Copper/Fluorine-free Specifications Series 20-

Possible to use under the environment that copper and fluorine materials are unacceptable.

How to Order: 20- Standard part number

Dimensions: Same as the standard type

Note) Copper material is used for the electrical part of each equipment. (Refer to the note column of each equipment for applicability.)

Directional Control valves	Dack	t page	JU
Actuators ······ E	3ack	c page	34
Related Products	3ack	c page	40
Rotary Actuators ·····-E	3ack	c page	41
Air Grippers ······E	3ack	c page	42
Vacuum Equipment ······ E	3ack	c page	44
Air Preparation Equipment ······ E	3ack	c page	46
Air Line Equipment ······ E	3ack	c page	47
Piping Equipment ······	3ack	c page	49
Flow Control Equipment ······	3ack	page	50
Detection Equipment ·····	3ack	page	52
Brass Usage for 20- Specifications ······	3ack	c page	53

Directional Control Valves

Se	ries	MI-I	04	00	Special	Nata
	Series/Variation	Model	Standard	20-	order	Note
5 Port Solenoid Valve	Rubber seal	SY3000				
	Rubber seal	SY5000		O*		* Copper material is not used
	Rubber seal	SY7000				for the wetted parts.
	Manifold base	SS5Y3/5/7				
5 Port Solenoid Valve	Rubber seal	SYJ3000				
A STATE OF THE PARTY OF THE PAR	Rubber seal	SYJ5000		·*		* Copper material is not used
	Rubber seal	SYJ7000				for the wetted parts.
	Manifold base	SS5YJ3/5/7				
5 Port Solenoid Valve	Rubber seal	S0700		0		* Copper material is not used
	Manifold base	SS075 0/5				for the wetted parts.
and the second	Other parts	SS0700		0		* Copper material is not used for the wetted parts.
5 Port Solenoid Valve	Metal/Rubber seal	VQ1000				
	Metal/Rubber seal	VQ2000				*1 Copper material is not used for the wetted parts. *2 Except ejectors and
SERBORAGE.	Double check block (Separated type)	VQ-FPG	-	0		
10-11-11-10-10-10-10-10-10-10-10-10-10-1	Metal/Rubber seal	VQ4000				regulators.
- Care care care	Manifold base	VV5Q1/2/4				
	Other parts	VQ/VVQ		*²		
5 Port Solenoid Valve	Metal/Rubber seal	SQ1000				
Times of	Metal/Rubber seal	SQ2000		0		Copper material is not used for the wetted parts.
Section of	Manifold base	SS5Q1/2				
	Other parts	SSQ		0		* Copper material is not used for the wetted parts.
5 Port Solenoid Valve	Metal seal	VFS2000				
	Metal seal	VFS3000		0		* Copper material is not used
	Metal seal	VFS4000				for the wetted parts.
The same of the sa	Manifold base	VV5FS2/3/4	0			

Directional Control Valves

Se	ries				Special	Tipatible \(\triangle\). Fartially compatible
	Series/Variation	Model	Standard	20-	order	Note
5 Port Solenoid Valve	Rubber seal	VFR2000				
1	Rubber seal	VFR3000		O*		* Although copper material is used for the wetted parts, it
1128	Rubber seal	VFR4000				is electroless nickel plated.
	Manifold base	VV5FR2/3/4	0			
5 Port Solenoid Valve/ ISO Standard	Metal/Rubber seal	VQ7-6				
	Metal/Rubber seal	VQ7-8	_	0		* Copper material is not used for the wetted parts.
6000	Manifold base	VV71/VV72				
3 Port Solenoid Valve	Rubber seal	SYJ300				
CHEE	Rubber seal	SYJ500		O*	O*	* Copper material is not used for the wetted parts.
11 75666	Rubber seal	SYJ700				
3 Port Solenoid Valve	Metal/Rubber seal	VQZ100				
34.7	Metal/Rubber seal	VQZ200		0		
-	Metal/Rubber seal	VQZ300				
	Metal/Rubber seal	VV3QZ1/2/3	0			
3 Port Solenoid Valve	Pilot/Poppet type	VP300				* Although copper material is
W-10	Pilot/Poppet type	VP500		O*		* Although copper material is used for the wetted parts, it is electroless nickel plated.
	Pilot/Poppet type	VP700				
3 Port Solenoid Valve	Direct operated poppet type	S070		0		* Copper material is not used for the wetted parts.
4 Port Solenoid Valve	Direct operated poppet type	VQD1000		0		* Copper material is not used for the wetted parts.

Directional Control Valves

Se	ries		0		Special	
	Series/Variation	Model	Standard	20-	order	Note
3 Port Solenoid Valve	Rubber seal	VK300	_*			* Copper material is not used for the wetted parts.
3 Port Solenoid Valve	Direct operated poppet type	VT307		O*		* Copper material is not used for the wetted parts.
10	Direct operated poppet type	VT317				ior the wetted parts.
3 Port Solenoid Valve	Direct operated poppet type	VQ100		0		* Copper material is not used for the wetted parts.
2/3/5 Port Mechanical Valve	Poppet type	VM130-01-30G	0			
E	Poppet type	VM131-01-01S		0		Some actuators are available upon request for special order. Please contact SMC for model numbers other than mentioned at left.
No. of Lot,	Poppet type	VM220-02-30G		0		
	Rubber spool type	VZM550-01-01S		0		
• (2)	Rubber spool type	VZM550-01-34□				
Relay Valve	Shuttle valve	VR1210-01		0		
Finger Valve	Finger valve	VНK	0			
Pressure Relief Valve	Pressure relief 3 port valve with locking holes	VHS20/30		0		
	Pressure relief 3 port valve with locking holes	VHS40/50	0			

Directional Control Valves

Se	ries	Madal	Charada val	00	Special	Nata			
	Series/Variation	Model	Standard	20-	order	Note			
Power Valve	3 position valve	VEX322 ¹		0					
2 Port Solenoid Valve	Direct operated	VX2	Δ			Copper material is not used for the wetted parts. Body material: Stainless steel, Seal material: Select NBR or EPDM			
2 Port Solenoid Valve	Pilot operated Zero pressure differential	VXZ2230	Δ	0		Copper material is not used for the wetted parts. Body material: Stainless			
10-10	operation	VXZ2360				steel, Seal material: Select NBR or EPDM			
2 Port Solenoid Valve	Compact direct operated type for water	vcw	- Δ				* Copper material is not used for the wetted parts. Party materials Stainless.		
	Compact direct operated type for water	VV2CW				Body material: Stainless steel, Seal material: Select NBR or EPDM			
2 Port Solenoid Valve	Compact direct operated type for water/air	VDW				* Copper material is not used for the wetted parts.			
	Compact direct operated type for water/air	VV2DW				Body material: Stainless steel, Seal material: Select NBR or EPDM			
2 Port Solenoid Valve	Single/Manifold	VQ20							Suffix "-X2" to the part
a la la	Single/Manifold	VQ30				number for the oil-free type			
Silencer	Sintered silencer	AN120-M5		0		Stainless steel			
	High noise reduction silencer 40 dB (A)	ANA1	- 0						
V	High noise reduction silencer 38 dB (A)	ANB1							

Actuators

 \bigcirc : Compatible \triangle : Partially compatible

Se	ries				Special	Size variations
	Series/Variation	Model	Standard	20-	order	Note
Pin Cylinder	Double acting type	CJP2		0		ø6, ø10, ø16 (Single acting:ø15) Although brass is used, the product is electroless nickel
all of the same	Single acting type	CJP				plated. (Refer to back page 53 for details.)
Air Cylinder	Standard type	CJ2				
- >	Double rod type	CJ2W				ø6 Although brass is used, the
Survival Sur	Non-rotating rod type	CJ2K		0		product is electroless nickel plated. (Refer to back page
3111	Built-in speed controller type	CJ2Z				53 for details.)
	Direct mount type	CJ2R				
Air Cylinder	Standard type	CM2				
	Standard type with an air cushion	CM2□A				
	Double rod type	CM2W		0		ø20 to ø40
	Non-rotating rod type	CM2K				
	Direct mount type	CM2R				
	With end lock	CBM2				
Air Cylinder	Standard type	CG1				ø20 to ø100
	Non-rotating rod type	CG1K		\circ		ø20 to ø63
4 104	Direct mount type	CG1R				Ø20 t0 Ø63
	With end lock	CBG1			0	ø20 to ø100
Air Cylinder	Standard type	МВ		0		
	Double rod type	MBW				ø32 to ø100
a	With end lock	MBB			0	
Air Cylinder	Standard type	CA2				ø40 to ø100
	Double rod type	CA2W				\$40 to \$100
	Non-rotating rod type	CA2K		0		ø40 to ø63
a Div	Non-rotating double rod type	CA2KW				2 10 10 200
TAD .	With end lock	CBA2				ø40 to ø100
Large Bore Size Cylinder	Standard type	CS1⊡N		0		ø125 to ø160

Actuators

Se	ries		Q		Special	Size variations
	Series/Variation	Model	Standard	20-	order	Note
Mini Free Mount Cylinder	Standard type	CN1				ø4, ø6, ø8, ø10 Since fluorine grease is used, Series -20 cannot be manufactured.
Free Mount Cylinder	Standard type (Double acting)	CU		0		ø6 to ø32
	Non-rotating rod type	СИК				Although brass is used for
0	Standard type (Single acting)	CU				pistons and head covers for ø6 and ø10 cylinders, they
40	Double rod type	CUW				are electroless nickel plated. (Refer to back page 53 for
	Non-rotating rod type	CUKW			0	details.)
Compact Cylinder	Standard type	cqs	0			
	Standard long stroke type	cqs		0		710 to 705
	Double rod type	cqsw	0			912 to 925
(3)	Anti-lateral load type	cqs□s		0		
1	Non-rotating rod type	CQSK(ø12)	0			ø12
	Non-rotating rod type	CQSK			0	ø16, ø20, ø25
Compact Cylinder	Standard type (Double acting, single rod)	CQ2	0			ø12 to ø40
	Standard type (Double acting, single rod)	CQ2		0		ø50 to ø100
	Standard type (Single acting, single rod)	CQ2	0			5S and 5T of ø12 to ø25 and ø32 (without a switch)
	Standard type (Single acting, single rod)	CQ2		0		All S/T single acting strokes of ø32 to ø50 (with/without a switch) except ø32 above
	Large bore size type	CQ2			0	ø125 to ø200
	Standard long stroke type	CQ2		0		ø32 to ø100
1	Double rod type	CQ2W	0			ø12 to ø40
3	Double rod type	CQ2W		0		ø50 to ø100
	Non-rotating rod type	CQ2K		0		ø16 to ø63
	Non-rotating rod type/Double rod	CQ2KW				01010003
	Axial piping type (Double acting, single rod)	CQP2	0			ø12 to ø40
	Axial piping type (Double acting, single rod)	CQP2		0		ø50 to ø100
	Axial piping type (Single acting, single rod)	CQP2		0		All S/T single acting strokes of ø32 to ø50 (with/without a switch)
	Anti-lateral load type	CQ2□S		0		ø32 to ø100
	With end lock	CBQ2			0	ø20 to ø100
Compact Cylinder	Guide rod type	СОМ			0	ø12 to ø100

Actuators

Se	ries		G	00	Special	Size variations
	Series/Variation	Model	Standard	20-	order	Note
Plate Cylinder	Standard type	MU		0		ø25 to ø63
9,5	Double rod type	MUW				520 to 500
Mechanically Jointed Rodless Cylinder	Basic type	MY1B				ø10 to ø100
nodiess Cylinder	Slide bearing type	MY1M				ø16 to ø63
	Cam follower guide type	MY1C		0		21010200
	Linear guide/Single axis type	MY1H				ø10 to ø40
	Linear guide/Double axis type	MY1HT				ø50, ø63
Mechanically Jointed Rodless Cylinder	Slide bearing type	MY1MW		0		ø16 to ø63 Series MY1□WK: Special
	Cam follower guide type	MY1CW				order
Mechanically Jointed Rodless Cylinder	Cam follower guide type	MY2C				
1	Linear guide/Single axis type	МҮ2Н		0		ø16, ø25, ø40
	Linear guide/Double axis type	MY2HT				
Magnetically Coupled Rodless Cylinder	Basic type	СҮЗВ	0			ø6 to ø63 ø6 and ø10: Fluorine grease used
Magnetically Coupled Rodless Cylinder	Slider type/Slide bearing	CY1S		0		ø6 to ø40 ø6 and ø10: Fluorine grease used
	Slider type/Ball bushing bearing	CY1L	0			ø6 to ø40 ø6 and ø10: Fluorine grease used
Magnetically Coupled Rodless Cylinder	Linear guide/Single axis type	СҮ1Н				ø10 to ø32
	Linear guide/Double axis type	СҮ1НТ				ø10: Fluorine grease used

Actuators

Series MXH Series MXU MXU Series MXS Series MXS MXS Series MXC MXC Series MXC MXC Series MXF Series MXV MXV MXV Series MXV MXV MXV Series MXV MXV Series MXV MXV Series MXV MXV MXV Series MXV MXV Series MXV MXV MXV MXV Series MXV MXV MXV MXV MXV MXV Series MXP MXP	Se	ries	Madal	Ctoro do vel	00	Special	Size variations
Series MXU Air Silde Table Series MXS Series MXC Series MXC Series MXV MXW Series MXV MXW Series MXV MXW Series MXV MXW Series MXV MXV Series MXV MXY Series MXV Series MXV MXY Series MXV Series MXV Series MXV MXY Series MXV Series MXV MXY Series MXV Series series including series series series series series series series series series se		Series/Variation	Model	Standard	20-	order	Note
Series MXU Air Slide Table Series MXS Series MXC Series MXC Series MXC Series MXV MXW Series MXV MXW Series MXV MXV Series MXV MXY Series MXP MXP Series MXP MXP Series MXV MXY Series MXP MXP Series MXV MXY Series MXP MXP Series MXP Series MXP MXP Series MXP Series MXP MXP Series MXP Series MXP Series MXP Series MXP Series MXP Series MXP Ser	Compact Slide	Series MXH	мхн				ø6 to ø20
Series MXO Series MXC Series MXF MXF Series MXV MXW Series MXJ Series MXJ Series MXJ Series MXJ MXJ Series MXD MXP Series MXP MXP Series MXP MXP Series MXP MXP Series MXY MXY Series MXP MXP Series MXP Series MXP Series MXP MXP Series MXP MXP Series MXP	12	Series MXU	MXU				ø6 to ø16
Series MXQ Series MXF MXF Series MXW Series MXW MXW Series MXU MXJ Series MXJ MXJ Series MXD Series MXP MXP Series MXP MXP Series MXP MXP Series MXY MXY Series MXP MXP Series MXP MXP Series MXP MXP Series MXP Series MXP MGDM Standard type/Silde bearing MGPM With end lock MGPA With an air cushion MGPA With end lock MGGM Standard type/Silde bearing MGCM	Air Slide Table	Series MXS	MXS				* Although brass is used for some
Series MXF Series MXW MXW Series MXV MXJ Series MXP MXP Series MXP MXP Series MXP MXP Series MXP MXP Series MXY MXY Series MXP Series MXP Series MXP MXY Series MXP MXY MXY Series MXP Series MXP MXY Series MXP MXY MXY Series MXP Series MXP MXY Series MXP MXY MXY Series MXP Series MXP MXY Series MXP MXY MXY Series MXP Series MXP MXY Series MXP Series MXP MXY Series MXP Series MXP MXY Series MXP MXY Series MXP Series MXP Series MXP Series MXP Series MXP MXY Series MXP Series		Series MXQ	MXQ			plugs, studs, etc., they are electroless nickel plated.	
Series MXJ Series MXJ MXJ Series MXP MXP Series MXP MXP Series MXY MXY Series MXY Series MXY MXY Series MXY MXY Series MXY MXY Series MXY Series MXY MXY Series MXY Series MXY Series MXY MXY Series MXY Series MXY MXY Series MXY Series MXY Series MXY Series MXY MXY Series MXY Series MXY Series MXY Series MXY MXY Series Series MXY Series MXY Series MXY Series MXY Series Series Series Series Series Series Series Series S		Series MXF	MXF				* Although brass is used for some plugs, studs,
Series MXJ Series MXP MXP Series MXY MXY Standard type/Slide bearing MGPL With an air cushion MGP With end lock MGP Standard type/Slide bearing MGGL With end lock MGG Standard type/Slide bearing MGCM Standard type/Slide bearing MGCM Standard type/Slide bearing MGCM		Series MXW	MXW		0		* Although brass is used for some plugs, studs, etc., they are electroless nickel plated.
Series MXP Series MXY MXY Standard type/Stide bearing MGQM Standard type/Stide bearing MGQL Standard type/Stide bearing With end lock MTS-R Standard type/Stide bearing MGPL Heavy duty guide rod type High precision ball bushing bype With an air cushion With end lock MGP Standard type/Stide bearing MGPA With end lock MGPA Standard type/Stide bearing MGPA With end lock MGPA Standard type/Stide bearing MGPA With end lock MGPA Standard type/Stide bearing MGCM		Series MXJ	MXJ				* Although brass is used for some plugs, studs, etc., they are electroless nickel plated.
Series MXY MXY * Although basis is used to some plugs, sadded etc. flay are electroises rickel pixed. * Standard type/Slide bearing MGQM Standard type/Ball bushing bearing MTS With end lock MTS-R Compact Guide Cylinder Standard type/Slide bearing Standard type/Slide bearing MGPM Standard type/Slide bearing MGPL Heavy duty guide rod type High precision ball bushing type With an air cushion With end lock MGPM Standard type/Slide bearing MGPA With an air cushion With end lock MGPM Standard type/Slide bearing MGPA With end lock MGPM Standard type/Slide bearing MGPA With end lock MGPM Standard type/Slide bearing MGPA Standard type/Slide bearing MGGM Standard type/Slide bearing MGGM Standard type/Slide bearing MGGM Standard type/Slide bearing MGGL With end lock MGG Standard type/Slide bearing MGGM Standard type/Slide bearing MGGM Standard type/Slide bearing MGGM Standard type/Slide bearing MGGM Standard type/Slide bearing MGCM Standard type/Slide bearing MGCM Standard type/Slide bearing MGCM	1	Series MXP	МХР				* Although brass is used for some plugs, studs, etc., they are electroless nickel plated.
Standard type/Silde bearing Standard type/Ball bushing bearing MGQL Precision Cylinder Standard type MTS With end lock MTS-R O20 to 040 With end lock MTS-R O312 to 0100 O20 to 040 O12 to 0100 O13 to 0100 O14 to 0100 O15 to 0100 O16 to 0100 O17 to 0100 O18 to 0100 O19 to 0100 O20 to 0100 O20 to 0100 O20 to 050	ME	Series MXY	MXY				* Although brass is used for some plugs, studs,
Standard type/Ball bushing bearing With end lock MTS-R Compact Guide Cylinder Standard type/Slide bearing Standard type/Slide bearing Heavy duty guide rod type High precision ball bushing type With an air cushion With end lock Guide Cylinder Standard type/Slide bearing MGPA MGPS 020 to 040 012 to 0100 MGPS 050, 080 High precision ball bushing type MGPA 012 to 0100 MGPA 016 to 0100 MGP Standard type/Slide bearing MGGM O20 to 0100	Compact Guide Cylinder	Standard type/Slide bearing	MGQM	_			ø12 to ø100
Standard type With end lock MTS-R Compact Guide Cylinder Standard type/Silde bearing MGPM Standard type/Ball bushing bearing MGPL Heavy duty guide rod type High precision ball bushing type With an air cushion With end lock Guide Cylinder Standard type/Silde bearing Standard type/Silde bearing MGGM Standard type/Silde bearing MGGM Standard type/Ball bushing bearing MGGM Standard type/Silde bearing MGGL With end lock MGG Guide Cylinder Standard type/Silde bearing MGGM Standard type/Silde bearing MGGM Standard type/Silde bearing MGCM Guide Cylinder Standard type/Silde bearing MGCM Standard type/Silde bearing MGCM Guide Cylinder Standard type/Silde bearing MGCM Guide Cylinder MGCM		Standard type/Ball bushing bearing	MGQL				312.10 \$ 100
With end lock MTS-R Compact Guide Cylinder Standard type/Slide bearing MGPM Standard type/Ball bushing bearing MGPL Heavy duty guide rod type MGPS High precision ball bushing type MGPA With an air cushion With end lock MGP Standard type/Slide bearing MGGM Standard type/Slide bearing MGGL With end lock MGGC Guide Cylinder (Compact Type) Standard type/Slide bearing MGCM © 20 to Ø50 Ø20 to Ø50	Precision Cylinder	Standard type	MTS	0			g20 to g40
Standard type/Ball bushing bearing Heavy duty guide rod type High precision ball bushing type With an air cushion With end lock Guide Cylinder Standard type/Ball bushing bearing With end lock MGP Standard type/Slide bearing MGGM Standard type/Ball bushing bearing MGGL With end lock MGG Standard type/Slide bearing MGGL With end lock MGG Standard type/Slide bearing MGGL With end lock MGG Standard type/Slide bearing MGCM Standard type/Slide bearing MGCM Standard type/Slide bearing MGCM Ø20 to Ø50	2020	With end lock	MTS-R			0	920 to 940
Heavy duty guide rod type High precision ball bushing type With an air cushion With end lock Guide Cylinder Standard type/Slide bearing MGGL With end lock MGGC Guide Cylinder Standard type/Slide bearing MGGL With end lock MGGC MGGM Standard type/Slide bearing MGGL With end lock MGG MGGM Standard type/Slide bearing MGGL With end lock MGG MGGM Ø20 to Ø100	Compact Guide Cylinder			-	0		ø12 to ø100
High precision ball bushing type MGPA	Contraction of the Contraction o						
With an air cushion With end lock Guide Cylinder Standard type/Slide bearing Standard type/Ball bushing bearing MGGM Standard type/Ball bushing bearing MGGL With end lock MGG Guide Cylinder (Compact Type) Standard type/Slide bearing MGCM Ø20 to Ø100 Ø20 to Ø50	J. do do					0	ø50, ø80
With end lock Guide Cylinder Standard type/Slide bearing Standard type/Ball bushing bearing MGGM Standard type/Ball bushing bearing MGGL With end lock MGG Guide Cylinder (Compact Type) Standard type/Slide bearing MGCM Ø20 to Ø100 Ø20 to Ø100		High precision ball bushing type	MGPA		0		
Guide Cylinder Standard type/Slide bearing MGGM Standard type/Ball bushing bearing With end lock Guide Cylinder (Compact Type) Standard type/Slide bearing MGCM Ø20 to Ø100 Ø20 to Ø50			MGP		0		
Standard type/Silde bearing MGGL Standard type/Ball bushing bearing MGGL With end lock MGG Guide Cylinder (Compact Type) Standard type/Slide bearing MGCM Ø20 to Ø50	-	With end lock				0	ø20 to ø100
Standard type/Ball bushing bearing MGGL With end lock MGG Guide Cylinder (Compact Type) Standard type/Slide bearing MGCM Ø20 to Ø100	Guide Cylinder	Standard type/Slide bearing	масм	_			
Guide Cylinder (Compact Type) Standard type/Slide bearing MGCM Ø20 to Ø50	E	Standard type/Ball bushing bearing	MGGL				ø20 to ø100
(Compact Type) Standard type/Slide bearing MGCM Ø20 to Ø50		With end lock	маа			0	
		Standard type/Slide bearing	мдсм				g20 to g50
	E	Standard type/Ball bushing bearing	MGCL				wzu tu wou

Actuators

Se	ries		0	00	Special	Size variations
	Series/Variation	Model	Standard	20-	order	Note
Slide Unit	Standard type/Slide bearing	CX2	Δ			ø10 to ø25 The unit with a shock absorber is available upon request for special order.
Slide Unit Built-in Shock Absorber Type	Standard type/Slide bearing	схwм			0	ø10 to ø32
	With end lock	СХММ				910 10 902
Slide Unit Built-in Shock Absorber Type	Standard type/Ball bushing bearing	CXWL				g10 to g22
	With end lock	CXWL			0	ø10 to ø32
Platform Cylinder	Standard type	СХТ	_	0		ø12 to ø40
1	With a shock absorber	СХТ				
Dual Rodless Cylinder	Standard type/Slide bearing	СХЅМ	_			
1	Standard type/Ball bushing bearing	CXSL				ø6 to ø32
Lock-up Cylinder	Standard type	CL1		0		ø40 to ø160
Cylinder with Lock	Standard type	CNA			Δ	ø40 to ø100 Not compatible with RoHS
Sine Rodless Cylinder	Basic type	REA	0			ø25 to ø63

Actuators

Se	ries	Model	Standard	20-	Special order	Size variations Note
Low Friction Cylinder (Metal	Series/Variation Compact low friction cylinder	MQQL			0.00.	ø10 to ø28
Seal Type)	Metal seal	MQQL				Ø 10 to Ø28
Ci	Lateral load resisting low friction cylinder Metal seal	МQМ				ø6 to ø25
NO.	Low friction cylinder (Single acting)	MQP	0			ø4 to ø20
High Power Cylinder	Standard type	RHC		0		ø20 to ø100
Stopper Cylinder	Standard type	RSQ				ø12 to ø50 Order with a suffix -X866
n (Å)	Standard type	RSH	_		0	ø20, ø32
	Standard type	RS1H				ø50 to ø80
Stroke Reading Cylinder	Special order	CE1			0	ø12 to ø63
Stroke Reading Cylinder with Brake	Special order	CE2			0	ø40 to ø100
Free Mount Cylinder for Vacuum	Standard type/Rod piping Male thread	ZCUKQ			0	ø10 to ø32

Related Products

Se	ries	Model	Standard	20-	Special	Size variations	
	Series/Variation	iviodei	Stariuaru	20-	order	Note	
Floating Joint	Standard type	JA	0			ø20 to ø100 * Symbol 6 to 15: Although brass is used, they are electroless nickel plated.	
Floating Joint	For compact cylinder	JB	0			ø20 to ø100 * Symbol 12 and 16: Although brass is used, they are electroless nickel plated.	
Floating Joint	Stainless steel type	JS	0			ø10 to ø63	
Shock Absorber	Standard type	RB		0		O.D. thread: M8 to M27	
+	Replacement parts	RB	0			Hexagon nut Stopper nut Cap	
Shock Absorber	Coolant resistant type	RBL			0	O.D. thread: M10 to M27	
Shock Absorber	Short type	RBQ			0	O.D. thread: M16 to M32	

Rotary Actuators

Se	ries	Madal	Chamaland	00	Special	Size variations
	Series/Variation	Model	Standard	20-	order	Note
Rotary Actuator	Vane type	CRB2				
	Vane type Free mount type	CRBU2				Sizes 10 to 40
Rotary Actuator	Vane type	CRB1	0			Sizes 50 to 100
Rotary Table	Vane type	MSUA	- 0			Sizes 1, 3, 7 and 20
	Vane type	MSUB				
Rotary Actuator	Rack & pinion type	CRJ			0	Sizes 05, 1 * Grease: Fluorine included Available upon request Grease: Lithium grease
Rotary Actuator	Rack & pinion type	CRA1	*			Sizes 30 to 100 * Although brass is used for the size 63, 80 and 100 cushion needles, they are electroless nickel plated.
Rotary Actuator	Rack & pinion type	CRQ2	0			Sizes 10 to 40
Rotary Table			0			Sizes 1 to 7
1630	Rack & pinion type	MSQA		0		Sizes 10 to 50
1	B 10 11 1	14005	0			Sizes 1 to 7
	Rack & pinion type	MSQB		0		Sizes 10 to 200
Rotary Cylinder	Rotary Cylinder	MRQ	*			Sizes 32, 40 * Although brass is used for plugs, they are electroless nickel plated.

Air Grippers

y compatible	mpatible ∆: Partially comp	O: Com				Air Grippers				
	Size variations Note	Special order	20-	Standard	Model	Series/Variation	Ser			
	ø6 to ø40				MHZ2	Standard type	Parallel Style Air Gripper			
	ø10 to ø25		Ø6 only	Except ø6	MHZL2	Long stroke	and a			
	Ø6 to Ø25 * Fluororubber Except dust cover		O ø6 only	C Except ø6	MHZJ2	With a dust cover	Parallel Style Air Gripper			
grease	* Grease: Fluorine grease		0	Δ*	MHF2	2-finger type	Compact Air Gripper			
10, they are	ø10 to ø40 Although brass is used for plugs of ø32 and ø40, they a electroless nickel plated.		0		MHL2	Wide type	Parallel Style Air Gripper			
:o 30	Nominal size 10 to 30			0	MHR2	2-finger type	Parallel Style Air Gripper			
	ø12 to ø25 Although brass is used for needles, they are electroless			. *	MHK2	Standard type	Parallel Style Air Gripper			
t.	Some parts have fluorine surface treatment. Fluororubber Except dust cover		O	Δ'	MHKL2	Long stroke	43			
	Ø16 to Ø63 * Some parts have fluorine surface treatment.		0	Δ*	MHS2	2-finger type	Parallel Style Air Gripper			
	ø16 to ø125 * Some parts have fluorine surface treatment.		0	Δ*	MHS3	3-finger type	Parallel Style Air Gripper			
1 t. r	Although brass is us needles, they are elenickel plated. * Some parts have surface treatment. * Fluororubber Except dust cover # 316 to # 363 * Some parts have surface treatment. # 316 to # 303 # 304 # 305 # 306 # 306 # 307				MHKL2	Long stroke 2-finger type	Parallel Style Air Gripper			

Air Grippers

Se	ries	Model	Ctondord	20-	Special	Size variations
	Series/Variation	iviodei	Standard	20-	order	Note
Angular Style Air Gripper	Standard type	мнс2	C Except ø6	○ ø6 only		ø6 ø10 to ø25 Although brass is used for needles, they are electroless nickel plated.
Angular Style Air Gripper	Toggle type	MHT2		0		ø32 to ø63
Angular Style Air Gripper	180° angular type Cam type	MHY2	Δ*	0		ø10 to ø25 * Grease: Fluorine grease
Angular Style Air Gripper	180° angular type Gear type	MHW2		0		ø20 to ø50
Parallel Style Air Gripper	Rotary gripper	MRHQ	*		0	ø10 to ø25 * Grease: Fluorine grease Available upon request Grease: Lithium grease (Characteristics can be changed.)

Vacuum Equipment

Vacuum Equipme Se	ries					mpatible △: Partially compatible
	Series/Variation	Model	Standard	20-	Special order	Note
Vacuum Unit	Ejector system	ZX1	0			Although brass is used, the product is electroless nickel plated.
Vacuum Unit	Ejector system	ZR1	0			Although brass is used, the product is electroless nickel plated.
Vacuum Ejector	With a valve and switch	ZM	0			Although brass is used, the product is electroless nickel plated.
Vacuum Unit	Ejector/Pump system	zQ				Although brass is used, the product is electroless nickel
	Manifold base	ZZQ				plated.
Vacuum Ejector	Box type/Body ported	ZH	0			Although brass is used, the product is electroless nickel plated.
Vacuum Ejector	Multistage ejector	ZL	*			Although brass is used, the product is electroless nickel plated. Fluororubber is used.
Air Suction Filter	With One-touch fittings	ZFB	0			Although brass is used, the product is electroless nickel plated.
Air Suction Filter	With One-touch fittings	ZFC100				
	In-line type	ZFC200				

Vacuum Equipment

Se	ries				Special	
	Series/Variation	Model	Standard	20-	order	Note
Vacuum Pad	Vertical vacuum entry	ZPT	△*1			Although brass is used, the product is electroless nickel plated. *1 Fluorine grease is used for the buffer sliding part.
Vacuum Pad	Lateral vacuum entry With One-touch fittings	ZPR	△*1			Although brass is used, the product is electroless nickel plated. *1 Fluorine grease is used for the buffer sliding part.
Vacuum Pad	Lateral vacuum entry With barb fitting	ZPY	△*1			Although brass is used, the product is electroless nickel plated. *1 Fluorine grease is used for the buffer sliding part.
Free Mount Cylinder for Vacuum	Standard type/Rod piping Male thread	ZCUKQ			0	ø10 to ø32

Air Preparation Equipment

Se	ries				Special	NI-1-
	Series/Variation	Model	Standard	20-	order	Note
Air Dryer	Membrane air dryer	IDG30, 50 30H, 50H 30L, 50L IDG60L, 75L, 100L 65S, 75S, 100S			0	Order with a suffix -X241 * Fluorine material included.
Water Separator	Water separator	AMG (Without auto drain)	O*	O*		* Copper parts are nickel plated.
Separator		(With auto drain) AFF2C to 22C AFF37B, 75B (Without auto drain) AFF2C to 22C	0*	.*		* Copper parts are nickel plated.
	Main line filter	AFF37B, 75B (With auto drain) AFF75A to 220A		O*	0	
	Mist separator	AM150C to 550C AM650, 850 (Without auto drain) AM150C to 550C AM650, 850 (With auto drain)	0*	*		* Copper parts are nickel plated.
	Micro mist separator	AMD150C to 550C AMD650, 850 (Without auto drain) AMD150C to 550C AMD650, 850 (With auto drain)	^*			Fluorine material included. Copper parts are nickel plated.
		AMD800, 810 to 10□0 AMD801, 811, 9□1			△*	* Fluorine material included.
	Micro mist separator with a prefilter	AMH150C to 550C AMH650, 850 (Without auto drain) AMH150C to 550C AMH650, 850 (With auto drain)	^*			* Fluorine material included. * Copper parts are nickel plated.
Oil Mist Separator	Super mist separator	AME150C to 550C AME650, 850	Δ*			* Fluorine material included.
	Odor removal filter	AMF150C to 550C AMF650, 850	Δ			* Fluorine material included.
		AMF800 to 1000 AMF801, 901			Δ*	
Related Products	Auto drain	AD402-04		0		

Air Line Equipment

Sei	ries				Special	
	Series/Variation	Model	Standard	20-	order	Note
F.R.L		AC20 to 60			0	Products with a square-
George II		AC20A to 60A			0	shaped and embedded pressure gauge:
		AC20B to 60B		0		Copper/fluorine-free Although brass is used for
	F.R.L. combination	AC20C to 40C-06		0		drain cocks and drain guides for 30 to 60, they are
4		AC20D to 40D-06		0		electroless nickel plated.
		AC10B	Δ			Products with a pressure gauge are not compatible.
Filer/Separator	Air filter	AF10	0			
	Air filter	AF20 to 60		0		Seals for 30 to 60 auto drains include fluoro coated material. Although brass is used for drain
	Mist separator	AFM20 to 40				cocks and drain guides for 30 to 60, they are electroless nickel plated.
-	Micro mist separator	AFD20 to 40		O*		Elements include fluorine material.
Pressure Control Equipment	Regulator	AR10	Δ			Products with a pressure gauge are not compatible.
	Regulator	AR20 to 60		0		Products with a square-shaped and embedded pressure gauge: Copper/fluorine-free Although brass is used for
	Regulator with backflow function	AR20K to 60K				check valves (AR20K to 60K), they are electroless nickel plated.
Filter/Pressure Control Equipment	Filter regulator	AW10	Δ			Products with a pressure gauge are not compatible.
	Filter regulator	AW20 to 60				Products with a square-shaped and embedded pressure gauge: Copper/fluorine-free Although brass is used for drain cocks
	Filter regulator with backflow function	AW20K to 60K		0		and drain guides for 30 to 60, they are electroless nickel plated. Although brass is used for check
LM)	Mist separator regulator	AWM20 to 40			-	valves (AW20K to 60K), they are electroless nickel plated.
~	Micro mist separator regulator	AWD20 to 40		O*		* Elements include fluorine material.
Pressure Control Equipment	Miniature regulator	ARJ1020F			0	
0	Miniature regulator	ARJ210			0	Products with a pressure gauge are not compatible.
Pressure Control Equipment	Precision regulator	IR1000		0		Pressure gauge is changed to G43.
—	Precision regulator manifold	IRM10		Δ		Products with a pressure gauge are not compatible.
her.	Precision regulator	IR2000				
(A)	Precision regulator manifold	IRM20		0		
	Precision regulator	IR3000				

Air Line Equipment

Se	ries				Special	mpatible : Partially compatible
	Series/Variation	Model	Standard	20-	order	Note
Pressure Control Equipment	Electro-pneumatic regulator		Δ			Since an electrical circuit is used, this equipment is not
100.	Electro-pneumatic regulator	ITV2000			Δ	completely copper and fluorine-free.
100	Liectro-prieumatic regulator	ITV3000			Δ	
Booster Regulator	Booster regulator	VBA111□				
	Booster regulator	VBA20A		0		Products with a pressure gauge are not copper and fluorine-free.
	Booster regulator	VBA40A				
Air Tank	Air tank	VBAT05□		0		
1	Air tank	VBAT10□				The safety valve is not
-	Air tank	VBAT20□				copper and fluorine-free.
4	Air tank	VBAT38□				
Pressure Gauge	Pressure gauge for general purpose	G43				For the stainless steel wetted parts, order with a
	Pressure gauge for general purpose	G46				suffix -X3.
Pressure Relief Valve	Pressure relief 3 port valve with locking holes	VHS20/30		0		
	Pressure relief 3 port valve with locking holes	VHS40/50	0			
Process Pump	Air operated type	PB1013	Δ*			* Fluorine is used for the diaphragm.

Piping Equipment

 \bigcirc : Compatible \triangle : Partially compatible

Se	ries	Model	Standard	20-	Special	Note
	Series/Variation	iviodei	Stanuaru	20-	order	Note
Fittings	One-touch fittings	KQ2 Note 1)			0	For the electroless nickel plated specifications, order with a suffix -X2.
84	One-touch fittings	KQ2P	0			
Fittings	Insert fittings	KF Note 1)			0	For the electroless nickel plated specifications, order with a suffix -X2.
	Insert fittings	KFS	0			
Fittings	Stainless steel One-touch fittings	KG Note 1)	0			
Low Rotating Torque Rotary Joint	Metal seal type	MQR	0			

Note 1) KQ, KQ2, KQ-X2, KQ2-X2, KG, KF, KF-X2: Without sealant only

Flow Control Equipment

 \bigcirc : Compatible \triangle : Partially compatible

Serie					Option symbol			Special	Partially compatible
	Series/Variation	P(ort size	Model	Part number suffix	Standard *3	20-	order	Note
Speed Controller with		М	М 3	AS12□1F-M3-□□		0			
One-touch Fittings *1		thread	M 5	AS12□1F-M5-□□	Nil	0			
*2			R 1/8	AS22□1F-01-□□	INII	0			
		R	R 1/4	AS22□1F-02-□□		0			Without thread seal
	Elbow type	thread	R 3/8	AS32□1F-03-□□N	N	0			
	Libow type		R 1/2	AS42□1F-04-□□N	IN	0			
O ESC.			U 1/8	AS22□1F-U01-□□	Nil	0			
		Uni	U 1/4	AS22□1F-U02-□□N		0			
		thread	U 3/8	AS32□1F-U03-□□N	I N	0			
			U 1/2	AS42□1F-U04-□□N		0			
Speed Controller with		М	М 3	AS13□1F-M3-□□		0			
One-touch Fittings *1		thread	M 5	AS13□1F-M5-□□		0			Without thread seal
*2			R 1/8	AS23□1F-01-□□	Nil	0			
	Universal type	R	R 1/4	AS23□1F-02-□□		0			
		thread	R 3/8	AS33□1F-03-□□N	N	0			
			R 1/2	AS43□1F-04-□□N		0			
est		Uni thread	U 1/8	AS23□1F-U01-□□	Nil	0			
			U 1/4	AS23□1F-U02-□□N	N	0			
			U 3/8	AS33□1F-U03-□□N		0			
			U 1/2	AS43□1F-U04-□□N		0			
Speed Controller with One-touch Fittings	In-line type	_	_	AS1001F-□□ to AS4001F-□□	Nil	0			
Speed Controller		М	М 3	AS1000-M3	Nil	0			
m		thread	M 5	AS1000-M5-X95	-X95			0	
	In-line type		Rc 1/8 to Rc 1/4	AS2000-□□-X95	-X95			0	
TO VENIN	III-IIIIe type	R	Rc 1/4 to Rc 3/8	AS3000-□□-X95	-793			0	
		thread	Rc 1/4 to Rc 1/2	AS4000-□□	Nil		0		
			Rc 1/4 to Rc 1/2	AS5000-□□	INII	0			
Speed Controller with One-		M thread	M 5	AS12□1FG-M5-□□		0			
touch Fittings *1/Stainless Steel			R 1/8	AS22□1FG-01-□□		0			
100.11	Elbow type	R	R 1/4	AS22□1FG-02-□□	Nil	0			Without thread seal
		thread	R 3/8	AS32□1FG-03-□□		0			
			R 1/2	AS42□1FG-04-□□		0			

^{*1)} Applicable tubing O.D. for the speed controller with One-touch fittings is in metric size. *2) Although brass is used, the product is electroless nickel plated.

 ^{*3)} Standard part number is for copper and fluorine-free specifications.
 Example: AS3201F-03-10N

Flow Control Equipment

Serie	es				Option symbol Part number			Special	Note
	Series/Variation	P	ort size	Model	suffix	Standard *3	20-	order	Note
Speed Controller with One- touch Fittings *1/Stainless		M thread	M 5	AS13□1FG-M5-□□		0			
Steel			R 1/8	AS23□1FG-01-□□		0			Without thread
200	Universal type	R	R 1/4	AS23□1FG-02-□□	Nil	0			
5		thread	R 3/8	AS33□1FG-03-□□		0			seal
			R 1/2	AS43□1FG-04-□□		0			
Speed Controller with One- touch Fittings *1/Stainless Steel	In-line type	_	_	AS1001FG-□□ to AS4001FG-□□	Nil	0			
Quick Exhaust Valve		M thread	M 5	AQ1500-M5		0			
			Rc 1/8	AQ1500-01		0			
British .	_	R	Rc 1/8, R 1/4	AQ2000-□□	Nil	0			
		thread	Rc 3/8, R 1/4	AQ3000-□□		0			
			Rc 1/2, R 3/4	AQ5000-□□		0			
Quick Exhaust Valve with One-touch Fittings *2	_	_	_	AQ240F-□□-□□	Nil	0			
1				AQ340F-□□-□□	Nil	0			
Speed Exhaust		М	М 3	ASV120F-M3-□□		0			
Controller *2		thread	M 5	ASV220F-M5-□□		0			
	_		R 1/8, Rc 1/4	ASV310F-□□-□□	Nil			0	
		R thread	R 1/8 to Rc 3/8	ASV410F-□□-□□				0	Without thread seal
N D			R 1/4 to Rc 1/2	ASV510F-□□-□□				0	
Check Valve			Rc 1/8 to Rc 1/4	AK2000-□□		0			
The same of	_	R thread	Rc 1/4 to Rc 1/2	20-AK4000-□□	Nil		0		Order with a
			Rc 3/4 to Rc 1	20-AK6000-□□			0		suffix 20-
Check Valve with One-touch	Straight type	-	_	AKH□□-00		0			
Fittings/Bushing Type *2	Male connector type	M thread		AKH□□-M5	Nil	0			
	,,	R thread	R 1/8 to R 1/2	AKHOD-OO				0	Without thread
-	Bushing type	R thread	R 1/8 to R 1/2 Rc 1/8 to Rc 1/2	AKB				0	ادمء

^{*1)} Applicable tubing O.D. for the speed controller with One-touch fittings is in metric size.
*2) Although brass is used, the product is electroless nickel plated.
*3) Standard part number is for copper and fluorine-free specifications.
Example: AS3201F-03-10N

Detection Equipment

Se	ries				Special	Nata
	Series/Variation	Model	Standard	20-	order	Note
Pressure Switch	2-color display High precision digital pressure switch	ISE30 ZSE30	0			Only compatible with the wetted parts. Although brass is used, they are electroless nickel plated.
Pressure Switch	High precision digital pressure switch	ISE40-01 ZSE40-01		0		Only compatible with the wetted parts. Piping: R 1/8 only Although brass is used, they are electroless nickel plated.
Pressure Switch	For general fluids High precision digital pressure switch	ISE50 ZSE50			0	Only compatible with the
LIGHT	For general fluids High precision digital pressure switch	ISE60 ZSE60				wetted parts.
Pressure Switch	Pressure sensor	PSE530	0			Only compatible with the wetted parts.
Pressure Switch	Compact pressure sensor for pneumatics	PSE540	0			Only compatible with the wetted parts. Piping: Except IM5 and IM5H Although brass is used, they are electroless nickel plated.
Pressure Switch	Pressure sensor for general fluids	PSE560	0			Only compatible with the wetted parts.
Flow Switch	Diaphragm style flow switch	IFW5			0	For the wetted parts, order with a suffix -X206. Electric parts include copper material.

Brass Usage for 20- Specifications Series 20-CJ2

Parts for 20- specifications		Double acting (Single rod)	Double rod	Single		Single acting,		Direct	
Description	Material	Surface treatment	(Single rod)	Double lou	acting	Non-rotating	Non-rotating	speed controller	mount
Piston*1	Brass	Electroless nickel plated	0	0	0	0	0	0	0
Spring seat	Brass	Electroless nickel plated			0		0		
Check seal sleeve	Brass	Electroless nickel plated						0	
Spacer	Brass	Electroless nickel plated		_*2	○ ^{*2}				
Standard common parts		Double acting	Double rod	Single	Double acting,	Single acting,	Built-in speed	Direct	
Description	Material	Surface treatment	(Single rod)	Double lou	acting	Non-rotating	Non-rotating	controller	mount
Mounting nut	Brass	Nickel plated	0	0	0	0	0	0	

^{*1:} ø6 only

20-CJP Single Acting Type

Part	Panel mount	Embedded			
Description	Description Material Surface treatment		type	type	
Collar	Wear-resistant None aluminum		0	0	
Sta	Panel mount	Embedded			
Description	Material	Surface treatment	type	type	
Cover	Brass	Electroless nickel plated	0	0	
Hose nipple	Brass	Electroless nickel plated	0		
Mounting nut Brass		Electroless nickel plated	0	0	

20-CJP2 Double Acting Type

Parts for 2	Double acting			
Description	Material	Surface treatment	(Single rod)	
Piston*1	Brass	Electroless nickel plated	0	
Magnet retainer*2	Brass	Electroless nickel plated	0	
Standard	d common pa	rts	Double acting	
Standard Description	d common pa Material	rts Surface treatment	Double acting (Single rod)	
	•		1	

^{*1:} ø6, ø10 only

20-CU Double Acting Type

Parts for 2	Double acting			
Description	Material	Surface treatment	(Single rod)	
Bushing	Oil-impregnated sintered alloy	_	0	
Piston*1	Brass	Electroless nickel plated	0	
Magnet holder*2	Brass	Electroless nickel plated	0	
Standard	Double acting			
Description	Material	Surface treatment	(Single rod)	
Head cover*1	Brass	Electroless nickel plated	0	

^{*1:} ø6, ø10 only



^{*2:} Type with a ø6 switch only

^{*2:} ø4, ø6, ø10 only