

Air Cylinder: Standard Type Double Acting, Single Rod

90-CDJ2 Series

ø10, ø16

How to Order



Mounting style

B	Basic style
L	Axial foot style
F	Rod side flange style
D	Double clevis style (Except ø6)

Bore size

10	10 mm
16	16 mm

Cylinder standard stroke (mm)

10	15, 30, 45, 60, 75, 100, 125, 150
16	15, 30, 45, 60, 75, 100, 125, 150, 175, 200

*Manufacture of intermediate strokes at 1 mm intervals is possible. (Spacers are not used.)

Built-in Magnet Cylinder Model

Suffix the symbol "B" (Band mounting style) to the end of part number for cylinder with auto switch.

Example | Band mounting style | 90-CDJ2B16-60-B

With auto switch

90-CDJ2 L 16-60 - M9BWL

Series compatible with secondary batteries

90	Material restriction
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With auto switch
(Built-in magnet)

Head cover port location

Bore size (mm)	Symbol	ø10, ø16
Nil	Perpendicular to axis	
R	Axial	

*Double clevis is only available for being perpendicular to axis.

Number of auto switches

Nil	2 pcs.
S	1 pc.
n	"n" pcs.

Auto switch

Nil	Without auto Switch
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*For the applicable auto switch model, refer to the table below.

*Specifications and dimensions for the 90-series are the same as standard products.

Applicable Auto Switch/Refer to pages 62 to 65 for further information on auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage		Auto switch model	Lead wire length (m)	Pre-wired connector	Applicable load	
					DC	AC		3(L)	SDPC		
Solid state switch	Diagnostic indication (2-color indication)	Grommet	Yes	2-wire	24 V	12 V	M9BW	●	●	—	Relay, PLC
Reed switch	—		No				A90	●	—		
						100 V or less				IC circuit	

*Additional symbols for auto switch: Lead wire length 3 m.....L Example: M9BWL
With pre-wired connector.....SDPC M9BWSDPC

*Order part numbers for auto switches alone are D-M9BWL-900, D-M9BWSDPC-900 and D-A90L-900.

*Models D-M9BWVL-900 or M9BWVSDPC-900 cannot be mounted.

*The auto switch is shipped together but not assembled. (Only auto switch mounting brackets are assembled before shipment.)

*Refer to pages 66 to 68 for details on auto switch mounting brackets.

Mounting Bracket Part No.

Mounting bracket	Bore size (mm)		
	6	10	16
Foot bracket	90-CJ-L006B	90-CJ-L010B	90-CJ-L016B
Flange bracket	90-CJ-F006B	90-CJ-F010B	90-CJ-F016B

Air Cylinder: Standard Type Double Acting, Single Rod

90-91-CDG1 Series

Ø20, Ø25, Ø32, Ø40, Ø50

How to Order



With auto switch

90-CDG1 L N 25-100-M9BWL

Series compatible with secondary batteries

90	Material restriction
91	With lub-retainer

With auto switch
(Built-in magnet)

Mounting style

B	Basic style
L	Axial foot style
F	Rod side flange style
G	Head side flange style
U	Rod side trunnion style
T	Head side trunnion style
D	Clevis style

*91-series foot and rod side flange are assembled before shipment.

Type

N	Rubber bumper
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Built-in Magnet Cylinder Model

If a built-in magnet cylinder without an auto switch is required, there is no need to enter the symbol for the auto switch.
(Example)⁹⁰-CDG1FN32-100

Bore size

20	20 mm
25	25 mm
32	32 mm
40	40 mm
50	50 mm

Number of auto switches

Nil	2 pcs.
S	1 pc.
n	"n" pcs.

Auto switch

Nil	Without auto switch
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*For the applicable auto switch model, refer to the table below.

Cylinder stroke (mm)

Bore size (mm)	Standard stroke ⁽¹⁾ (mm)	Long stroke ⁽²⁾ (mm)	Maximum manufacturable stroke (mm)
20	25, 50, 75, 100, 125, 150, 200	201 to 350	1500
25	25, 50, 75, 100, 125, 150, 200, 250, 300	301 to 400	
32		301 to 450	
40		301 to 800	
50		301 to 1200	



Note 1) Manufacture of intermediate strokes at 1 mm intervals is possible. (Spacers are not used.)

Note 2) Long stroke is compatible with the axial foot and rod side flange types. When other mounting brackets are used or the long stroke exceeds the limit, the allowable maximum stroke length is determined using the stroke selection table.

*Specifications and dimensions for the 90-series are the same as standard products.

Applicable Auto Switch/Refer to pages 62 to 65 for further information on auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage		Auto switch model	Lead wire length (m)	Pre-wired connector	Applicable load	
					DC	AC		3(L)	SDPC		
Solid state switch	Diagnostic indication (2-color indication)	Grommet	Yes	2-wire	24 V	12 V	M9BW	●	●	—	Relay, PLC
Reed switch	—		No				A90	●	—	IC circuit	

*Additional symbols for auto switch: Lead wire length 3 m.....L Example: M9BWL
With pre-wired connector.....SDPC M9BWSDPC

*Order part numbers for auto switches alone are D-M9BWL-900, D-M9BWSDPC-900 and D-A90L-900.

*Models D-M9BWL-900 or M9BWSDPC-900 cannot be mounted.

*The auto switch is shipped together but not assembled. (Only auto switch mounting brackets are assembled before shipment.)

*Refer to pages 66 to 68 for details on auto switch mounting brackets.

Mounting Bracket Part No.

Mounting bracket	Min. order	Bore size (mm)					Description
		20	25	32	40	50	
Foot	1	90-CG-L020	90-CG-L025	90-CG-L032	90-CG-L040	90-CG-L050	Foot x 2, Mounting bolt x 8
Flange	1	90-CG-F020	90-CG-F025	90-CG-F032	90-CG-F040	90-CG-F050	Flange x 1, Mounting bolt x 4
Trunnion pin	1	90-CG-T020	90-CG-T025	90-CG-T032	90-CG-T040	90-CG-T050	Trunnion pin x 2, Trunnion bolt x 2, Flat washer x 2
Clevis	1	90-CG-D020	90-CG-D025	90-CG-D032	90-CG-D040	90-CG-D050	Clevis x 1, Mounting bolt x 4, Clevis pin x 1, Retaining ring x 2
Pivot bracket	1	90-CG-020-24A	90-CG-025-24A	90-CG-032-24A	90-CG-040-24A	90-CG-050-24A	Pivot bracket x 1

Air Cylinder: Standard Type Double Acting, Single Rod

90-91-CDA2 Series

Ø40, Ø50, Ø63, Ø80, Ø100

How to Order



With auto switch

90-CDA2 L 50-100-M9BWL

Series compatible with secondary batteries

90	Material restriction
91	With lub-retainer

With auto switch
(Built-in magnet)

Mounting style

B	Basic style
L	Axial foot style
F	Rod side flange style
G	Head side flange style
C	Single clevis style
D	Double clevis style
T	Center trunnion style

Built-in Magnet Cylinder Model

If a built-in magnet cylinder without an auto switch is required, there is no need to enter the symbol for the auto switch.

(Example) 90-CDA2L40-100

Bore size

40	40 mm
50	50 mm
63	63 mm
80	80 mm
100	100 mm

Number of auto switches

Nil	2 pcs.
S	1 pc.
3	3 pcs.
n	"n" pcs.

Auto switch

Nil	Without auto switch
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*Refer to the table below for the applicable auto switch model.

Cylinder stroke (mm)

40	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400, 450, 500
50, 63	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400, 500, 600
80, 100	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400, 450, 500, 600, 700

*Intermediate strokes not listed above are produced upon receipt of order.

*Specifications and dimensions for the 90-series are the same as standard products.

Applicable Auto Switch/Refer to pages 62 to 65 for further information on auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage		Auto switch model		Lead wire length (m)	Pre-wired connector	Applicable load		
					DC	AC	Perpendicular	In-line					
Solid state switch	Diagnostic indication (2-color indication)	Grommet	Yes	2-wire	24 V	12 V	—	M9BWV	M9BW	●	●	—	Relay, PLC
Reed switch	—		No				100 V or less	—	A90**	●	—	IC circuit	

*Additional symbols for auto switch: Lead wire length 3 m.....L
With pre-wired connector.....SDPC

Example: M9BWL
M9BWSDPC

**Models D-A90L-900 cannot be mounted on cylinders of Ø50.

*Order part numbers for auto switches alone are D-M9BW(V)L-900, D-M9BW(V)SDPC-900 and D-A90L-900.

*The auto switch is shipped together but not assembled. (Only auto switch mounting brackets are assembled before shipment.)

*Refer to pages 66 to 68 for details on auto switch mounting brackets.

Mounting Bracket Part No.

Bore size (mm)	40	50	63	80	100
Axial foot*	91-CA2-L04	91-CA2-L05	91-CA2-L06	91-CA2-L08	91-CA2-L10
Flange	91-CA2-F04	91-CA2-F05	91-CA2-F06	91-CA2-F08	91-CA2-F10
Single clevis	91-CA2-C04	91-CA2-C05	91-CA2-C06	91-CA2-C08	91-CA2-C10
Double clevis**	91-CA2-D04	91-CA2-D05	91-CA2-D06	91-CA2-D08	91-CA2-D10

*When axial foot brackets are used, two pieces should be ordered for each cylinder.

**Double clevis type is packed with clevis pin, flat washer and cotter pin.

Free Mount Cylinder Double Acting, Single Rod

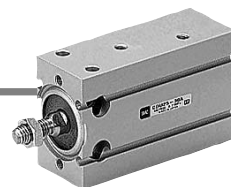
90-*CDU* Series

ø10, ø16, ø20, ø25, ø32

How to Order

With auto switch

90 - CDU 16 - [] D - M9BWL []



Series compatible with secondary batteries

90	Material restriction
91	With lub-retainer

Built-in magnet

Bore size

10	10 mm
16	16 mm
20	20 mm
25	25 mm
32	32 mm

Action

D	Double acting
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Standard stroke (mm)

ø6, ø10, ø16	5, 10, 15, 20, 25, 30
ø20, ø25, ø32	5, 10, 15, 20, 25, 30, 40, 50

Number of auto switches

Nil	2 pcs.
S	1 pc.

Auto switch

Nil	Without auto switch
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*Refer to the table below for applicable auto switches.

Built-in Magnet Cylinder Model

If a built-in magnet cylinder without an auto switch is required, there is no need to enter the symbol for the auto switch.
(Example)⁹⁰-CDU20-25D

*Specifications and dimensions for the 90-series are the same as standard products.

Applicable Auto Switches/Refer to pages 62 to 65 for further information on auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage		AC	Auto switch model		Lead wire length (m)	Pre-wired connector	Applicable load	
					DC	AC		Perpendicular	In-line				
Solid state switch	Diagnostic indication (2-color indication)	Grommet	Yes	2-wire	24 V	12 V	—	M9BWW	M9BW	●	●	—	Relay, PLC
Reed switch	—		No										
							100 V or less	—	A90	●	—	IC circuit	

*Additional symbols for auto switch: Lead wire length 3 m.....L
With pre-wired connector.....SDPC
Example: M9BWL
M9BWSLSDPC

*Order part numbers for auto switches alone are D-M9BW(V)L-900, D-M9BW(V)SDPC-900 and D-A90L-900.

*The auto switch is shipped together but not assembled.

Directional Control Valves

Actuators

Air Grippers

Air Preparation Equipment

Air Filters/Pressure Control Equipment

Flow Control Related Products

Vacuum Equipment

Detection Switches

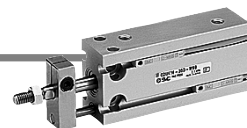
Auto Switches

Free Mount Cylinder: Non-rotating Rod Type Double Acting, Single Rod

90-91-*CDUK* Series

ø10, ø16, ø20, ø25, ø32

How to Order



With auto switch

90-CDUK16-30 D-M9BWL

Series compatible with secondary batteries

90	Material restriction
91	With lub-retainer

Built-in magnet

Non-rotating rod type

Bore size

10	10 mm
16	16 mm
20	20 mm
25	25 mm
32	32 mm

Action

D	Double acting
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Standard stroke (mm)

ø10, ø16	5, 10, 15, 20, 25, 30
ø20, ø25, ø32	5, 10, 15, 20, 25, 30, 40, 50

Number of auto switches

Nil	2 pcs.
S	1 pc.

Auto switch

Nil	Without auto switch
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*Refer to the table below for applicable auto switches.

Built-in Magnet Cylinder Model

If a built-in magnet cylinder without an auto switch is required, there is no need to enter the symbol for the auto switch.

(Example) 90-CDUK20-25D

*Specifications and dimensions for the 90-series are the same as standard products.

Applicable Auto Switches/Refer to pages 62 to 65 for further information on auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage		Auto switch model		Lead wire length (m)	Pre-wired connector	Applicable load	
					DC	AC	Perpendicular	In-line				
Solid state switch	Diagnostic indication (2-color indication)	Grommet	Yes	2-wire	24 V	12 V	M9BWV	M9BW	●	●	—	Relay, PLC
Reed switch	—		No			100 V or less	—	A90	●	—	IC circuit	

*Additional symbols for auto switch: Lead wire length 3 m.....L Example: M9BWL
With pre-wired connector.....SDPC M9BWSDPC

*Order part numbers for auto switches alone are D-M9BW(V)L-900, D-M9BW(V)SDPC-900 and D-A90L-900.

*The auto switch is shipped together but not assembled.

Compact Cylinder: Standard Type Double Acting, Single Rod

90-91-CDQS Series

Ø12, Ø16, Ø20, Ø25

How to Order



With auto switch

90-CDQS B 20-30 D - M9BWL

Series compatible with secondary batteries

90	Material restriction
91	With lub-retainer

With auto switch
(Built-in magnet)

Mounting style

B	Through-hole/Both ends tapped common (Standard)
L	Foot style
F	Rod side flange style
G	Head side flange style
D	Double clevis style

*In the case of long strokes, use either ends tapped mounting or bracket mounting.

*Mounting brackets are shipped together, (but not assembled).

Bore size

12	12 mm
16	16 mm
20	20 mm
25	25 mm

Cylinder stroke (mm)

Bore size	Standard stroke	Long stroke
12, 16	5, 10, 15, 20, 25, 30	35, 40, 45, 50, 75, 100, 125, 150, 175, 200
20	5, 10, 15, 20, 25, 30, 35, 40, 45, 50	75, 100, 125, 150, 175, 200
25		75, 100, 125, 150, 175, 200, 250, 300

Number of auto switches

Nil	2 pcs.
S	1 pc.
n	"n" pcs.

Auto switch

Nil	Without auto switch
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*Refer to the table below for the applicable auto switch model.

Body option

<Standard stroke>	
Nil	Standard
C	With rubber bumper
M	Rod end male thread

*Combination of body options is available.

<Long stroke>

C	With rubber bumper Rod end female thread (Standard)
CM	With rubber bumper Rod end male thread

*Rubber bumper is standard equipment for long stroke type.

Action

D	Double acting
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Built-in Magnet Cylinder Model

If a built-in magnet cylinder without an auto switch is required, there is no need to enter the symbol for the auto switch.
(Example) 90-CDQSL25-30D

*Specifications and dimensions for the 90-series are the same as standard products.

Applicable Auto Switch/Refer to pages 62 to 65 for further information on auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage		Auto switch model		Lead wire length (m)	Pre-wired connector	Applicable load	
					DC	AC	Perpendicular	In-line				
Solid state switch	Diagnostic indication (2-color indication)	Grommet	Yes	2-wire	24 V	12 V	M9BWV	M9BW	3(L)	SDPC	Relay, PLC	
Reed switch	—		No			100 V or less	—	A90		—	IC circuit	

*Additional symbols for auto switch: Lead wire length 3 m.....L Example: M9BWL
With pre-wired connector.....SDPC M9BWSDPC

*Order part numbers for auto switches alone are D-M9BW(V)L-900, D-M9BW(V)SDPC-900 and D-A90L-900.

*The auto switch is shipped together but not assembled.

Note) Auto switches of models D-M9BWV-L-900 or M9BWVSDPC-900 cannot be mounted on the port depending on cylinder stroke and fitting size. Consult SMC.

Mounting Brackets for 90-series/Part No.

Bore size (mm)	Foot (1)	Flange	Double clevis
12	90-CQS-L012	90-CQS-F012	90-CQS-D012
16	90-CQS-L016	90-CQS-F016	90-CQS-D016
20	90-CQS-L020	90-CQS-F020	90-CQS-D020
25	90-CQS-L025	90-CQS-F025	90-CQS-D025

Mounting Brackets for 91-series/Part No.

Bore size (mm)	Foot (1)	Flange	Double clevis
12	91-CQS-L012	91-CQS-F012	90-CQS-D012
16	91-CQS-L016	91-CQS-F016	90-CQS-D016
20	91-CQS-L020	91-CQS-F020	90-CQS-D020
25	91-CQS-L025	91-CQS-F025	90-CQS-D025



Note1) When ordering foot bracket, order 2 pieces per cylinder.

Note2) Parts belonging to each bracket are as follows.

Foot or Flange style: Body mounting bolt

Double clevis style: Clevis pin, Type C snap ring for axis, Body mounting bolt

Compact Cylinder: Anti-lateral Load Type

90-**CDQS** **S Series**

ø12, ø16, ø20, ø25



How to Order

With auto switch

90-CDQSBS20-30DC-M9BWL 

Series compatible with secondary batteries

90	Material restriction
91	With lub-retainer

With auto switch
(Built-in magnet)

Mounting style

B	Through-hole/Both ends tapped common (Standard)
L	Foot style
F	Rod side flange style
G	Head side flange style
D	Double clevis style

*Mounting brackets are shipped together, (but not assembled).

Type

S	Anti-lateral load type
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Bore size

12	12 mm
16	16 mm
20	20 mm
25	25 mm

Cylinder stroke (mm)

Bore size (mm)	Standard stroke (mm)
12, 16	5, 10, 15, 20, 25, 30
20, 25	5, 10, 15, 20, 25, 30, 35, 40, 45, 50

Number of auto switches

Nil	2 pcs.
S	1 pc.
n	"n" pcs.

Auto switch

Nil	Without auto switch
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*Refer to the table below for the applicable auto switch model.

Body option

C	With rubber bumper Rod end female thread (Standard)
CM	With rubber bumper Rod end male thread

Action

D	Double acting
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Built-in Magnet Cylinder Model

If a built-in magnet cylinder without an auto switch is required, there is no need to enter the symbol for the auto switch.

(Example)⁹⁰⁻CDQSLS12-25D

Only for models with cushions

*Specifications and dimensions for the 90-series are the same as standard products.

Applicable Auto Switch/Refer to pages 62 to 65 for further information on auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage		Auto switch model		Lead wire length (m)	Pre-wired connector	Applicable load	
					DC	AC	Perpendicular	In-line				
Solid state switch	Diagnostic indication (2-color indication)	Grommet	Yes	2-wire	24 V	12 V	M9BWV	M9BW	●	●	—	Relay, PLC
Reed switch	—		No									
						100 V or less	—	A90	●	—	IC circuit	

*Additional symbols for auto switch: Lead wire length 3 m.....L
With pre-wired connector.....SDPC
Example: M9BWL
M9BWSDPC

*Order part numbers for auto switches alone are D-M9BW(V)L-900, D-M9BW(V)SDPC-900 and D-A90L-900.

*The auto switch is shipped together but not assembled.

Note) Auto switches of models D-M9BWVL-900 or M9BWVSDPC-900 cannot be mounted on the port depending on cylinder stroke and fitting size. Consult SMC.

Mounting Brackets for 90-series/Part No.

Bore size (mm)	Foot (1)	Flange	Double clevis
12	90-CQS-L012	90-CQS-F012	90-CQS-D012
16	90-CQS-L016	90-CQS-F016	90-CQS-D016
20	90-CQS-L020	90-CQS-F020	90-CQS-D020
25	90-CQS-L025	90-CQS-F025	90-CQS-D025

Mounting Brackets for 91-series/Part No.

Bore size (mm)	Foot (1)	Flange	Double clevis
12	91-CQS-L012	91-CQS-F012	90-CQS-D012
16	91-CQS-L016	91-CQS-F016	90-CQS-D016
20	91-CQS-L020	91-CQS-F020	90-CQS-D020
25	91-CQS-L025	91-CQS-F025	90-CQS-D025



Note1) When ordering foot bracket, order 2 pieces per cylinder.

Note2) Parts belonging to each bracket are as follows.

Foot or Flange style: Body mounting bolt

Double clevis style: Clevis pin, type C retaining ring for axis, Body mounting bolt

Compact Cylinder: Standard Type Double Acting, Single Rod

90-91-CDQ2 Series

ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100



How to Order

With auto switch **90-CDQ2 B 20-30 D Z-M9BWL**

Series compatible with secondary batteries

90	Material restriction
91	With lub-retainer

With auto switch (Built-in magnet)

Mounting style

B	Through-hole (Standard)	F	Rod side flange style
A	Both ends tapped style	G	Head side flange style
L	Foot style	D	Double clevis style

*Mounting brackets are shipped together, (but not assembled).

Auto switch

Nil	Without auto switch
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*Refer to the table below for the applicable auto switch model.

Auto switch mounting groove

Z	ø12 to ø25	2 sides
	ø32 to ø100	4 sides

Number of auto switches

Nil	2 pcs.
S	1 pc.
n	"n" pcs.

Body option

Nil	Standard (Rod end female thread)
C	With rubber bumper
M	Rod end male thread

*Combination of body options is available.

Action

D	Double acting
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Cylinder stroke (mm)

12, 16	5, 10, 15, 20, 25, 30
20, 25	5, 10, 15, 20, 25, 30, 35, 40, 45, 50
32, 40	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100
50 to 100	10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100

Built-in Magnet Cylinder Model

If a built-in magnet cylinder without an auto switch is required, there is no need to enter the symbol for the auto switch.

(Example) 90-CDQ2L32-25DZ

Applicable Auto Switch/Refer to pages 62 to 65 for further information on auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage		Auto switch model		Lead wire length (m)	Pre-wired connector	Applicable load	
					DC	AC	Perpendicular	In-line				
Solid state switch	Diagnostic indication (2-color indication)	Grommet	Yes	2-wire	24 V	12 V	—	M9BWV	M9BW	●	●	—
Reed switch	—		No									
						100 V or less	—	A90	●	—	IC circuit	Relay, PLC

*Additional symbols for auto switch: Lead wire length 3 m.....L Example: M9BWL
With pre-wired connector.....SDPC M9BWSGPC

*Order part numbers for auto switches alone are D-M9BW(V)L-900, D-M9BW(V)SDPC-900 and D-A90L-900.

*When mounting the D-M9BW(V)L-900, D-M9BW(V)SDPC-900 or A90L-900 on cylinders with ø32 to ø50 other than on the port face, order the auto switch mounting bracket separately. Refer to pages 66 to 68 for details.

Mounting Brackets for 90-series/Part No.

Bore size (mm)	Foot ⁽¹⁾	Flange	Double clevis
12	90-CQ-L012	90-CQ-F012	90-CQ-D012
16	90-CQ-L016	90-CQ-F016	90-CQ-D016
20	90-CQ-L020	90-CQ-F020	90-CQ-D020
25	90-CQ-L025	90-CQ-F025	90-CQ-D025
32	90-CQ-L032	90-CQ-F032	90-CQ-D032
40	90-CQ-L040	90-CQ-F040	90-CQ-D040
50	90-CQ-L050	90-CQ-F050	90-CQ-D050
63	90-CQ-L063	90-CQ-F063	90-CQ-D063
80	90-CQ-L080	90-CQ-F080	90-CQ-D080
100	90-CQ-L100	90-CQ-F100	90-CQ-D100

Mounting Brackets for 91-series/Part No.

Bore size (mm)	Foot ⁽¹⁾	Flange	Double clevis
12	91-CQ-L012	91-CQ-F012	90-CQ-D012
16	91-CQ-L016	91-CQ-F016	90-CQ-D016
20	91-CQ-L020	91-CQ-F020	90-CQ-D020
25	91-CQ-L025	91-CQ-F025	90-CQ-D025
32	90-CQ-L032	90-CQ-F032	90-CQ-D032
40	90-CQ-L040	90-CQ-F040	90-CQ-D040
50	90-CQ-L050	90-CQ-F050	90-CQ-D050
63	90-CQ-L063	90-CQ-F063	90-CQ-D063
80	90-CQ-L080	90-CQ-F080	90-CQ-D080
100	90-CQ-L100	90-CQ-F100	90-CQ-D100



Note 1) When ordering foot bracket, order 2 pieces per cylinder.

Note 2) Parts belonging to each bracket are as follows. Foot, Flange: Body mounting bolt/Double clevis: Clevis pin, Type C retaining ring for axis, body mounting bolt

Compact Cylinder: Long Stroke Type Double Acting, Single Rod

90-91-CDQ2 Series

ø32, ø40, ø50, ø63, ø80 ø100



How to Order

With auto switch **90-CDQ2 A 32-200 DC Z-M9BWL**

Series compatible with secondary batteries

90	Material restriction
91	With lub-retainer

With auto switch
(Built-in magnet)

Mounting style

A	Both ends tapped style
L	Foot style
F	Rod side flange style
G	Head side flange style
D	Double clevis style

*Mounting brackets are shipped together, (but not assembled).

Bore size

32	32 mm	63	63 mm
40	40 mm	80	80 mm
50	50 mm	100	100 mm

Cylinder stroke (mm)

32, 40, 50	125, 150, 175
63, 80, 100	200, 250, 300

Action

D	Double acting
---	---------------

Number of auto switches

Nil	2 pcs.
S	1 pc.
n	"n" pcs.

Auto switch

Nil	Without auto switch
-----	---------------------

*Refer to the table below for the applicable auto switch model.

Auto switch mounting groove

Z	ø12 to ø25	2 sides
	ø32 to ø100	4 sides

Body option

Nil	Standard (Rod end female thread)
M	Rod end male thread

Cushion

C	Rubber bumper
---	---------------

Built-in Magnet Cylinder Model

If a built-in magnet cylinder without an auto switch is required, there is no need to enter the symbol for the auto switch.
(Example) 90-CDQ2L40-200DCZ

*Specifications and dimensions for the 90-series are the same as standard products.

Applicable Auto Switch/Refer to pages 62 to 65 for further information on auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage		Auto switch model		Lead wire length (m)	Pre-wired connector	Applicable load	
					DC	AC	Perpendicular	In-line				
Solid state switch	Diagnostic indication (2-color indication)	Grommet	Yes	2-wire	24 V	12 V	M9BWV	M9BW	●	●	—	Relay, PLC
Reed switch	—		No			100 V or less						

*Additional symbols for auto switch: Lead wire length 3 m.....L Example: M9BWL
With pre-wired connector.....SDPC M9BWSLPC

*Order part numbers for auto switches alone are D-M9BW(V)L-900, D-M9BW(V)SDPC-900 and D-A90L-900.

*When mounting the D-M9BW(V)L-900, D-M9BW(V)SDPC-900 or A90L-900 on cylinders with ø32 to ø50 other than on the port face, order the auto switch mounting bracket separately. Refer to pages 66 to 68 for details.

Mounting Brackets for 90- and 91-series/Part No.

Bore size (mm)	Foot (1)	Flange	Double clevis
32	90-CQ-L032	90-CQ-F032	90-CQ-D032
40	90-CQ-L040	90-CQ-F040	90-CQ-D040
50	90-CQ-L050	90-CQ-F050	90-CQ-D050
63	90-CQ-L063	90-CQ-F063	90-CQ-D063
80	90-CQ-L080	90-CQ-F080	90-CQ-D080
100	90-CQ-L100	90-CQ-F100	90-CQ-D100



Note 1) When ordering foot bracket, order 2 pieces per cylinder.

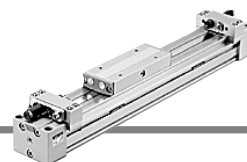
Note 2) Parts belonging to each bracket are as follows.

Foot or Flange style: Body mounting bolt, Double clevis/Clevis pin, Type C retaining ring for axis, Body mounting bolt

Mechanically Jointed Rodless Cylinder Basic Type

90-MY1B Series

ø20, ø25, ø32, ø40, ø50, ø63



How to Order

Basic type **90-MY1B20** **300** **M9BWL**

Series compatible with secondary batteries

90	Material restriction
91	With lub-retainer

Basic type

Bore size (mm)

20	20 mm
25	25 mm
32	32 mm
40	40 mm
50	50 mm
63	63 mm

Piping

Nil	Standard type
G	Centralized piping type

Cylinder stroke (mm)

20, 25, 32, 40, 50, 63	100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1200, 1400, 1600, 1800, 2000
------------------------	---

Number of auto switches

Nil	2 pcs.
S	1 pc.
n	"n" pcs.

Auto switch

Nil	Without auto switch (Built-in magnet)
-----	---------------------------------------

Applicable auto switches vary depending on the bore size. Select an applicable one referring to the table below.

Suffix for stroke adjusting unit

Nil	Both sides
S	One side

Note) "S" is applicable for stroke adjusting units L and H.

Stroke adjusting unit

Nil	Without adjusting unit
L	With low load shock absorber + Adjusting bolt
H	With high load shock absorber + Adjusting bolt
LH	With one L unit and one H unit each

No stroke adjustment units are used for ø50 and ø63.

*The cylinder stroke is used every one millimeter up to the maximum stroke. When exceeding 2,000 mm, consult SMC.

No stroke adjustment units are used for ø50 and ø63.

*Specifications and dimensions for the 90-series are the same as standard products.

Applicable Auto Switch/Refer to pages 62 to 65 for further information on auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage		Auto switch model		Lead wire length (m)	Pre-wired connector	Applicable load	
					DC	AC	Perpendicular	In-line				
Solid state switch	Diagnostic indication (2-color indication)	Grommet	Yes	2-wire	24 V	12 V	M9BWV** [Y7BWV]	M9BW** [Y7BW]	●	●	—	Relay, PLC
Reed switch	—		No			100 V or less	—	Z80	●	—	IC circuit	

*Additional symbols for auto switch: Lead wire length 3 m.....L
With pre-wired connector.....SDPC

Example: M9BWL
M9BWSDPC

**Models D-M9BW(V)L-900 or D-M9BW(V)SDPC-900 cannot be mounted on cylinders of ø50.
Select auto switches from those specified in brackets [].

*Order part numbers for auto switches alone are D-M9BW(V)L-900, D-M9BW(V)SDPC-900, D-Y7BW(V)L-900, D-Y7BW(V)SDPC-900 and D-Z80L-900.

*The auto switch is shipped together but not assembled.

*Refer to pages 66 to 68 for details on the auto switch mounting brackets.

Mechanically Jointed Rodless Cylinder Linear Guide Type

90-MY1H Series

ø16, ø20, ø25, ø32, ø40



How to Order

Linear guide type **90** - **MY1H** **25** - **300** - **M9BWL**

Series compatible with secondary batteries

90	Material restriction
91	With lub-retainer

Linear guide type

Bore size

16	16 mm
20	20 mm
25	25 mm
32	32 mm
40	40 mm

Piping

Nil	Standard type
G	Centralized piping type

Cylinder stroke (mm)

16, 20	50, 100, 150, 200
25, 32, 40	250, 300, 350, 400
	450, 500, 550, 600

Stroke adjusting unit

Nil	Without adjusting unit
L	With low load shock absorber + Adjusting bolt
H	With high load shock absorber + Adjusting bolt
LH	With one L unit and one H unit each

Number of auto switches

Nil	2 pcs.
S	1 pc.
n	"n" pcs.

Auto switch

Nil	Without auto switch (Built-in magnet)
-----	---------------------------------------

*Refer to the table below for the applicable auto switch model.

Suffix for stroke adjusting unit

Nil	Both ends
S	One end

Note) "S" is applicable for stroke adjusting units L and H.

*Specifications and dimensions for the 90-series are the same as standard products.

Applicable Auto Switch/Refer to pages 62 to 65 for further information on auto switches.

Applicable Auto Switch													
Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage		Auto switch model		Lead wire length (m)	Pre-wired connector	Applicable load		
					DC	AC	Perpendicular	In-line					
Solid state switch	Diagnostic indication (2-color indication)	Grommet	Yes	2-wire	24 V	12 V	—	M9BWV	M9BW	●	●	—	Relay, PLC
Reed switch	—		No				100 V or less	—	A90	●	—	IC circuit	

*Additional symbols for auto switch: Lead wire length 3 m.....L Example: M9BWL
With pre-wired connector.....SDPC M9BWSDPC

*Order part numbers for auto switches alone are D-M9BW(V)L-900, D-M9BW(V)SDPC-900 and D-A90L-900.

*The auto switch is shipped together but not assembled.

*Refer to pages 66 to 68 for details on the auto switch mounting brackets.

Mechanically Jointed Rodless Cylinder Linear Guide Type

90-MY2H Series

ø16, ø25

How to Order



Linear Guide Type

90-MY2H16G-300L-M9BWL

Series compatible with secondary batteries

90	Material restriction
91	With lub-retainer

Guide type

H	Linear guide, Single axis
---	---------------------------

Bore size

16	16 mm
25	25 mm

Piping

G	Centralized piping type (Standard)
---	------------------------------------

Stroke (mm)

16	50, 100, 150, 200, 250, 300, 350,
25	400, 450, 500, 550, 600

Number of auto switches

Nil	2 pcs.
S	1 pc.
n	"n" pcs.

Auto switch type

Nil	Without auto switch (Built-in magnet)
-----	---------------------------------------

*Refer to the table below for the applicable auto switch model.

Stroke adjusting unit position

Nil	Both ends
S	One end

Note) "S" is applicable for stroke adjusting units L and H.

Stroke adjusting unit

Nil	Without adjusting unit
L	With low load shock absorber
H	With high load shock absorber
LH	With one L unit and one H unit each

*Specifications and dimensions for the 90-series are the same as standard products.

Applicable Auto Switch/Refer to pages 62 to 65 for the detailed specifications of auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage		Auto switch model		Lead wire length (m)	Pre-wired connector	Applicable load	
					DC	AC	Perpendicular	In-line				
Solid state switch	Diagnostic indication (2-color indication)	Grommet	Yes	2-wire	24 V	12 V	M9BWV	M9BW	●	●	—	Relay, PLC
Reed switch	—		No			100 V or less	—	A90	●	—	IC circuit	

*Additional symbols for auto switch: Lead wire length 3 m.....L Example: M9BWL
With pre-wired connector.....SDPC M9BWSDPC

*Order part numbers for auto switches alone are D-M9BW(V)L-900, D-M9BW(V)SDPC-900 and D-A90L-900.

*The auto switch is shipped together but not assembled.

Directional Control Valves

Actuators

Air Grippers

Air Preparation Equipment

Air Filters/Pressure Control Equipment

Flow Control Related Products

Vacuum Equipment

Detection Switches

Auto Switches

Magnetically Coupled Rodless Cylinder/ Basic Type

91-CY3B Series

Ø15, Ø20, Ø25, Ø32, Ø40

How to Order



Basic type

91-CY3B 25-300

Series compatible with
secondary batteries

91 With lub-retainer

Basic type

Bore size

15	15 mm
20	20 mm
25	25 mm
32	32 mm
40	40 mm

Standard stroke

Bore size (mm)	Standard stroke (mm)	Maximum available stroke (mm)
15	50, 100, 150, 200, 250, 300, 350, 400, 450, 500	1000
20	100, 150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 800	1500
25		2000
32		
40	100, 150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 800, 900, 1000	

Note 1) For strokes exceeding the maximum, consult SMC.

Note 2) The longer the stroke, the larger the amount of deflection in a cylinder tube. Pay attention to the mounting bracket and clearance value.

Note 3) Intermediate stroke is available by the 1 mm interval.

*Specifications and dimensions for the 91-series are the same as standard products.

Magnetically Coupled Rodless Cylinder/ Direct Mount Type

91-CY3R Series

Ø15, Ø20, Ø25, Ø32, Ø40

How to Order

91 - CY3R **25** - **300** - **M9BWL**

Series compatible with secondary batteries

91	With lub-retainer
----	-------------------

Direct mount type

Piping type

Nil	Standard type
G	Centralized piping type

Bore size

15	15 mm
20	20 mm
25	25 mm
32	32 mm
40	40 mm

Number of auto switches

Nil	2 pcs.
S	1 ps.
n	"n" pcs.

Auto switch type

Nil	Without auto switch (Built-in magnet)
-----	---------------------------------------

*Refer to the table below for auto switch model numbers.

Switch rail

Nil	With switch rail
N	Without switch rail

Note) A type with switch rail has built-in auto switch magnets.

Cylinder stroke (mm)

Bore size (mm)	Standard stroke (mm)	Max. stroke without switch (mm)	Max. stroke with switch (mm)
15	50, 100, 150, 200, 250, 300, 350 400, 450, 500	1000	750
20	100, 150, 200, 250, 300, 350, 400 450, 500, 600, 700, 800	1500	1000
25			1200
32			
40	100, 150, 200, 250, 300, 350, 400 450, 500, 600, 700, 800, 900, 1000	2000	1500

Note 1) The longer the stroke, the larger the amount of deflection in a cylinder tube.
Pay attention to the mounting bracket and clearance value.
Note 2) Intermediate stroke is available by the 1 mm interval.

*Specifications and dimensions for the 91-series are the same as standard products.

Applicable Auto Switches/Refer to pages 62 to 65 for further information on auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (output)	Load voltage		Auto switch model	Lead wire length (m)	Pre-wired connector		Applicable load	
					DC	AC		3(L)	SDPC			
Solid state switch	Diagnostic indication (2-color display)	Grommet	Yes	2-wire	24 V	12 V	M9BW	●	●	—	Relay, PLC	
Reed switch	—		No				A90	●	—	IC circuit		

*Additional symbols for auto switch: Lead wire length 3 m.....L Example: M9BWL
With pre-wired connector.....SDPC M9BWSDPC

*Order part numbers for auto switches alone are D-M9BWL-900, D-M9BWSDPC-900 and D-A90L-900.

*Models D-M9BWVL-900 or M9BWVSDPC-900 cannot be mounted.

*The auto switch is shipped together but not assembled.

*Refer to pages 66 to 68 for details on the auto switch mounting brackets.

Air Slide Table

90-91-MXS Series

How to Order



Air slide table **90** - MXS **16** **50** AS - **M9BWL**

Series compatible with secondary batteries

90	Material restriction
91	With lub-retainer

Port thread type

Nil	M thread	ø16
TN	NPT	ø20, ø25
TF	G	

Symmetric type

Nil	Standard type
L	Symmetric type

Bore size (Stroke (mm))

ø16	10, 20, 30, 40, 50, 75, 100, 125
ø20	10, 20, 30, 40, 50, 75, 100, 125, 150
ø25	10, 20, 30, 40, 50, 75, 100, 125, 150

Number of auto switches

Nil	2 pcs.
S	1 pc.
n	"n" pcs.

Auto switch

Nil	Without auto switch (Built-in magnet)
------------	---------------------------------------

*For the applicable auto switch models, refer to the table below.

Adjuster option

Nil	Without adjuster
AS	Adjuster on extension end
AT	Adjuster on retraction end
A	Adjuster on both ends
BS	Absorber on extension end
BT	Absorber on retraction end
B	Absorber on both ends
ASBT	Adjuster on extension end + Absorber on retraction end
BSAT	Absorber on extension end + Adjuster on retraction end

*Specifications and dimensions for the 90-series are the same as standard products.

Applicable Auto Switches/Refer to pages 62 to 65 for further information on auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage		Auto switch model		Lead wire length (m)	Pre-wired connector	Applicable load	
					DC	AC	Perpendicular	In-line				
Solid state switch	Diagnostic indication (2-color indication)	Grommet	Yes	2-wire	24 V	12 V	—	M9BWV	M9BW	●	●	—
Reed switch	—		No									
						100 V or less	—	A90	●	—	IC circuit	Relay, PLC

*Additional symbols for auto switch: Lead wire length 3 m.....L Example: M9BWL
With pre-wired connector.....SDPC M9BWSDPC

*Order part numbers for auto switches alone are D-M9BW(V)L-900, D-M9BW(V)SDPC-900 and D-A90L-900.

*The auto switch is shipped together but not assembled.

Air Slide Table

90-91-MXQ Series

ø6, ø8, ø12, ø16, ø20, ø25

How to Order



Series compatible with secondary batteries

90	Material restriction
91	With lub-retainer

Port thread type

Nil	M thread	ø6 to ø16
	Rc	
TN	NPT	ø20, ø25
TF	G	

Symmetric type

Nil	Standard type
L	Symmetric type

Bore size (Stroke mm)

ø6	10, 20, 30, 40, 50
ø8	10, 20, 30, 40, 50, 75
ø12	10, 20, 30, 40, 50, 75, 100
ø16	10, 20, 30, 40, 50, 75, 100, 125
ø20	10, 20, 30, 40, 50, 75, 100, 125, 150
ø25	10, 20, 30, 40, 50, 75, 100, 125, 150

Number of auto switches

Nil	2 pcs.
S	1 pc.
n	"n" pcs.

Auto switch

Nil	Without auto switch (Built-in magnet)
-----	---------------------------------------

*For the applicable auto switch model, refer to the table below.

Adjuster option

Nil	Without adjuster
AS	Extension end adjuster
AT	Retraction end adjuster
A	Double end adjuster
BS	Extension end absorber
BT	Retraction end absorber
B	Double absorber
CS	Extension end metal stopper
CT	Retraction end metal stopper
C	Double metal stopper
ASBT	Extension end adjuster + Retraction end absorber
ASCT	Extension end adjuster + Retraction end metal stopper
BSAT	Extension end absorber + Retraction end adjuster
BSCT	Extension end absorber + Retraction end metal stopper
CSAT	Extension end metal stopper + Retraction end adjuster
CSBT	Extension end metal stopper + Retraction end absorber

*90- and 91-series MXQ6 products do not have shock absorbers.

*Specifications and dimensions for the 90-series are the same as standard products.

Applicable Auto Switch/Refer to pages 62 to 65 for the detailed specifications of auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage		Auto switch model		Lead wire length (m)	Pre-wired connector	Applicable load	
					DC	AC	Perpendicular	In-line				
Solid state switch	Diagnostic indication (2-color indication)	Grommet	Yes	2-wire	24 V	12 V	—	M9BWV	M9BW	●	●	—
Reed switch	—		No									
						100 V or less	—	A90	●	—	IC circuit	Relay, PLC

*Additional symbols for auto switch: Lead wire length 3 m.....L Example: M9BWL
With pre-wired connector.....SDPC M9BWSDPC

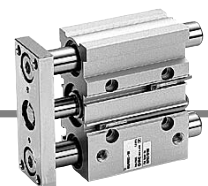
*Order part numbers for auto switches alone are D-M9BW(V)L-900, D-M9BW(V)SDPC-900 and D-A90L-900.

*The auto switch is shipped together but not assembled.

Compact Guide Cylinder

90-MGP Series

Ø12, Ø16, Ø20, Ø25, Ø32, Ø40, Ø50, Ø63



How to Order

Compact Guide Cylinder **90-MGP M 25-30-M9BWL**

Series compatible with secondary batteries

90	Material restriction
91	With lub-retainer

Compact Guide Cylinder

Bearing type

M	Slide bearing
L	Ball bushing bearing

Bore size

12	12 mm	32	32 mm
16	16 mm	40	40 mm
20	20 mm	50	50 mm
25	25 mm	63	63 mm

Auto switch

Nil	Without auto switch (Built-in magnet)
-----	---------------------------------------

*For the applicable auto switch model, refer to the table below.

Number of auto switches

Nil	2 pcs.
S	1 pc.
n	"n" pcs.

Cylinder stroke (mm)

12, 16	10, 20, 30, 40, 50, 75, 100, 125, 150, 175, 200, 250
20, 25	20, 30, 40, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400
32 to 63	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400

*Specifications and dimensions for the 90-series are the same as standard products.

Applicable Auto Switch/Refer to pages 62 to 65 for further information on auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage		Auto switch model		Lead wire length (m)	Pre-wired connector	Applicable load	
					DC	AC	Perpendicular	In-line				
Solid state switch	Diagnostic indication (2-color indication)	Grommet	Yes	2-wire	24 V	12 V	—	M9BWV	M9BW	●	●	—
Reed switch	—		No									
						100 V or less	—	A90	●	—	—	IC circuit

*Additional symbols for auto switch: Lead wire length 3 m.....L Example: M9BWL
With pre-wired connector.....SDPC M9BWSDPC

*Order part numbers for auto switches alone are D-M9BW(V)L-900, D-M9BW(V)SDPC-900 and D-A90L-900.

*The auto switch is shipped together but not assembled.

*Refer to pages 66 to 68 for details on the auto switch mounting brackets.

Minimum Operating Pressure for Products for 91-series Specifications

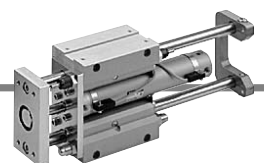
Bore size (mm)	12, 16, 20, 25	32, 40, 50, 63
Minimum operating pressure	0.2MPa	0.15MPa

Guide Cylinder

90-91-MGG Series

Ø20, Ø25, Ø32, Ø40, Ø50

How to Order



Series compatible with secondary batteries

90	Material restriction
91	With lub-retainer

Guide Cylinder

Bearing type

L	Ball bushing bearing
---	----------------------

Mounting style

B	Basic style
F	Front mounting flange style

Bore size

20	20 mm
25	25 mm
32	32 mm
40	40 mm
50	50 mm

Number of auto switches

Nil	2 pcs.
S	1 pc.
n	"n" pcs.

Auto switch

Nil	Without auto switch (Built-in magnet)
-----	---------------------------------------

*For the applicable auto switch model, refer to the table below.

Cylinder stroke (mm)

Bore size (mm)	Standard stroke (mm)	Long stroke (mm)
20	75, 100, 125, 150, 200	250, 300, 350, 400
25		350, 400, 450, 500
32		350, 400, 450, 500, 600
40	75, 100, 125, 150, 200, 250, 300	350, 400, 450, 500, 600, 700, 800
50		350, 400, 450, 500, 600, 700, 800, 900, 1000

*Intermediate strokes and short strokes other than the above are produced upon receipt of order.

*Specifications and dimensions for the 90-series are the same as standard products. Specifications for the 91-series are the same as standard products.

Applicable Auto Switch/Refer to pages 62 to 65 for further information on auto switches.

Applicable Auto Switch												
Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage		Auto switch model	Lead wire length (m)	Pre-wired connector	Applicable load		
					DC	AC		3(L)	SDPC			
Solid state switch	Diagnostic indication (2-color indication)	Grommet	Yes	2-wire	24 V	12 V	M9BW	●	●	—	Relay, PLC	
Reed switch	—		No			100 V or less	A90	●	—	IC circuit		

*Additional symbols for auto switch: Lead wire length 3 m.....L Example: M9BWL
With pre-wired connector.....SDPC M9BWSDPC

*Order part numbers for auto switches alone are D-M9BWL-900, D-M9BWSDPC-900 and D-A90L-900.

*Models D-M9BWL-900 or M9BWSDPC-900 cannot be mounted.

*The auto switch is shipped together but not assembled. (Only auto switch mounting brackets are assembled before shipment.)

*Refer to pages 66 to 68 for details on the auto switch mounting brackets.

Cylinder with Lock

Double Acting, Single Rod

90-91-CDNG Series

Ø20, Ø25, Ø32, Ø40

How to Order



With auto switch

90-CDNG L N 32-100-D-M9BWL

Series compatible with secondary batteries

90	Material restriction
91	With lub-retainer

With auto switch
(Built-in magnet)

Mounting style

B	Basic style
L	Axial foot style
F	Rod side flange style
G	Head side flange style
U	Rod side trunnion style
T	Head side trunnion style
D	Clevis style

*Mounting brackets are shipped together, (but not assembled).

Built-in Magnet Cylinder Model

If a built-in magnet cylinder without an auto switch is required, there is no need to enter the symbol for the auto switch.
(Example) 90-CDNGLN40-100-D

Cushion type

N	Rubber bumper
---	---------------

Bore size

20	20 mm
25	25 mm
32	32 mm
40	40 mm

Locking direction

D	Both directions
---	-----------------

Number of auto switches

Nil	2 pcs.
S	1 pc.
n	"n" pcs.

Auto switch

Nil	Without auto switch
-----	---------------------

*For the applicable auto switch model, refer to the table below.

Cylinder stroke (mm)

Bore size (mm)	Standard stroke (mm) (1)	Long stroke (mm)	Max. manufacturable stroke (mm)
20	25, 50, 75, 100, 125, 150, 200	201 to 350	1500
25	25, 50, 75, 100, 125, 150, 200, 250, 300	301 to 400	
32		301 to 450	
40		301 to 800	

Note 1) Intermediate strokes other than the above are produced upon receipt of order. Spacers are not used for intermediate strokes.

Note 2) Long strokes are applicable to the axial foot style and rod side flange style.

In the case of other mounting brackets or when long stroke limits are exceeded, the maximum useable stroke is determined by the stroke selection table (information edition).

*Specifications and dimensions for the 90-series are the same as standard products.
Specifications for the 91-series are the same as standard products.

Applicable Auto Switch/Refer to pages 62 to 65 for further information on auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage		Auto switch model	Lead wire length (m)	Pre-wired connector	Applicable load	
					DC	AC		3(L)	SDPC		
Solid state switch	Diagnostic indication (2-color indication)	Grommet	Yes	2-wire	24 V	12 V	M9BW	●	●	—	Relay, PLC
Reed switch	—		No				A90	●	—	IC circuit	

*Additional symbols for auto switch: Lead wire length 3 m.....L
With pre-wired connector.....SDPC
Example: M9BWL
M9BWSDPC

*Order part numbers for auto switches alone are D-M9BWL-900, D-M9BWSDPC-900 and D-A90L-900.

*Models D-M9BWVL-900 or M9BWVSDPC-900 cannot be mounted.

*The auto switch is shipped together but not assembled. (Only auto switch mounting brackets are assembled before shipment.)

*Refer to pages 66 to 68 for details on the auto switch mounting brackets.

Mounting Bracket Part No.

Mounting bracket	Bore size (mm)			
	20	25	32	40
Axial foot *	91-CNG-L020	91-CNG-L025	91-CNG-L032	91-CNG-L040
Flange	91-CNG-F020	91-CNG-F025	91-CNG-F032	91-CNG-F040
Trunnion pin	90-CG-T020	90-CG-T025	90-CG-T032	90-CG-T040
Clevis **	90-CG-D020	90-CG-D025	90-CG-D032	90-CG-D040
Rod side pivot bracket	91-CNG-020-24	91-CNG-025-24	91-CNG-032-24	91-CNG-040-24
Head side pivot bracket	90-CG-020-24A	90-CG-025-24A	90-CG-032-24A	90-CG-040-24A

*When ordering foot bracket, order 2 pieces per cylinder.

**Clevis pin, retaining ring, and mounting bolt are shipped together with clevis style.

***Mounting bolts are included with the foot and flange styles.

Cylinder with Lock Double Acting, Single Rod

90-91-CDNA Series

Ø40, Ø50, Ø63, Ø80, Ø100



How to Order

With auto switch **90** - **CDNA** **L** **N** **50** - **100** - **D** - **M9BWL**

Series compatible with secondary batteries

90	Material restriction
91	With lub-retainer

With auto switch
(Built-in magnet)

Mounting style

B	Basic style
L	Axial foot style
F	Rod side flange style
G	Head side flange style
C	Single clevis style
D	Double clevis style
T	Center trunnion style

Type

N	Non-lube
----------	----------

Bore size

40	40 mm
50	50 mm
63	63 mm
80	80 mm
100	100 mm

Number of auto switches

Nil	2 pcs.
S	1 pc.
n	"n" pcs.

Auto switch

Nil	Without auto switch
------------	---------------------

*For the applicable auto switch model, refer to the table below.

Locking direction

D	Both directions
----------	-----------------

Cylinder stroke (mm)

Bore size (mm)	Standard stroke (mm) ⁽¹⁾	Long stroke (mm) ⁽²⁾
40	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400, 450, 500	800
50, 63	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400, 450, 500, 600	1000
80, 100	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400, 450, 500, 600, 700	ø80: 1000 ø100: 1000

Note 1) Intermediate strokes other than the above are produced upon receipt of order. Spacers are not used for intermediate strokes.

Note 2) Long stroke applies to the axial foot style and the rod side flange style.
When exceeding the stroke range for each bracket, determine the maximum strokes referring to the Selection Table (front matter 29 in Best Pneumatics No. 2).

Built-in Magnet Cylinder Model

If a built-in magnet cylinder without an auto switch is required, there is no need to enter the symbol for the auto switch.
(Example) 90-CDNALN40-100-D

*Specifications and dimensions for the 90-series are the same as standard products.
Specifications for the 91-series are the same as standard products.

Applicable Auto Switch/Refer to pages 62 to 65 for further information on auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage		Auto switch model		Lead wire length (m)	Pre-wired connector	Applicable load	
					DC	AC	Perpendicular	In-line				
Solid state switch	Diagnostic indication (2-color indication)	Grommet	Yes	2-wire	24 V	12 V	—	M9BWL	3(L)	SDPC	—	Relay, PLC
Reed switch	—		No									
						100 V or less	—	A90**			IC circuit	

*Additional symbols for auto switch: Lead wire length 3 m.....L
With pre-wired connector.....SDPC
Example: M9BWL M9BWLSDPC
**Models D-A90L-900 cannot be mounted on cylinders of ø50.

*Order part numbers for auto switches alone are D-M9BW(V)L-900, D-M9BW(V)SDPC-900 and D-A90L-900.
*The auto switch is shipped together but not assembled. (Only auto switch mounting brackets are assembled before shipment.)
*Refer to pages 66 to 68 for details on the auto switch mounting brackets.

Mounting Bracket Part No.

Bore size (mm)	40	50	63	80	100
Foot *	90-CA1-L04	90-CA1-L05	90-CA1-L06	90-CA1-L08	90-CA1-L10
Flange	90-CA1-F04	90-CA1-F05	90-CA1-F06	90-CA1-F08	90-CA1-F10
Single clevis	90-CA1-C04	90-CA1-C05	90-CA1-C06	90-CA1-C08	90-CA1-C10
Double clevis **	90-CA1-D04	90-CA1-D05	90-CA1-D06	90-CA1-D08	90-CA1-D10

* When ordering foot bracket, order 2 pieces per cylinder.

**Clevis pin, plain washer, and cotter pin are shipped together with double clevis style.

Compact Cylinder with Lock Double Acting, Single Rod

90-91-CDLQ Series

ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100



How to Order

With auto switch

90-CDLQ B 40-30 D - F - M9BWL

Series compatible with secondary batteries

90	Material restriction
91	With lub-retainer

With auto switch
(Built-in magnet)

Mounting style

ø20, ø25

B	Through-hole/ Both ends tapped common (Standard)
L	Foot style
F	Rod side flange style
G	Head side flange style
D	Double clevis style

B	Through-hole (Standard)
A	Both ends tapped style
L	Foot style
F	Rod side flange style
G	Head side flange style
D	Double clevis style

*Mounting bracket is shipped together, (but not assembled).

Built-in Magnet Cylinder Model

If a built-in magnet cylinder without an auto switch is required, there is no need to enter the symbol for the auto switch.
(Example) 90-CDLQL32-30D-B

*Specifications and dimensions for the 90-series are the same as standard products.
Specifications for the 91-series are the same as standard products.

Bore size

20	20 mm
25	25 mm
32	32 mm
40	40 mm
50	50 mm
63	63 mm
80	80 mm
100	100 mm

Action

D	Double acting
---	---------------

Cylinder stroke (mm)

Bore size (mm)	Standard stroke (mm)
20, 25	5, 10, 15, 20, 25, 30, 35, 40, 45, 50
32, 40, 50, 63, 80, 100	10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100

Number of auto switches

Nil	2 pcs.
S	1 pc.
n	"n" pcs.

Auto switch

Nil	Without auto switch
-----	---------------------

*For the applicable auto switch model, refer to the table below.

Locking direction

F	Extension locking
B	Retraction locking

Body option

Nil	Standard (Rod end female thread)
C	With rubber bumper
M	Rod end male thread
CM	With rubber bumper, Rod end male thread

Applicable Auto Switch/Refer to pages 62 to 65 for detailed specifications of auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage		Auto switch model		Lead wire length (m)	Pre-wired connector	Applicable load	
					DC	AC	Perpendicular	In-line				
Solid state switch	Diagnostic indication (2-color indication)	Grommet	Yes	2-wire	24 V	12 V	—	M9BWV	M9BW	●	●	—
Reed switch	—		No									
												Relay, PLC
												IC circuit

*Additional symbols for auto switch: Lead wire length 3 m.....L
With pre-wired connector.....SDPC
Example: M9BWL
M9BWSDPC

*Order part numbers for auto switches alone are D-M9BW(V)L-900, D-M9BW(V)SDPC-900 and D-A90L-900.

*When mounting the D-M9BW(V)L-900, M9BW(V)SDPC-900, or A90L-900 on cylinders with ø32 to ø50 other than on the port face, order the auto switch mounting brackets separately. Refer to page 66 for details.

*When using mounting brackets (foot, head side flange, or double clevis), an auto switch may or may not be mounted later. Confirm specifications.

Mounting Bracket Part No.

Bore size (mm)	Foot ⁽¹⁾	Flange	Double clevis ⁽³⁾	Bore size (mm)	Foot ⁽¹⁾	Flange	Double clevis ⁽³⁾
20	91-CLQ-L020	91-CLQ-F020	91-CLQ-D020	50	91-CLQ-L050	91-CLQ-F050	91-CLQ-D050
25	91-CLQ-L025	91-CLQ-F025	91-CLQ-D025	63	91-CLQ-L063	91-CLQ-F063	91-CLQ-D063
32	91-CLQ-L032	91-CLQ-F032	91-CLQ-D032	80	91-CLQ-L080	91-CLQ-F080	91-CLQ-D080
40	91-CLQ-L040	91-CLQ-F040	91-CLQ-D040	100	91-CLQ-L100	91-CLQ-F100	91-CLQ-D100

Note1) When ordering foot bracket, order 2 pieces per cylinder.

Note2) Parts belonging to each bracket are as follows. Foot, Flange: Body mounting screws, Double clevis: Clevis pin, type C retaining ring for shaft, Body mounting screws, Flat washer.

Note3) Clevis pin and retaining ring are included with the double clevis style.

Stopper Cylinder / Fixed Mounting Height

90-RSDQ Series

ø20, ø32, ø40, ø50

How to Order



With auto switch

90-RSDQ B 20 - 15 D - M9BWL

Series compatible with secondary batteries

90 Material restriction

With auto switch
(Built-in magnet)

Mounting bracket

B	Through-hole (Standard)
A	Both ends tapped style

Bore size

20	20 mm
32	32 mm
40	40 mm
50	50 mm

Port thread type

Nil	Rc	ø20 to ø50
TN	NPT	
TF	G	

Note) TF for ø20 indicates M5.

Cylinder stroke (mm)

20	10, 15, 20
32	10, 15, 20
40	20, 25, 30
50	20, 25, 30

Built-in Magnet Cylinder Model

If a built-in magnet cylinder without an auto switch is required, there is no need to enter the symbol for the auto switch.
(Example) 90-RSQB32-15D

Number of auto switches

Nil	2 pcs.
S	1 pc.

Auto switch

Nil	Without auto switch
-----	---------------------

*For the applicable auto switch model, refer to the table below.

Rod end configuration

Symbol	Configuration	Application
Nil	Round bar type	—
K	Chamfered type	—
R	Roller type	—
L	Lever type (Non-adjustable) ⁽¹⁾	Basic style

Note 1) The lever types are applicable only to ø32, ø40 and ø50.

Action

D	Double acting
B	Double acting with spring loaded
T	Single acting (Spring extend)

*Specifications and dimensions for the 90-series are the same as standard products.

Applicable Auto Switch/Refer to pages 62 to 65 for further information on auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage		Auto switch model		Lead wire length (m)	Pre-wired connector	Applicable load	
					DC	AC	Perpendicular	In-line				
Solid state switch	Diagnostic indication (2-color indication)	Grommet	Yes	2-wire	24 V	12 V	M9BWV	M9BW	●	●	—	Relay, PLC
Reed switch	—		No				—	A90	●	—		
						100 V or less					IC circuit	

*Additional symbols for auto switch: Lead wire length 3 m.....L
With pre-wired connector.....SDPC Example: M9BWL
M9BWSDPC

*Order part numbers for auto switches alone are D-M9BW(V)L-900, D-M9BW(V)SDPC-900 and D-A90L-900.

*When mounting the D-M9BW(V)L-900, M9BW(V)SDPC-900, or A90L-900 on cylinders with ø32 to ø50 other than on the port face, order the auto switch mounting brackets separately. Refer to page 66 for details.

Heavy Duty Stopper Cylinder

90-RSH/RS1H Series

ø20, ø32 ø50, ø63

How to Order



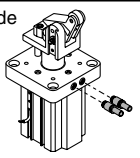
Bore size

20	20 mm
32	32 mm

Piping direction

Flange side

Nil



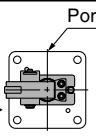
Cylinder stroke

15	15 mm (90-RSH20)
20	20 mm (90-RSH32)

Positional relationship of lever and port

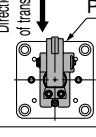
90-RSH20

Direction of transfer



90-RSH32

Direction of transfer



Heavy Duty Stopper Cylinder ø20, ø32

Heavy Duty Stopper Cylinder ø50, ø63

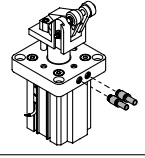
Series compatible with secondary batteries

90 Material restriction

Piping direction

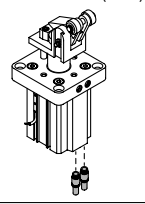
Flange side

Nil



Axial direction (tube)

A



Bore size

50	50 mm
63	63 mm

Cylinder stroke

30	30 mm (90-RS1H50, 63)
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Action

D	Double acting type
B	Double acting spring type
T	Single acting/Spring extended

Roller material

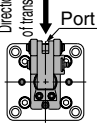
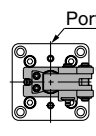
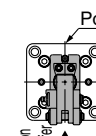
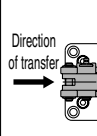
L	Resin
M	Carbon steel

Option Note 1)

Nil	Without option
D	With lock mechanism
C	With cancel cap

Note 1) Options can be combined. Indicate the part No. according to the priority order of D.C.

Positional relationship of lever and port

Nil		P		Q		R	
-----	---	---	---	---	---	---	---

Number of auto switches (auto switch number mounted)

Nil	2 pcs.
S	1 pc.

Auto switch

Nil	Without auto switch (Built-in magnet)
-----	---------------------------------------

*For the applicable auto switch model, refer to the table below.

*Specifications and dimensions for the 90-series are the same as standard products.

Applicable auto switches/Refer to pages 62 to 65 for detailed auto switch specifications.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage			Auto switch model		Lead wire length (m)	Pre-wired connector	Applicable load	
					DC	AC		Perpendicular	In-line				
Solid state switch	Diagnostic indication (2-color indication)	Grommet	Yes	2-wire	24 V	12 V	—	M9BWV	M9BW	●	●	—	Relay, PLC
Reed switch	—		No				100 V or less	—	Z80	●	—	IC circuit	

*Additional symbols for auto switch: Lead wire length 3 m.....L Example: M9BWL
With pre-wired connector.....SDPC M9BWSGPC

*Order part numbers for auto switches alone are D-M9BW(V)L-900, D-M9BW(V)SDPC-900 and D-Z80L-900.

*The auto switch is shipped together but not assembled.

*Refer to pages 66 to 68 for details on the auto switch mounting brackets.