 rpm G : 1500 rpm M : 1000 rpm	N : Straight K : One Side Round Key (Standard) L : L Cut D : D Cut T : Taper Shape R : Both Sides Round Key H : Hollow Shaft	None : No Reducer G2 : For General Industry (Flange Mount) G3 : Precision Gearbox (Flange Mount)

Motor Shaft	Motor Capacity	Encoder Type (Note1)	Existence of Oil Seal, Brake (Note2)	Reduction ratio
S : Solid Shaft H : Hollow Shaft	R3 : 30W R5 : 50W 01 : 100W 02 : 200W 04 : 400W 05 : 450W 06 : 550W/600W 07 : 650W 08 : 750W/800W 09 : 850W/900W 10 : 1,000W : 110 : 11,000W 150 : 15,000W 220 : 22,000W 300 : 30,000W 370 : 37,000W	A : Inc. 1,024 P/R(15 Lines) B : Inc. 2,000 P/R(15 Lines) C : Inc. 2,048 P/R(15 Lines) D : Inc. 2,500 P/R(15 Lines) E : Inc. 3,000 P/R(15 Lines) F : Inc. 5,000 P/R(15 Lines) G : Inc. 6,000 P/R(15 Lines) K : Abs. 2,048 P/R L : Abs. 4,096 P/R S : Inc. 2,000 P/R(9 Lines) T : Inc. 2,048 P/R(9 Lines) U : Inc. 2,500 P/R(9 Lines) V : Inc. 3,000 P/R(9 Lines)	None : None 1 : Oil Seal Attached 2 : Brake Attached(DC 24[V]) 3 : Oil Seal, Brake Attached(DC 24[V]) 4 : Brake Attached(DC 90[V]) 5 : Oil Seal, Brake Attached(DC 90[V])	3 : 1/3 10 : 1/10 : :

Note1) Standard, Encoder type for Motor Inc. 3,000P/R(15 Lines) 40 Flange : Inc. 2048P/R(15Lines) 3,000 & Over P/R is impossible 60, 80 Flange : Inc. 2,500P/R(15Lines) 5,000 & Over P/R is impossible 130, 180, 220 Flange : Inc. 3,000P/R(15Lines)

Note2) Brake Power Supply 40,60,80,130,180 Flange : DC 24[V] 220 Flange : DC 90[V]
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Note3) SA,SB,SC,SE Models : Approved by UL Note4) Gearheaded Motor : Contact to Mecapion

Configuration of Servo Drive

Provide The Optimized Control System with 32bit High-Performance DSP and Various Interface Communication for Multi-Function control parts and High Credibility and Self-Protective Function for IPM Power Module

Servo Drive

APD — **VS** **04** **N** **A4**

Type Classification	Drive Capacity	Encoder Type	Exclusive Code
VS : Standard VP : Controller-embedded VK : Compact	R5 : 50W 01 : 100W 02 : 200W 04 : 400W 05 : 500W 10 : 1,000W 15 : 1,500W 20 : 2,000W 35 : 3,500W 50 : 5,000W 75 : 7,500W 110 : 11,000W 150 : 15,000W 220 : 22,000W 300 : 30,000W 370 : 37,000W	N : Incremental A : Absolute	VS Exclusive Option Code VP AS per the operating software 1. Linear coordinates position drive 2. Rotary coordinates position drive 3. Feeder and sensor-input position type 5. Program operation drive 9. Customized Position Drive VK P : Position Mode S : Speed Mode

Note1) VS Drive : 30W~37KW VP Drive : 50W~15KW VK Drive : 50W~800KW



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MECAPHION AC Servo System

Application Table for Servo Motor and Drive

Servo Motor					Applicable drive	Encoder Used		IP grade			
Rated Speed (r/min)	Maximum Speed (r/min)	Flange	Capacity (kW)	Model (APM-)	Model (APD-)	Standard Incremental	Standard Absolute				
3,000	5,000	□40	0.03	SAR3A	VS/VP/VKR5	·15pin type ·2048 P/R	·N/A	IP 55			
			0.05	SAR5A	VS/VP/VKR5						
			0.1	SA01A	VS/VP/VK01						
		□60	0.1	SB01A	VS/VP/VK01	·15pin type ·2,500 P/R	·13pin type ·2,048 P/R ·11/13bit	IP 55			
			0.2	SB02A	VS/VP/VK02						
			0.4	SB04A	VS/VP/VK04						
			0.4	SC04A	VS/VP/VK04						
		□80	0.6	SC06A	VS/VP/VK04	·15pin type ·3,000 P/R	·13pin type ·2,048 P/R ·11/13bit	IP 65			
			0.8	SC08A	VS/VP 05						
			1.0	SC10A	VS/VP 10						
			0.9	SE09A	VS/VP 10						
			1.5	SE15A	VS/VP 15						
		□130	2.2	SE22A	VS/VP 20	·15pin type ·3,000 P/R	·13pin type ·2,048 P/R ·11/13bit	IP 65			
			3.0	SE30A	VS/VP 35						
3.0	SF30A		VS/VP 35								
□180	5.0	SF50A	VS/VP 50	·15pin type ·2,500 P/R	·13pin type ·2,048 P/R ·11/13bit	IP 65					
	0.3	SC03D	VS/VP/VK04								
2,000	3,000	□80	0.45	SC05D	VS/VP/VK04	·15pin type ·3,000 P/R	·13pin type ·2,048 P/R ·11/13bit	IP 65			
			0.55	SC06D	VS/VP 05						
			0.65	SC07D	VS/VP 05						
		□130	0.6	SE06D	VS/VP 05						
			1.1	SE11D	VS/VP 10						
			1.6	SE16D	VS/VP 15						
	□180	2.2	SE22D	VS/VP 20	·15pin type ·3,000 P/R	·13pin type ·2,048 P/R ·11/13bit	IP 65				
		2.2	SF22D	VS/VP 20							
	2,500	□220	3.5	SF35D	VS/VP 35	·15pin type ·3,000 P/R	·13pin type ·2,048 P/R ·11/13bit	IP 65			
	5.5		SF55D	VS/VP 50							
	3,000	□220	7.5	SF75D	VS/VP 75	·15pin type ·3,000 P/R	·13pin type ·2,048 P/R ·11/13bit	IP 65			
	2,500		2.2	SG22D	VS/VP 20						
	1,500	3,000	□130	3.5	SG35D	VS/VP 35	·15pin type ·3,000 P/R	·13pin type ·2,048 P/R ·11/13bit	IP 65		
				5.5	SG55D	VS/VP 50					
7.5				SG75D	VS/VP 75						
□180			11.0	SG110D	VS/VP 110						
			0.45	SE05G	VS/VP 05						
			0.85	SE09G	VS/VP 10						
2,500		□180	1.3	SE13G	VS/VP 15	·15pin type ·3,000 P/R	·13pin type ·2,048 P/R ·11/13bit	IP 65			
			1.7	SE17G	VS/VP 20						
1.8			SF20G	VS/VP 20							
3,000		□220	2.9	SF30G	VS/VP 35	·15pin type ·3,000 P/R	·13pin type ·2,048 P/R ·11/13bit	IP 65			
			4.4	SF44G	VS/VP 50						
6.0			SF60G	VS/VP 75							
2,500		□220	7.5	SF75G	VS/VP 110	·15pin type ·3,000 P/R	·13pin type ·2,048 P/R ·11/13bit	IP 65			
			2.0	SG20G	VS/VP 20						
	3.0		SG30G	VS/VP 35							
	4.4	SG44G	VS/VP 50								
	6.0	SG60G	VS/VP 75								
	8.5	SG85G	VS/VP 110								
2,000	□250	11.0	SG110G	VS/VP 150	·15pin type ·3,000 P/R	·13pin type ·2,048 P/R ·11/13bit	IP 65				
		15.0	SG150G	VS/VP 150							
		22.0	SH220G	VS220							
	30.0	SH300G	VS300								
□280	37.0	SJ370G	VS370	·N/A	IP 55						
1,000	2,000	□130	0.3	SE03M	VS/VP/VK04	·15pin type ·3,000 P/R	·13pin type ·2,048 P/R ·11/13bit	IP 65			
			0.6	SE06M	VS/VP 05						
			0.9	SE09M	VS/VP 10						
			1.2	SE12M	VS/VP 15						
		□180	1.2	SF12M	VS/VP 15						
			2.0	SF20M	VS/VP 20						
			3.0	SF30M	VS/VP 35						
			4.4	SF44M	VS/VP 50						
		□220	1.2	SG12M	VS/VP 15				·15pin type ·3,000 P/R	·13pin type ·2,048 P/R ·11/13bit	IP 65
			2.0	SG20M	VS/VP 20						
			3.0	SG30M	VS/VP 35						
			4.4	SG44M	VS/VP 50						
			6.0	SG60M	VS/VP 75						
			6.0	SG60M	VS/VP 75						
3,000	5,000	□60	0.1	HB01A	VS/VP/VK01	·15pin type ·1,024 P/R	·N/A	IP 55			
			0.2	HB02A	VS/VP/VK02						
			0.4	HB04A	VS/VP/VK04						
		□130	0.9	HE09A	VS/VP 10						
			1.5	HE15A	VS/VP 15						

Note1) IP grade of Servo Motor excludes the shaft section.