

Series Compatible with Secondary Batteries

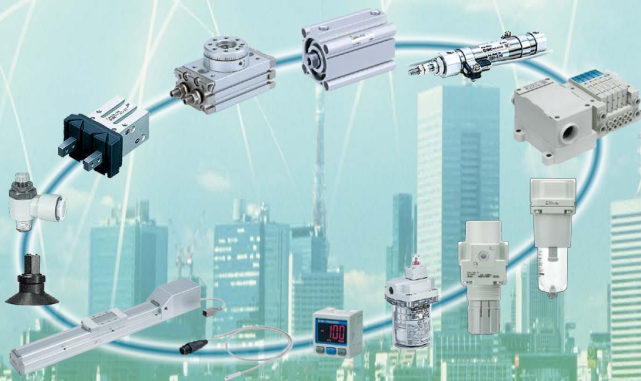
25A-Series

Copper (Cu)
and Zinc (Zn)
Restrictions

Compatible with
dew points as low as
-70°C

Longer life
due to use of grease
compatible with
low dew points

A wide range
of products!
Now with a
greater number
of models!



New

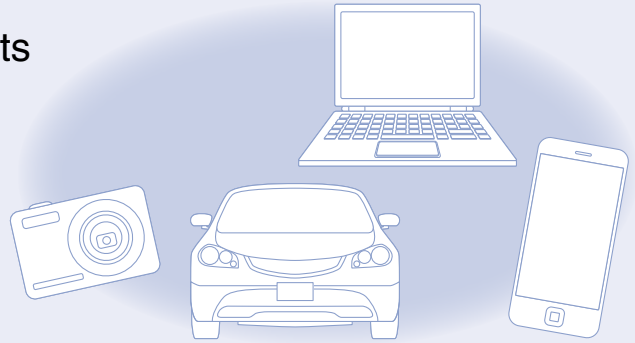
- 4/5-Port Solenoid Valve 25A-SYJA Series
- Air Cylinder: With End Lock
25A-CBJ2, 25A-CBG1, 25A-CDBQ2 Series
- Mini Free Mount Cylinder 25A-CUJ Series
- Air Slide Table 25A-MXQ□, 25A-MXP Series
- Modular F.R.L. Units 25A-AC□B, C, D Series
- Pressure Switch 25A-ZSE20/ISE20 Series
- Pilot Operated 2-Port Solenoid Valve 25A-VXD Series, etc.,
have been added.

Compatible with the various environments
of each manufacturing process



P-E18-13 [Ⓐ]

Products compatible with the environments of the secondary battery manufacturing process are available, contributing to the improvement of productivity and reduced defects.



Series Compatible with Secondary Batteries 25A- Series

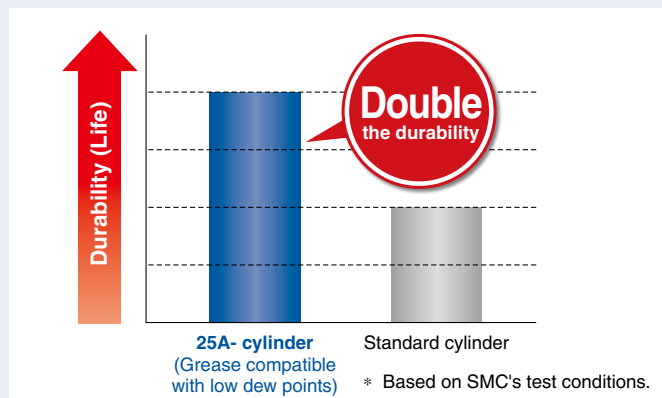


Improved performance in environments with low dew points

- Uses grease compatible with low dew points

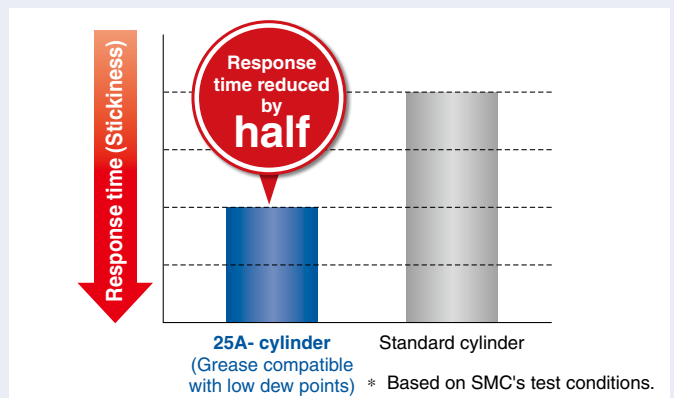
Double the durability

Durability comparison (Air cylinder)



Response time reduced by half

Comparison of cylinder response times after being pressurized and stored



Material Restrictions

The following materials are not used in order to reduce the number of defective products produced during the secondary battery manufacturing process:

- **Metal materials whose main component is either copper or zinc are not used.**
 - * Some of the aluminum alloy and aluminum die-cast materials contain traces of copper or zinc as an additive element. If a product with restrictions on the amounts of these additive elements is required, we can accommodate your needs via a special product. Please contact your local sales representative for further details.
- **Electrolytic nickel plating with a copper layer or zinc plating**
 - * Electroless nickel plating is used.
- **Parts of the piston rod, clevis pin, split pin, etc., of the cylinder are made of carbon steel with hard chrome plating. Therefore, as the processed parts aren't coated, an anti-rust oil coating is applied to these parts before shipment.**
 - * Rust may be generated due to the operating environment. If the generation of rust is a problem, made-to-order options using stainless steel, etc., are available. Please contact your local sales representative for further details..
- **The coils of solenoid valves, the circuit boards of electrical equipment, the motors of electric actuators, etc., use copper materials.**
 - * Parts whose materials cannot be easily changed to alternative ones and parts whose functions would be compromised by changing to alternative materials use copper and/or zinc materials. Please contact your local sales representative for further details.

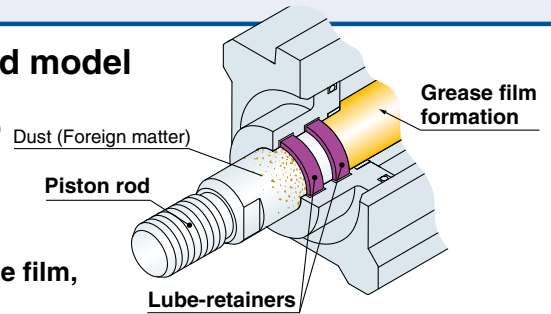
Dustproof Products

Durability is 4 times stronger than the standard model in micro-powder (10 to 100 μm) environments.

(The durability test was conducted in accordance with SMC test conditions.)









Cylinder with Stable Lubrication Function (Lube-retainer)

- Double Lube-retainer
- Lube-retainers are mounted at two locations to form a grease film, preventing the entry of dust and foreign matter.



* Not compatible with the secondary battery specifications

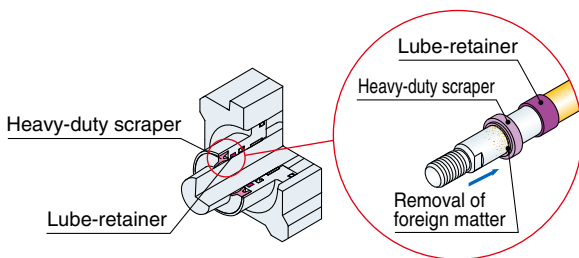
Applicable Cylinders

Air Cylinder CM2 Series ø20 to ø40 	Air Cylinder CG1 Series ø20 to ø100 	Air Cylinder CA2 Series ø40 to ø100 	Compact Cylinder CQS Series ø20 to ø25 
Compact Cylinder CQ2 Series ø32 to ø100 	Air Slide Table MXQ□A Series ø6 to ø25 	Compact Guide Cylinder MGP Series ø20 to ø100 	Dual Rod Cylinder CXS Series ø6 to ø32 

Special Products (Please contact your local sales representative for more details.)

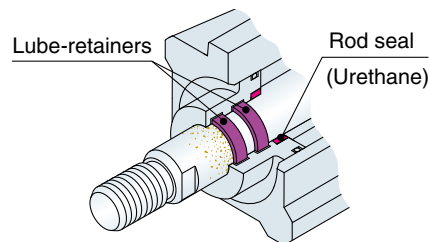
Lube-retainer + Heavy-duty scraper

- Improved dust prevention due to the lube-retainer and heavy-duty scraper



Double Lube-retainer + Urethane seal

- Material of rod seal has been changed to urethane to improve durability.

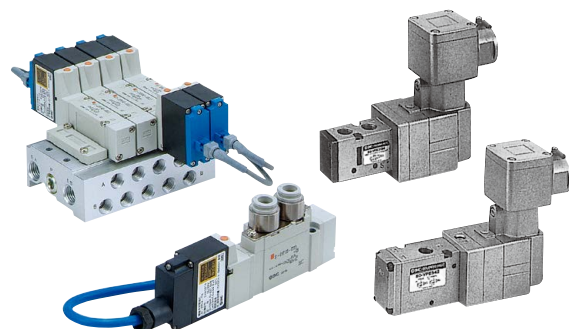


Explosion-proof Products

Explosion-proof Solenoid Valves

- 5-Port Solenoid Valve/51-SY Series
Intrinsically safe and explosion proof
(In compliance with IEC Standard 79)
- 3/5-Port Solenoid Valve/50-VFE/VPE Series
IEC compliant, Waterproof

* Not compatible with the secondary battery specifications



Restrictions

Material

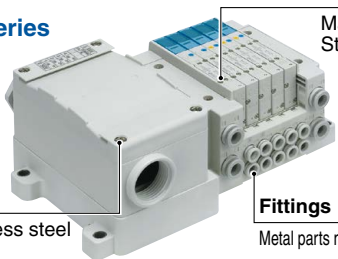
Copper (Cu)

Zinc (Zn)

Surface treatment

- Electrolytic nickel plating with a copper layer
 - Zinc plating
- (Electroless nickel plating is used.)

Solenoid Valve 25A-SY Series



Mounting bolt
Material: Stainless steel

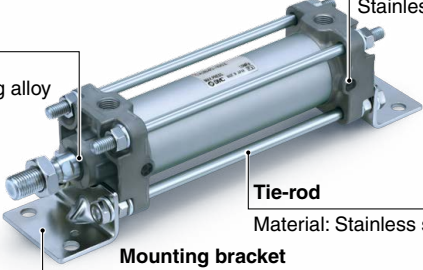
Cushion valve
Material: Stainless steel

Cover holding screw
Material: Stainless steel

Fittings
Metal parts material: Stainless steel

* Coils for solenoid valves, connector pins, and lead wires are made of copper.
* Manifold terminal block, wiring parts, connector metal parts, and printed circuit board are made of copper.

Cylinder 25A-CA2 Series

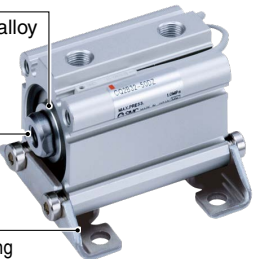


Bushing
Material: Steel bearing alloy

Tie-rod
Material: Stainless steel

Mounting bracket
Surface treatment: Electroless nickel plating

Compact Cylinder 25A-CQ2 Series




Bushing (ø50 to ø100)
Material: Steel bearing alloy

Piston rod
Surface treatment: Hard chrome plating

Mounting bracket
Surface treatment: Electroless nickel plating

* The auto switch magnet contains copper and/or zinc. (ø12)

Compact Guide Cylinder 25A-MGPM Series



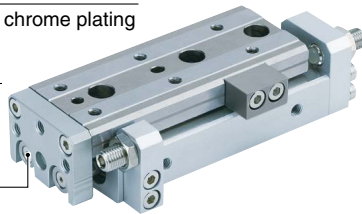
Bushing (ø50 to ø100)
Material: Steel bearing alloy

Piston rod
Surface treatment: Hard chrome plating

Plate
Surface treatment: Electroless nickel plating

* The auto switch magnet contains copper and/or zinc. (ø12)

Air Slide Table 25A-MXQ Series




Piston rod
Surface treatment: Hard chrome plating

Piston
Material: Stainless steel
Aluminum alloy

Bolts
Surface treatment: Electroless nickel plating

Corrosion-resistant Air Slide Table (Made to Order: 25A-MXQ□-X771, 25A-MXS□-X1949)

The material of the head cap part has been changed to a highly corrosion-resistant material.



	After change	Before change
Head cap	Aluminum alloy	Synthetic resin

Dual Rod Cylinder/Compact Type 25A-CXSJ Series

Bolts

Surface treatment:
Electroless nickel plating

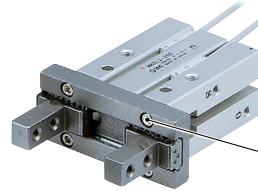


* The auto switch magnet contains copper and/or zinc. (ø6, ø10, ø15)

Air Gripper 25A-MH2 Series

Bolts

Surface treatment:
Electroless nickel plating



Air Filter 25A-AF Series

Rod (AF50 to 60-A)

Material: Stainless steel



Drain plug (AF30 to 60-A)

Material: Stainless steel

Regulator 25A-AR Series

Valve, Stem

Material: Stainless steel



Adjusting spring, Screw

Surface treatment: Electroless nickel plating

Precision Regulator 25A-IR□-A Series

Screw

Surface treatment: Electroless nickel plating



Screws

Material: Stainless steel

3-Color Display

High-Precision Digital Pressure Switch ZSE20□(F)/ISE20□ Series

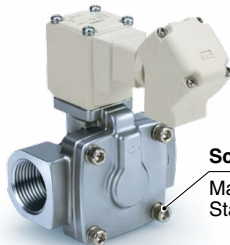


Port thread

Material: Stainless steel

* A copper material is used for the lead wires.

Pilot Operated 2-Port Solenoid Valve 25A-VXD Series

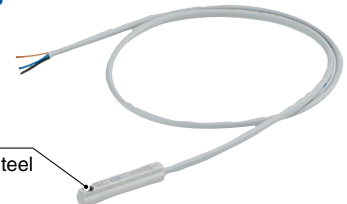


Screw

Material:
Stainless steel

* A copper material is used for the solenoid coils and lead wires.

Solid State Auto Switch D-M9□-900 Series



Mounting screw

Material: Stainless steel

* A copper material is used for the lead wires.

Electric Actuator/Slider Type Ball Screw Drive 25A-LEFS Series

Bolts

Material:
Stainless steel

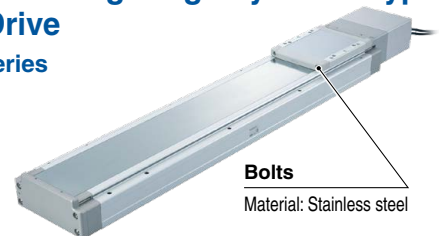


(Step motor)
(Servo motor)

(AC servo motor)

* Copper and zinc materials are used for the motors, cables, controllers/drivers.
* The motor magnet contains copper and/or zinc.

Electric Actuator/High Rigidity Slider Type Ball Screw Drive 25A-LEJS Series



Bolts

Material: Stainless steel

* Copper and zinc materials are used for the motors, cables, controllers/drivers.
* The motor magnet contains copper and/or zinc.

Electric Actuator/Rod Type 25A-LEY Series

Bolts

Material: Stainless steel

Bushing

Material:
Steel bearing alloy



Bushing

Material: Steel bearing alloy

(Step motor)
(Servo motor)



Bolts

Material: Stainless steel

(AC servo motor)

* Copper and zinc materials are used for the motors, cables, controllers/drivers. * The motor magnet contains copper and/or zinc.

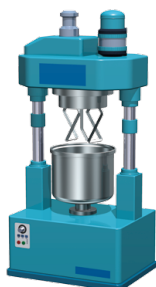
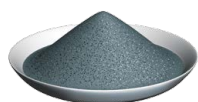
Secondary Battery Manufacturing Process

Electrode Production Process

Same for both can types and laminate types

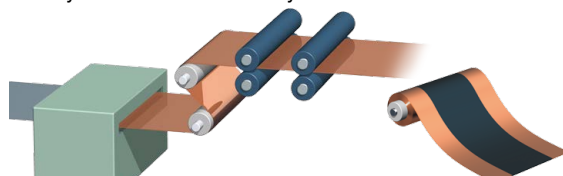
① Mixing and kneading machine

The proper amount of raw materials for positive or negative electrodes are mixed to make electrode slurry.



② Coating and rolling

Positive or negative electrode slurry is coated with a metallic foil made from aluminum, copper, etc. The coated slurry is then compressed with rollers continuously to enhance the density of the electrode sheet.

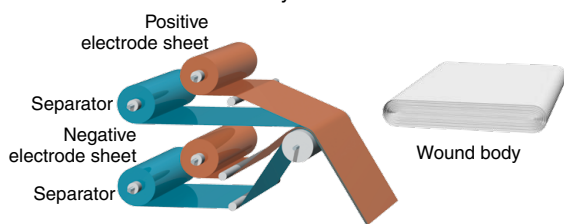


Electrode (Negative)

Cell Assembly Process

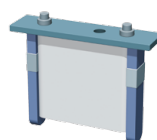
④ Winder (Winding)

The positive electrode sheet, negative electrode sheet, and separator sheets are laid on top of each other and wound to form a wound body.

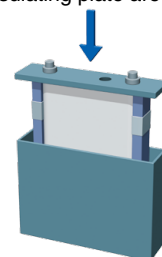


⑤ Attaching tabs and an insulating plate and inserting into a case

Current collecting tabs and an insulating plate are bonded to the wound body. It is then inserted into a case.



Bonding tabs and an insulating plate

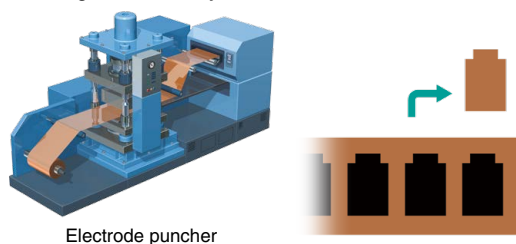


Inserting into a case

Can type

④ Punching electrodes

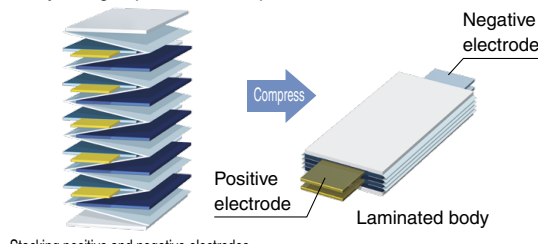
The rolled positive and negative electrodes are punched according to the battery size.



Electrode puncher

⑤ Stacking (Layering)

Positive and negative electrodes are stacked alternately and accurately at high speed with a separator inserted between them.



Stacking positive and negative electrodes

Positive electrode Negative electrode Compress Laminated body

Laminate type

Inspection/Packaging Process

⑧ Charging/discharging and aging

Standard products are applicable.

Charging and discharging are repeated to activate batteries. Charged battery cells are then left for a certain period of time, and the initial deterioration of batteries is checked to detect defective products.



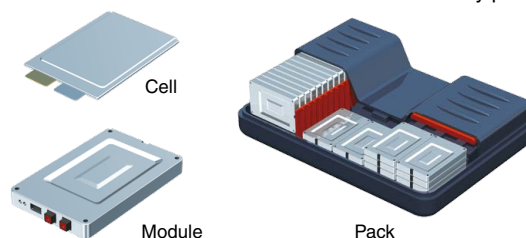
Activation of batteries

Aging

⑨ Packaging

Standard products are applicable.

Connected multiple cells are enclosed in a metallic case, and terminals are attached to form a module. Then, the connected multiple modules with a sensor and a controller are enclosed in a case to form a battery pack.



Cell

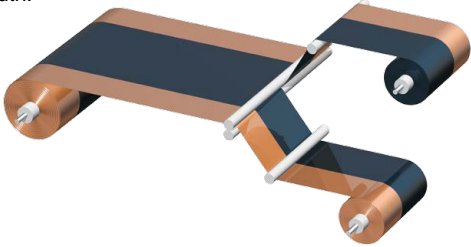
Module

Pack

Same for both can types and laminate types

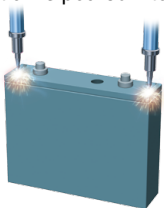
3 Slitting

The electrode sheet and separator are cut to the cell width.

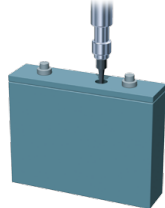


6 Welding cell lid and pouring electrolytic solution

The electrode and lid are laser-welded, and then the entire periphery of the cell case and lid is welded. Electrolytic solution is poured into the cell.



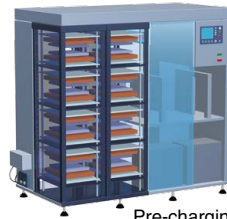
Welding cell lid



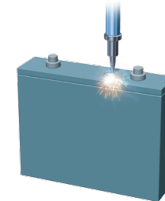
Pouring electrolytic solution

7 Pre-charging and welding infusion plug

Pre-charging (formation charging) is performed to remove the gas generated in the initial charging process, and then the infusion plug is welded to seal the cell.



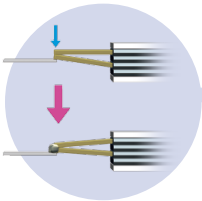
Pre-charging



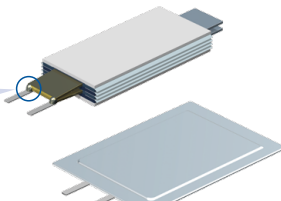
Welding infusion plug

6 Tab welding and lamination

Current collecting tabs are welded to the laminated body. The laminated body is wrapped with armoring material.



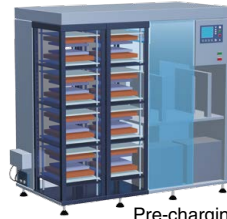
Tab welding



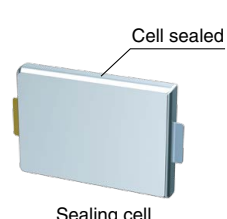
Lamination

7 Pre-charging and sealing cell

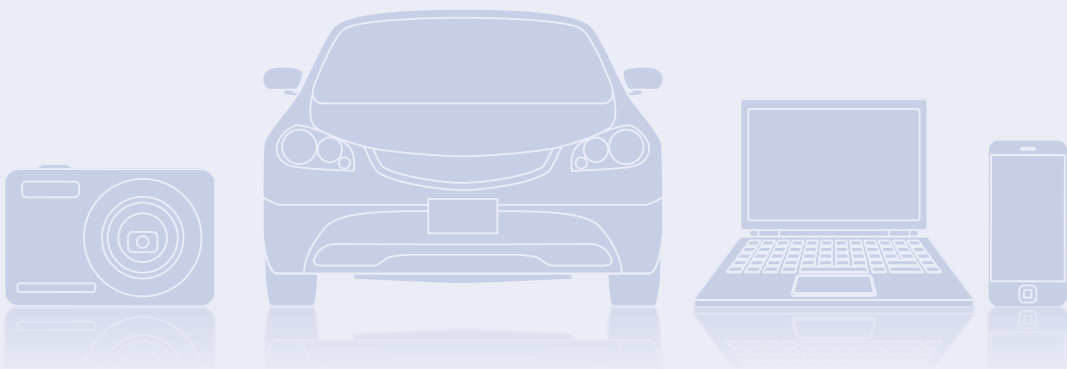
Pre-charging (formation charging) is performed to remove the gas generated in the initial charging process, and then heat is applied to seal the cell.




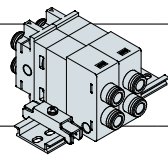








Pre-charging


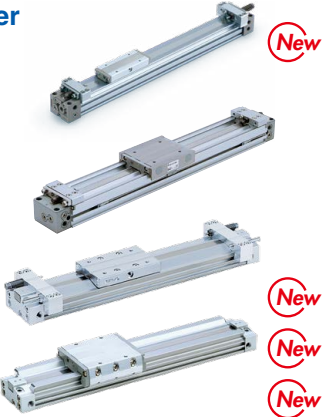
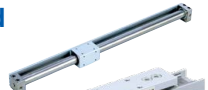







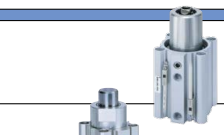
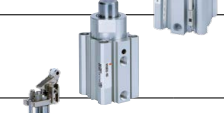




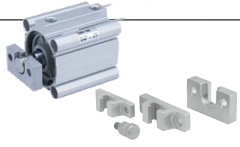





Sealing cell







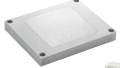


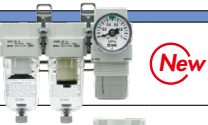

25A- Series Applicable Products

Description	25A- Series		
	Model (Type)	Page	
Directional Control Valves	5-Port Solenoid Valve 	25A-SY5000 (Plug-in connector connecting base)	p. 15
		25A-SY5000, 7000	p. 36
		25A-VQ2000, 4000 (W)	p. 43
		25A-SQ2000	p. 56
		25A-VQZ1000	p. 61
	Separate Type Double Check Block 	25A-VQ1000, 2000 (Double check block)	p. 65
	3-Port Solenoid Valve 	25A-VP342, 542, 742 (Body ported)	p. 66
		25A-VP344, 544, 744 (Base mounted)	p. 67
		25A-VP500, 700 (Safety Standard ISO 13849-1)	p. 68
		25A-VT317	p. 69
25A-VG342		p. 70	
5-Port Air Operated Valve 	25A-SYA5000, 7000	p. 71	
3-Port Air Operated Valve  New	25A-SYJA500, 700	p. 72	
Finger Valve 	25A-VHK	p. 74	
Conforming to OSHA Standard Pressure Relief 3-Port Valve with Locking Holes  New	25A-VHS20, 30, 40, 50	p. 75	
	25A-VHS2510, 3510, 4510, 5510	p. 76	
Air Cylinders	Air Cylinder  New	25A-CJP2 (Standard)	p. 76-1
		25A-CJ2 (Standard) New The air cushion type has been added.	p. 77
		25A-CJ2K (Standard)	p. 77-1
		25A-CBJ2 (With end lock)	p. 78
		25A-CM2 (Standard) New The air cushion type has been added.	p. 79
		25A-CG1 (Standard)	p. 80
		25A-CBG1 (With end lock)	p. 81
		25A-MB (Standard)	p. 82
		25A-CA2 (Standard)	p. 83
		25A-CS2 (Standard)	p. 84
	Mini Free Mount Cylinder  New	25A-CUJ (Standard)	p. 85
	Free Mount Cylinder 	25A-CU (Standard)	p. 88
25A-CUK (Non-rotating rod)		p. 89	

Description		25A- Series	
		Model (Type)	Page
Compact Air Cylinders	Compact Cylinder 	25A-CQS (Standard)	p. 90
		25A-CQSW (Standard, Double rod)	p. 91
		25A-CQS□S (Anti-lateral load)	p. 92
		25A-CQ2 (Standard)	p. 93
		25A-CQ2W (Standard, Double rod)	p. 94
		25A-CQ2 (Large bore size)	p. 95
		25A-CQ2 (Long stroke)	p. 96
		25A-CQ2□S (Anti-lateral load)	p. 97
		25A-CBQ2 (With end lock)	p. 98
		Rodless Cylinders	Mechanically Jointed Rodless Cylinder 
25A-MY1M (Slide bearing guide type)	p. 99-1		
25A-MY1C (Cam follower guide)	p. 100		
25A-MY1H (Linear guide)	p. 101		
25A-MY2C (Cam follower guide)	p. 101-1		
25A-MY2H/HT (Linear guide)	p. 102		
25A-MY3A (Basic short type, Rubber bumper)	p. 103		
25A-MY3B (Basic standard type, Air cushion)	p. 103		
25A-MY3M (Slide bearing guide type)	p. 104		
Magnetically Coupled Rodless Cylinder 	25A-CY3B (Basic) New Bore sizes $\phi 6$, $\phi 10$, $\phi 50$ and $\phi 63$ have been added.		
	25A-CY3R (G) (Direct mount) New Bore sizes $\phi 6$, $\phi 10$, $\phi 50$ and $\phi 63$ have been added.	p. 106	
Table Cylinders	Compact Slide Air Slide Table 	25A-MXH (Recirculating linear guide)	p. 107
		25A-MXS (Cross roller guide)	p. 108
		25A-MXQ□A (Recirculating linear guide/Double-ported type)	p. 109
		25A-MXQ□B (Recirculating linear guide/Low thrust with high rigidity type)	p. 110
		25A-MXQ□C (Recirculating linear guide/Single side-ported type)	p. 111
		25A-MXQ□ (Recirculating linear guide/Height interchangeable type)	p. 112
		25A-MXQ (Recirculating linear guide)	p. 113
		25A-MXW (Recirculating linear guide)	p. 114
		25A-MXP (Recirculating linear guide)	p. 115
		Guide Cylinders	Compact Guide Cylinder 
25A-MGPL (Ball bushing bearing)	p. 116		
25A-MGPM (Slide bearing, Air cushion type)	p. 117		
25A-MGPL (Ball bushing bearing, Air cushion type)	p. 117		
25A-MGGL (Ball bushing bearing)	p. 121		

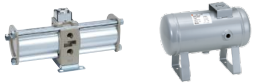








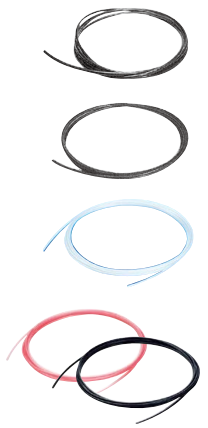

Description		25A- Series	
		Model (Type)	Page
Guide Cylinders	Slide Unit	25A-CXWM (Slide bearing)	p. 118
	Dual Rod Cylinder 	25A-CXSJM (Slide bearing) 	p. 119
		25A-CXSJL (Ball bushing bearing) 	p. 119
		25A-CXSM (Slide bearing)	p. 120
		25A-CXSL (Ball bushing bearing)	p. 120
Clamp/ Stopper Cylinders	Rotary Clamp Cylinder 	25A-MK (Standard)	p. 122
	Stopper Cylinder/ Fixed Mounting Height 	25A-RSQ (Standard)	p. 123
	Heavy Duty Stopper Cylinder 	25A-RSH (Standard) 	p. 124
Related Products	Shock Absorber 	25A-RJ (Soft type)	p. 125
		25A-RJ (Short stroke type)	p. 126
		25A-RB (Standard)	p. 127
		25A-RBC (Standard)	p. 127
	Floating Joint 	25A-JA (Standard/80, 100 only)	p. 128
		25A-JB (For compact cylinders)	p. 128
		25A-JS (Stainless steel type)	p. 128
	Simple Joint for CQ2 	YA (Type A mounting bracket)	*1
		YB (Type B mounting bracket)	*1
YU (Joint)		*1	
Rotary Actuators	Rotary Table 	25A-MSUB (Vane type)	p. 129
		25A-MSQ (Rack & Pinion type)	p. 130
		25A-MSQ-X251 (Rack & Pinion type, With vacuum port)	p. 130
	3-Position Rotary Table 	25A-MSZA (High precision type) 	p. 132
		25A-MSZB (Basic type) 	p. 132
Air Grippers	Parallel Type Air Gripper 	25A-MHZ2 (Standard)	p. 133
		25A-MHZL2 (Long stroke)	p. 134
		25A-MHZJ2 (With dust cover)	p. 135
		25A-MHZL2-X5955 (Long stroke, With dust cover)	p. 135
		25A-MHF2 (Low profile type)	p. 136
		25A-MHL2 (Wide type)	p. 137
		25A-MHS□ (3-finger, 4-finger)	p. 138
		25A-MHSJ3 (3-finger, With dust cover)	p. 139
		25A-MHY2 (180° Angular type)	p. 140

*1 Standard products: Standard products are copper (Cu) and zinc (Zn) free. Refer to the **Web Catalog** for details.






Description		25A- Series			
		Model (Type)	Page		
Vacuum Equipment	Vacuum Ejector		25A-ZK2 (Vacuum unit) Single unit only	p. 141	
	Space Saving Vacuum Ejector		25A-ZQ (Ejector unit) Single unit/Manifold	p. 145	
	In-line Type Vacuum Ejector		25A-ZQ (Vacuum pump unit) Single unit/Manifold	p. 149	
			ZH□□DA (Body ported) (Only the models without connection threads)	*1	
	In-line Air Filter		ZH□□BA (Box type) (Only the models without connection threads)	*1	
	Vacuum Pad		ZU□□A (In-line type) (Only the models without connection threads)	*1	
	Adsorption Plate		ZFC (With One-touch fittings)	*1	
Air Preparation Equipment	Membrane Air Dryer		ZP (Pad only)	*1	
	Air Preparation Filter		SP	*1	
	Clean Air Filter			25A-IDG (Single unit/Standard dew point -40°C/-60°C specifications)	p. 153
				25A-AFF (Main line filter)	p. 155
				25A-AM (Mist separator)	p. 156
25A-AMD (Micro mist separator)		p. 157			
25A-AMH (Micro mist separator with pre-filter)	p. 158				
Modular F.R.L./ Pressure Control Equipment	Modular F.R.L. Units		SFD100	*1	
	Air Filter Separator		SFD200	*1	
			25A-AMP (Exhaust cleaner for clean room)	p. 159	
		SFE (Clean exhaust filter)	*1		
	Regulator		25A-AC□B-A, AC□C-A, AC□D-A	*2	
			25A-AF-A (Air filter)	p. 160	
			25A-AFM-A (Mist separator)	p. 161	
			25A-AFD-A (Micro mist separator)	p. 161	
			25A-AR-B (Regulator)	p. 162	
25A-AR□□K-B (Regulator with backflow function)			p. 162		
25A-AW-B (Filter regulator)	p. 163				
25A-AW□□K-B (Filter regulator with backflow function)	p. 163				
25A-IR□-A (Precision regulator)	p. 164				
25A-ITV1000, 2000, 3000 (Electro-pneumatic regulator)	p. 165				
CB-97XH (Residual pressure indicator)	*1				

*1 Standard products: For the standard model, copper (Cu) and zinc (Zn) are not used as main components in the metal materials. Refer to the **Web Catalog** for details.

*2 Available as simple specials. Please contact your local sales representative for more details.

Description		25A- Series	
		Model (Type)	Page
Modular F.R./ Pressure Control Equipment	Booster Regulator 	25A-VBA*4	p. 166
		25A-VBAT (Air tank)	p. 167
	Pressure Gauge 	G43-10-01-X300 (Stud, Bourdon tube, Internal parts: Stainless steel)	*2
		G46-SRB (Only external parts and wetted parts are made of stainless steel.)	*3
Flow Control Equipment/Fittings	Stainless Steel Speed Controller 	AS-FG (Elbow/Universal/In-line type)	*1
	Speed Controller with Indicator 	AS-FSG (Elbow type)	*1
		AS-FPG (Elbow type)	*1
	Quick Exhaust Valve 	25A-AQ240F, 340F (Built-in One-touch fittings)	p. 168
	Check Valve 	25A-AKH (With One-touch fittings)	p. 169
	One-touch Fittings  New	KQ2 (One-touch fittings) (Only the type without a connection thread)	*1
	Rectangular Multi-connector  New	25A-KDM (Rectangular multi-connector)	p. 170
	Stainless Steel Fittings  New	KG (One-touch fittings)	*1
		KPG (One-touch fittings)	*1
		KQG2 (One-touch fittings)	*1
KQ2-G (Stainless steel)		*1	
KFG2 (Insert fittings)		*1	
MS (Miniature fittings)		*1	
KKA (S Couplers stainless steel type)		*1	
Tubing		T (Nylon)	*1
		TS (Soft nylon)	*1
		TU (Polyurethane)	*1
		TA□ (Antistatic)	*1
		TL (Fluoropolymer)	*1
		TH (FEP)	*1
		TD (Soft fluoropolymer)	*1
		TPS (Soft polyolefin)	*1
IDK (Moisture control tube)	*1		
Detection Switches	Pressure Switch  New	25A-ZSE20(F)/ISE20 (3-screen display high-precision)	p. 171
		25A-ZSE20A(F)/ISE20A (3-screen display high-precision)	p. 172
		25A-ZSE20B(F)/ISE20B (3-screen display high-precision)	p. 173
		25A-ZSE20C(F)/ISE20C(H) (3-screen display high-precision, for general fluids)	p. 174

- *1 Standard products: For the standard model, copper (Cu) and zinc (Zn) are not used as main components in the metal materials. Refer to the **Web Catalog** for details.
- *2 Copper (Cu) and zinc (Zn) are not used as main components in the metal materials. Please contact your local sales representative for more details.
- *3 Standard products: Aside from the external parts and wetted parts, copper (Cu) and zinc (Zn) are used as main components in the metal materials. Refer to the **Web Catalog** for details.
- *4 Pressure gauge mounting: The G43-10-01-X300/G46-SRB pressure gauge cannot be mounted directly to the booster regulator as it will interfere with the booster regulator (25A-VBA10A) handle or the other pressure gauge (for the 25A-VBA20A/40A). In order to mount the pressure gauge, piping which does not cause any interference must be prepared separately.

Description		25A- Series	
		Model (Type)	Page
Detection Switches	Flow Switch 	25A-PFMB7 (2-color display) New	p. 175
		25A-PFM5 (2-color display, Remote sensor unit) New	p. 177
		25A-PFM3 (Monitor for air) New	p. 178
		25A-PF3W (3-color display, Monitor for water) New	p. 179
		25A-PFM7 (2-color display, Integrated display)	p. 180
		25A-PF3W (3-color display, for water)	p. 181
		25A-PF3W (3-color display, for PVC piping)	p. 182
		Fluid Control Equipment	Direct Operated 2-Port Solenoid Valve Pilot Operated 2-Port Solenoid Valve Zero Differential Pressure Type Pilot Operated 2-Port Solenoid Valve 
25A-VX2 (For water/oil/medium vacuum)	p. 184		
25A-VXD (For air) New	p. 185		
25A-VXD (For water) New	p. 186		
25A-VXZ (For air) New	p. 187		
25A-VXZ (For water) New	p. 188		
Electric Actuators	Electric Actuator 	25A-LEFS (Slider type/Step motor, Servo motor: Applicable to the LEC□)	p. 189
		25A-LEFS (Slider type/Step motor: Applicable to the JXC□)	p. 191
		25A-LEFS (Slider type/AC servo motor: Applicable to the LECS□)	p. 193
		25A-LEFS (Slider type/AC servo motor: Applicable to the LECY□)	p. 194
		25A-LEJS (High rigidity slider type/AC servo motor: Applicable to the LECS□)	p. 195
		25A-LEJS (High rigidity slider type/AC servo motor: Applicable to the LECY□)	p. 196
		25A-LEY (Rod type/Step motor, Servo motor: Applicable to the LEC□)	p. 197
		25A-LEY (Rod type/Step motor: Applicable to the JXC□)	p. 199
		25A-LEY (Rod type/AC servo motor: Applicable to the LECS□)	p. 201
		25A-LEY (Rod type/AC servo motor: Applicable to the LECY□)	p. 203
Auto Switches	Solid State Auto Switch 	D-M9□□-900	From p. 205
		D-F8□-900 New	
		D-Y7□□-900	
		D-G59, G5P, K59-900	
		D-F79, F7P, J79-900	
		D-F7□V-900	
	Reed Auto Switch 	D-A90-900	From p. 205
		D-Z80-900	
		D-E73A, E76A, E80A	

25A- series grease pack*1 applicable models

*1 Air cylinders (Except guide unit). For other models, please contact your local sales representative.

Grease pack part no.	Quantity
GR-D-005	5 g
GR-D-010	10 g
GR-D-100	100 g

Contained in a plastic container.

Special Products (Please contact your local sales representative for more details.)

Description	Model (Type)	
Directional Control Valves 3-Port Solenoid Valve/ Residual Pressure Release Valve with Detection of Main Valve Position (Safety Standard ISO 13849-1 Certified) 	VG342-X87	
Air Cylinders	Air Cylinder With End Lock 	CBM2
	Cylinder with Lock 	MBB
	Cylinder with Lock 	CNG□N
	Compact Cylinder with Lock 	CNA2□N
	Stopper Cylinder 	CLQ
Stopper Cylinder 	RSQ	
Heavy Duty Stopper Cylinder 	RS2H	
Vacuum Equipment	Vacuum Pad 	ZP□
	Non-contact Gripper 	XT661
	Vacuum Regulator 	IRV (Standard)
High Vacuum Equipment	Aluminum High Vacuum Angle Valve 	XLA (Normally closed)
		XLC (Double acting)

Related Products

Consult with SMC for "Copper (Cu) and Zinc (Zn) Restrictions" products.

1 Antistatic Equipment

Vacuum

Static electricity

Antistatic performance achieved through conductive measures for a reduction in static-related trouble.

Actuators · Antistatic Air Cylinder (Made to Order) *CM2-X1051 Series*

Vacuum Equipment · Vacuum Pad *ZP Series*

Fittings and Tubing

- Antistatic One-touch Fittings *KA Series*
- Miniature Fittings/Stainless Steel 316 *MS Series*
- Miniature Fittings *M Series*
- Antistatic Tubing *TA□ Series*

Flow Control Equipment

- Antistatic Speed Controller (Made to Order) *AS-X260 Series*



2 Static Neutralization Equipment

Static electricity

Ions generated by corona discharge neutralize static electricity.

- Ionizer/Bar Type *IZS4□ Series*
- Bar Type Ionizer **Separate Controller** *IZT4□ Series*
- Ionizer *IZS31 Series*
- Nozzle Type Ionizer *IZN10E Series*
- Fan Type Ionizer *IZF□ Series*

Measurement Equipment Measures the electrostatic potential.

- Electrostatic Sensor *IZD10/IZE11 Series*
- Handheld Electrostatic Meter *IZH10 Series*



3 Temperature Control Equipment

- Thermo-chiller/Standard Type *HRS Series*



4 Electric Actuators

- Electric Actuator/Slider Type *LEFB Series*
- Electric Actuator/Low Profile Slider Type *LEM Series*
- Electric Actuator/Guide Rod Slider *LEL Series*
- Electric Slide Table *LES Series*
- Electric Actuator/Miniature Rod Type /Miniature Slide Table Type *LEPY/LEPS Series*
- Electric Rotary Table *LER Series*
- Electric Gripper *LEH□ Series*
- Motorless Type Electric Actuator *LE□ Series*



5 High Purity Chemical Liquid Valves

- High Purity Chemical Liquid Valve/Air Operated Type *LVC/LVA/LVH Series*





25A- Series Precautions

Be sure to read this before handling products.

Precautions

Caution

■ Change of material

For the 25A- series, there is a restriction on the use of copper and zinc as main components in the metal materials used. Keep in mind that the aluminum alloy, aluminum die cast, and some of the stainless steel materials contain traces of copper (Cu) and/or zinc (Zn) as an additive element.

However, copper is used in some parts—the coils of solenoid valves, the circuit boards, connector pins, and lead wires of electrical equipment and auto switches, and the motors, cables, and drivers of electric actuators—whose materials cannot be easily changed to alternative materials.

In addition, some magnets (including the surface treatment) contain copper (Cu) and/or zinc (Zn). However, due to their magnetic characteristics, it is impossible to use alternative materials.

■ Particle generation (metallic contaminants)

Usage of metal stoppers and/or shock absorbers on an air slide table produces metal-to-metal collision and contact, and may generate wear particles. Do not use metal stoppers and/or shock absorbers in an environment where wear particles are problem.

When the buffer mechanism or the end lock mechanism functional options are used, dust particles may be generated by the buffer part as well as the end lock part.

The following models of air gripper may generate dust particles, as metal-to-metal collisions occur when fingers are fully closed.

- MHZ2
- MHZL2 (Except -X5955)
- MHF2
- MHY2

■ Static electricity

Refrain from using the electrical equipments including detection switches (e.g., pressure switches and flow switches) in electrostatically-charged environments. Otherwise, they may cause the system to fail or to malfunction.

■ Piping

Usage of nylon tubing and polyurethane tubing in environments with a low dew point may affect dew points of ambient air and inside of piping. Use fluoropolymer tubing (TL series) or stainless steel tubing (Supply it on your own) in environments with a low dew point.

■ Chemical environment

Refrain from using the products in such environments as exposed to chemicals. Otherwise, resin parts may deteriorate.

If you want SMC to test the products for the effects of chemicals attached to them, send the products back to SMC after thoroughly cleaning them.

Consult your SMC sales representative for further details.

■ Trademark

DeviceNet™ is a trademark of ODVA.

EtherNet/IP™ is a trademark of ODVA.

EtherCAT® is registered trademark and patented technology, licensed by Beckhoff Automation GmbH, Germany.

Be sure to read the "Handling Precautions for SMC Products" (M-E03-3) and the "Operation Manual" before use.