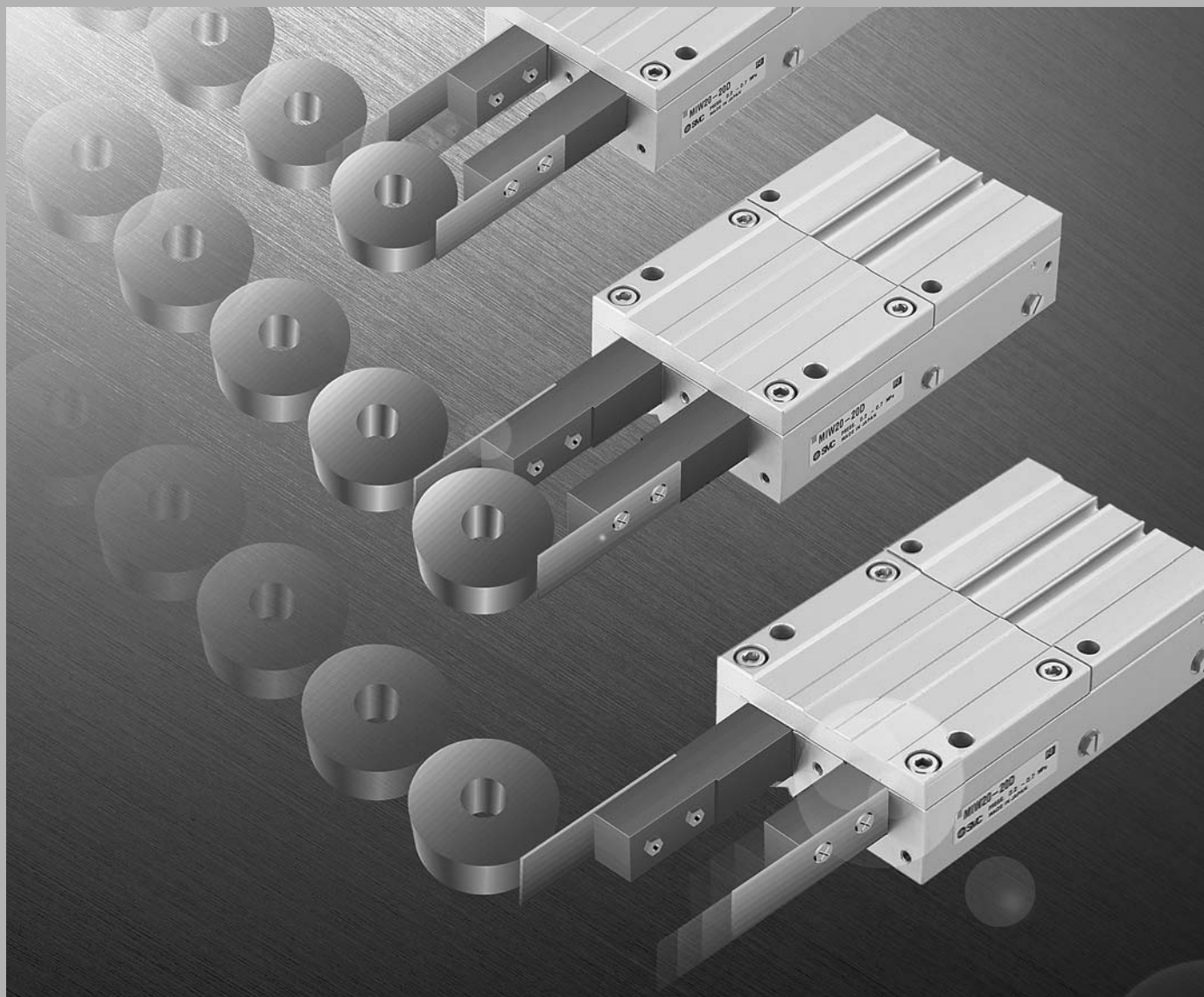


# Escapements

## Series MIW/MIS

ø8, ø12, ø20, ø25, ø32

Ideal for separating and feeding individual parts from vibratory feeders, magazines, and hoppers.



- RSQ
- RSG
- RS□
- MI□

### Series variations

Series	Bore size (mm)	Stroke (mm)								Finger option	Stroke adjuster	Scraper
		8	10	12	20	25	30	32	50			
MIW	8	●								●	●	●
	12			●						●	●	●
	20				●					●	●	●
	25					●				●	●	●
	32							●		●	●	●
MIS	8		●							●	●	●
	12		●	●						●	●	●
	20		●	●	●					●	●	●
	25		●	●	●	●				●	●	●
	32		●	●	●	●	●	●		●	●	●

- D-□
- X□
- Individual -X□

## Specifications



Series	<b>MIW</b> (Double finger)   <b>MIS</b> (Single finger)
Fluid	Air
Operating pressure	0.2 to 0.7 MPa
Ambient temperature and fluid temperature	-10 to 60°C (No freezing)
Lubrication	Non-lube
Action	Double acting
Auto switch (optional) <sup>Note)</sup>	Solid state auto switch (3-wire, 2-wire)
Stroke tolerance	$^{+1}_0$ mm

## Option

Finger options	Standard, Tapped on upper and lower faces, Tapped on all faces (5 surfaces including end surface)
Stroke adjuster (Rear end stroke only)	<b>MI□8</b> : Arrangement range 4 mm
	<b>MI□12</b> : Arrangement range 6 mm
	<b>MI□20</b> : Arrangement range 12 mm
	<b>MI□25</b> : Arrangement range 15 mm
Scraper	<b>MI□32</b> : Arrangement range 20 mm
	Can be mounted on standard products

## Theoretical Output

Unit: N

Bore size (mm)	Rod size (mm)	Operating direction	Piston area (mm <sup>2</sup> )	Operating pressure MPa					
				0.2	0.3	0.4	0.5	0.6	0.7
8	4	OUT	50	10	15	20	26	31	36
		IN	38	7	11	15	19	23	26
12	6	OUT	113	23	34	45	57	68	79
		IN	85	17	26	34	43	51	60
20	10	OUT	314	63	94	126	157	188	220
		IN	236	47	71	94	118	142	165
25	10	OUT	491	98	147	196	245	295	344
		IN	412	82	124	165	206	247	288
32	12	OUT	804	161	241	322	402	482	563
		IN	691	138	207	276	346	415	484

## Standard Stroke

### Double finger type/MIW (mm)

Bore size	Stroke
8	8 mm
12	12 mm
20	20 mm
25	25 mm
32	32 mm

\* For MIW, same stroke as bore size

### Single finger type/MIS (mm)

Bore size	Stroke
8	10, 20 mm
12	10, 20, 30 mm
20	10, 20, 30 mm
25	30, 50 mm
32	30, 50 mm



**Made to Order**  
(For details, refer to page 2020.)

Symbol	Specifications
-X4	Heat resistant (-10 to 100°C)
-X5	Fluororubber seal
-X63	Fluorine grease
-X79	Grease for food

## Mass

Model	Model	Stroke (mm)	Mass (g)	Increase by stroke adjuster (g)	Increase by scraper (g)
MIW	<b>MIW8-8D</b>	8	110	6	3
	<b>MIW12-12D</b>	12	240	10	5
	<b>MIW20-20D</b>	20	650	30	10
	<b>MIW25-25D</b>	25	1550	30	20
	<b>MIW32-32D</b>	32	2650	100	35
MIS	<b>MIS8-10D</b>	10	62	3	2
	<b>MIS8-20D</b>	20	80		
	<b>MIS12-10D</b>	10	130	5	3
	<b>MIS12-20D</b>	20	160		
	<b>MIS12-30D</b>	30	190		
	<b>MIS20-10D</b>	10	300	15	5
	<b>MIS20-20D</b>	20	355		
	<b>MIS20-30D</b>	30	410		
	<b>MIS25-30D</b>	30	800		
	<b>MIS25-50D</b>	50	1000	50	10
	<b>MIS32-30D</b>	30	1350		
	<b>MIS32-50D</b>	50	1650		

RSQ

RSQ

RS□

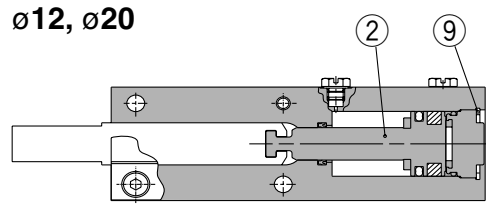
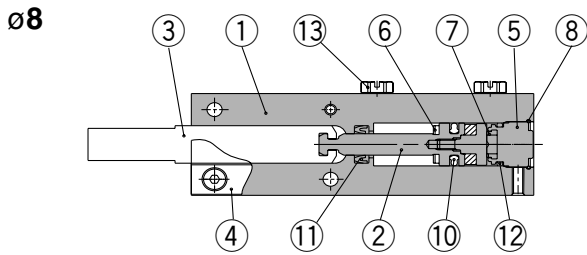
MI□

D-□

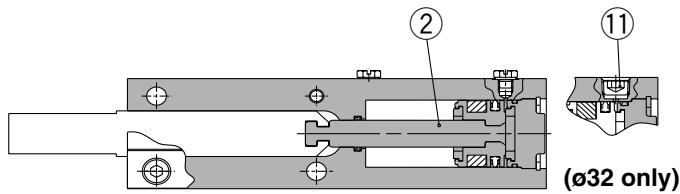
-X□

Individual  
-X□

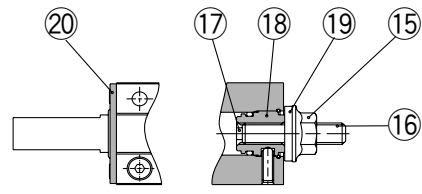
**Construction/Single Finger Type (MIS)**



ø25, ø32



Option



Scraper

Stroke adjuster

RSQ

RSG

RS□

MI□

**Component parts**

No.	Description	Material	Note
1	Body	Aluminium alloy	Hard anodized
2	Piston assembly		
3	Finger	Carbon steel	Heat treatment/Special treatment
4	Cover	Aluminium alloy	Hard anodized
5	Cap (S)	Aluminium alloy	White anodized
6	Bumper	Urethane rubber	
7	Head bumper	Urethane rubber	
8	Clip	Carbon steel	(MIS8)
9	R shape retaining ring	Carbon steel	(MIS12 to 32)

No.	Description	Material	Note
10	Piston seal	NBR	
11	Rod seal	NBR	
12	Gasket	NBR	
13	Plug		(MIS8 ... M-3P) (MIS12 to 25 ... M-5P)
14	Hexagon socket taper plug		(MIS32 ... Rc1/8)

**Option: adjuster**

No.	Description	Material	Note
15	Hexagon nut with flange	Carbon steel	Nickel plated
16	Adjustment bolt	Carbon steel	Nickel plated
17	Adjustment bumper	Urethane rubber	
18	Adjustment cap	Aluminium alloy	White anodized
19	Die thread		

**Option: scraper**

No.	Description	Material	Note
20	Scraper	Stainless steel + NBR	

**Replacement parts**

Description Model	Finger			Seal kit	Scraper assembly	Grease pack
	Standard	Tapped on upper and lower faces	Tapped on all faces			
MIS8-10D	MI-A0801-10	MI-A0802-10	MI-A0803-10	MIS8-PS	MIS-A0804	MH-G01 (contents quantity 30 g)
MIS8-20D	MI-A0801-20	MI-A0802-20	MI-A0803-20			
MIS12-10D	MI-A1201-10	MI-A1202-10	MI-A1203-10			
MIS12-20D	MI-A1201-20	MI-A1202-20	MI-A1203-20	MIS12-PS	MIS-A1204	
MIS12-30D	MI-A1201-30	MI-A1202-30	MI-A1203-30			
MIS20-10D	MI-A2001-10	MI-A2002-10	MI-A2003-10	MIS20-PS	MIS-A2004	
MIS20-20D	MI-A2001-20	MI-A2002-20	MI-A2003-20			
MIS20-30D	MI-A2001-30	MI-A2002-30	MI-A2003-30			
MIS25-30D	MI-A2501-30	MI-A2502-30	MI-A2503-30	MIS25-PS	MIS-A2504	
MIS25-50D	MI-A2501-50	MI-A2502-50	MI-A2503-50			
MIS32-30D	MI-A3201-30	MI-A3202-30	MI-A3203-30	MIS32-PS	MIS-A3204	
MIS32-50D	MI-A3201-50	MI-A3202-50	MI-A3203-50			
Main parts No.	③ (1 pc.)			⑩, ⑪, ⑫	⑳	

D-□

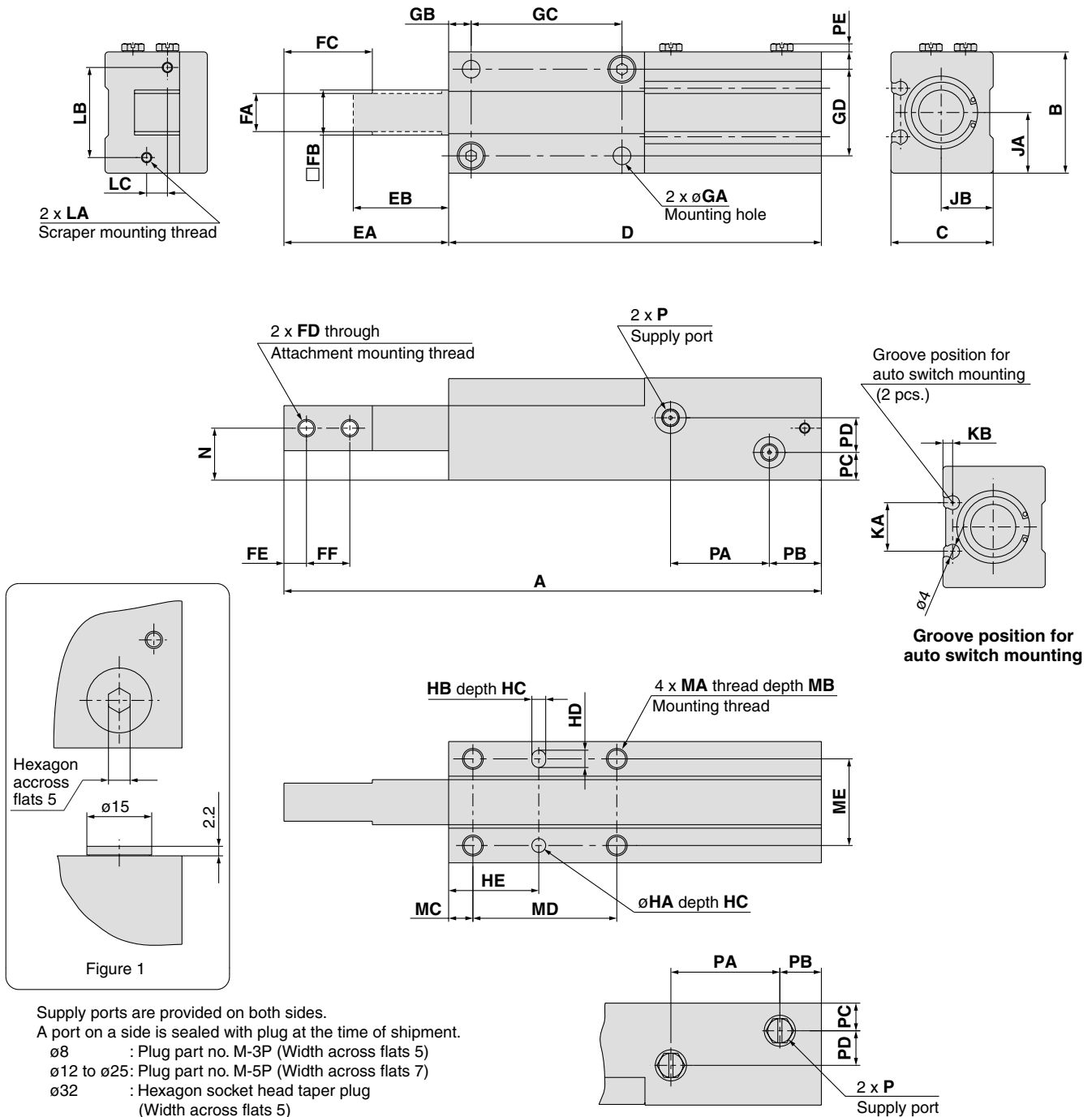
-X□

Individual  
-X□

# Series MIW/MIS

## Dimensions/Single Finger Type

MIS□-□D



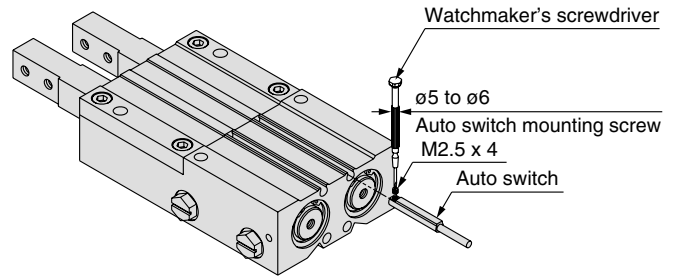
Model	A	B	C	D	EA	EB	FA	FB	FC	FD	FE	FF	FG	GA	GB	GC	GD	HA, HB
MIS8-10	87	19	16	59	28	18	6 <sup>0</sup> <sub>-0.1</sub>	7h9 <sup>0</sup> <sub>-0.036</sub>	15	M3 x 0.5	4	7	6 (Effective depth 2.5)	2.6	4	20	13	2H9 <sup>+0.025</sup> <sub>0</sub>
MIS8-20	117			79	38											30		
MIS12-10	105	26	21	72	33	23	8 <sup>0</sup> <sub>-0.1</sub>	10h9 <sup>0</sup> <sub>-0.036</sub>	19	M3 x 0.5	4.5	9.5	6 (Effective depth 3)	3.3	5	28	18	2.5H9 <sup>+0.025</sup> <sub>0</sub>
MIS12-20	135			92	43											38		
MIS12-30	165			112	53											48		
MIS20-10	125	35	29.5	86.5	38.5	28.5	11 <sup>0</sup> <sub>-0.1</sub>	13h9 <sup>0</sup> <sub>-0.043</sub>	25.5	M5 x 0.8	6.5	12.5	10 (Effective depth 4)	5.1	7	32	25	4H9 <sup>+0.030</sup> <sub>0</sub>
MIS20-20	155			106.5	48.5											42		
MIS20-30	185			126.5	58.5											52		
MIS25-30	215	41	40	144	71	41	15 <sup>0</sup> <sub>-0.1</sub>	17h9 <sup>0</sup> <sub>-0.043</sub>	37	M6 x 1	10	17	15 (Effective depth 7)	6.8	10	55	28	5H9 <sup>+0.030</sup> <sub>0</sub>
MIS25-50	270			184	91											75		
MIS32-30	250	50	47	165	85	55	19.5 <sup>0</sup> <sub>-0.1</sub>	21h9 <sup>0</sup> <sub>-0.052</sub>	51	M8 x 1.25	12.5	22	17 (Effective depth 8.5)	8.6	12	64	34	6H9 <sup>+0.030</sup> <sub>0</sub>
MIS32-50	310			205	105											84		

# Series MIW/MIS

## Auto Switch Mounting

When mounting an auto switch, insert the auto switch in the switch mounting groove on the escapement from the direction as below figure. Having set the mounting position, tighten the attached auto switch mounting screws with a flat head watchmaker's screwdriver.

\* When adjusting the auto switch mounting screws, use a watchmaker's screwdriver with a handle 5 to 6 mm in diameter. (This is to prevent fracture due to an excessive torque.) The guideline of the tightening torque is 0.1 to 0.15 N·m.



## Proper mounting position for stroke end detection

Model	Electrical entry is in the → direction
M9□ M9□V M9□W(V)	
	<b>Electrical entry is in the ← direction</b> 

## Auto Switch Operating Range

MIW	(mm)				
Auto switch model	ø8	ø12	ø20	ø25	ø32
D-M9□(V)	3	2.5	4	5.5	7
D-M9□W(V)					

MIS	(mm)				
Auto switch model	ø8	ø12	ø20	ø25	ø32
D-M9□(V)	3	3.5	4.5	5.5	7
D-M9□W(V)					

Note) The operating ranges are provided as guidelines including hysteresis and are not guaranteed values (with ±30% variations). Hysteresis may fluctuate due to the operating environments.

Model	Proper mounting position		Model	Proper mounting position		Model	Proper mounting position	
	D-M9□ D-M9□W	D-M9□V D-M9□WV		D-M9□ D-M9□W	D-M9□V D-M9□WV		D-M9□ D-M9□W	D-M9□V D-M9□WV
MIW8-8D	A	16.5	MIS12-30D	A	18.5	MIS25-30D	A	7.5
	B	25		B	49		B	38
	C	4.5		C	6.5		C	21
	D	—		D	—		D	—
	E	6   4		E	3.5   1.5		E	—   —
MIS8-10D	A	16.5	MIW20-20D	A	20.5	MIS25-50D	A	7.5
	B	27		B	41		B	38
	C	4.5		C	8.5		C	21
	D	—		D	—		D	—
	E	6   4		E	4   2		E	—   —
MIS8-20D	A	16.5	MIS20-10D	A	20.5	MIW32-32D	A	8.5
	B	37		B	31		B	41
	C	4.5		C	8.5		C	29
	D	—		D	—		D	—
	E	6   4		E	4   2		E	—   —
MIW12-12D	A	18.5	MIS20-20D	A	20.5	MIS32-30D	A	8.5
	B	31		B	51		B	39
	C	6.5		C	8.5		C	29
	D	—		D	—		D	—
	E	3.5   1.5		E	4   2		E	—   —
MIS12-10D	A	18.5	MIS20-30D	A	20.5	MIS32-50D	A	8.5
	B	29		B	61		B	59
	C	6.5		C	8.5		C	29
	D	—		D	—		D	—
	E	3.5   1.5		E	4   2		E	—   —
MIS12-20D	A	18.5	MIW25-25D	A	7.5	Note) Adjust the auto switch after confirming the operating conditions in the actual setting.		
	B	39		B	33			
	C	6.5		C	21			
	D	—		D	—			
	E	3.5   1.5		E	—   —			