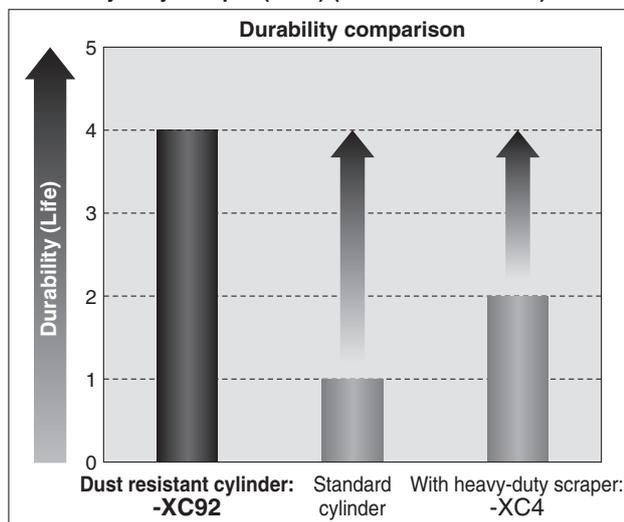


## Dust Resistant Cylinder Series CM2/CQS/CQ2/MGP-XC92

■ Applicable for environments with flying micro-powder such as ceramic powder, toner powder, paper powder, and metallic powder (except weld spatter).

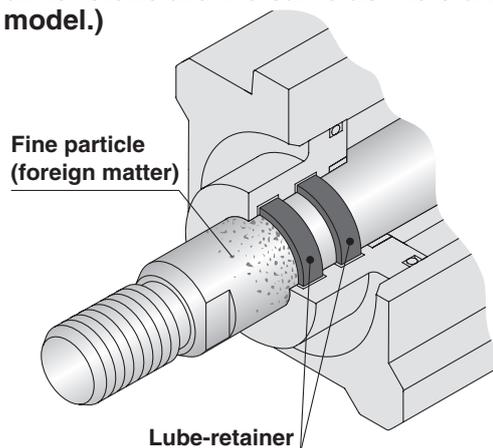
■ 4 times stronger than the standard model

Comparison with the standard model and model with heavy-duty scraper (-XC4) (Relative ratio of B<sub>10</sub>)



\* The durability test is conducted in accordance with SMC test conditions.

- 2 Lube-retainers on the rod cover prevent micro-powder of 30 μm or less from entering.
- The Lube-retainers create coat with grease on the piston rod for improving durability.
- The full length dimensions of the CQ2 and MGP series are compatible with models with a heavy-duty scraper (-XC4). (The CM2 series dimensions are the same as the standard model.)



Series CQ2-XC92

### Applicable Cylinder

Air Cylinder



Series **CM2-XC92**  
 ø20 to ø40

Compact Cylinder/  
 Compact Type



Series **CQS-XC92**  
 ø12 to ø25

Compact Cylinder



Series **CQ2-XC92**  
 ø32 to ø100

Compact Guide Cylinder



Series **MGP-XC92**  
 ø12 to ø100

### Specifications

Applicable series	Bore size (mm)	Minimum operating pressure
<b>CM2</b>	ø20 to ø40	0.1 MPa
<b>CQS</b>	ø12, ø16	0.14 MPa
	ø20, ø25	0.1 MPa
<b>CQ2</b>	ø32 to ø100	0.1 MPa

Specifications other than above are the same as standard model.

Applicable series	Bore size (mm)		Minimum operating pressure
<b>MGP</b>	<b>-XC92</b> (With lube-retainers on one side)	ø12, ø16	0.2 MPa
		ø20 to ø100	0.15 MPa
	<b>-XC92W</b> (With lube-retainers on both sides)	ø12, ø16	0.25 MPa
		ø20 to ø100	0.2 MPa

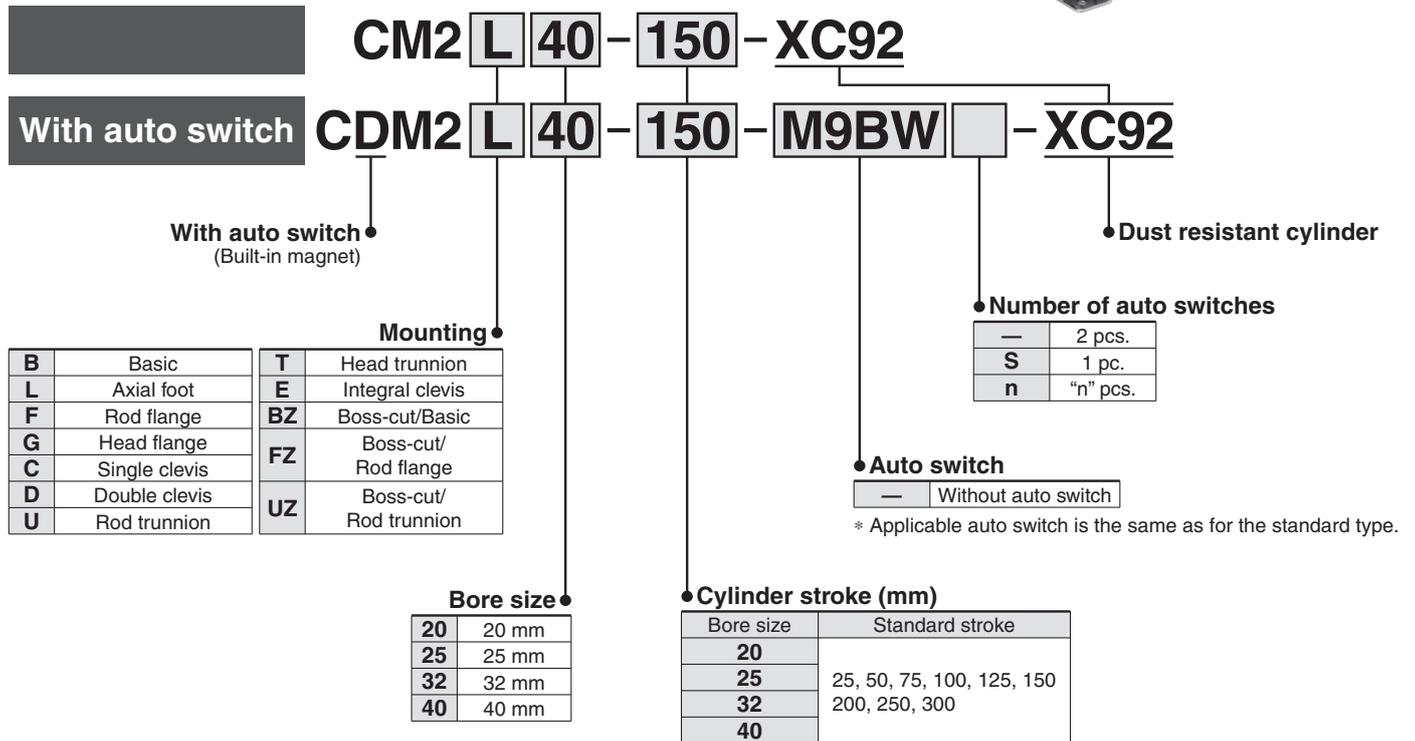
# Dust Resistant Cylinder

## Series *CM2-XC92*

ø20, ø25, ø32, ø40



### How to Order



### Dimensions

The CM2 series dimensions are the same as the standard model.

# Dust Resistant Cylinder

# CQS-XC92 Series

ø12, ø16, ø20, ø25



## How to Order

**CQS** **B** **20** - **30** **D** **□** - **XC92**

**With auto switch** **CDQS** **B** **20** - **30** **D** **□** - **M9BW** **□** - **XC92**

**With auto switch** (Built-in magnet)

**Mounting**

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

\* Mounting brackets are shipped together, (but not assembled).  
\* Cylinder mounting bolts are not included.

**Bore size**

<b>12</b>	12 mm
<b>16</b>	16 mm
<b>20</b>	20 mm
<b>25</b>	25 mm

**Cylinder stroke (mm)**

Bore size	Standard stroke
<b>12, 16</b>	5, 10, 15, 20, 25, 30
<b>20, 25</b>	5, 10, 15, 20, 25, 30 35, 40, 45, 50

**Number of auto switches**

<b>—</b>	2 pcs.
<b>S</b>	1 pc.
<b>n</b>	"n" pcs.

**Auto switch**

<b>—</b>	Without auto switch
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\* Applicable auto switch is the same as for the standard type.

**Cushion/Rod end thread**

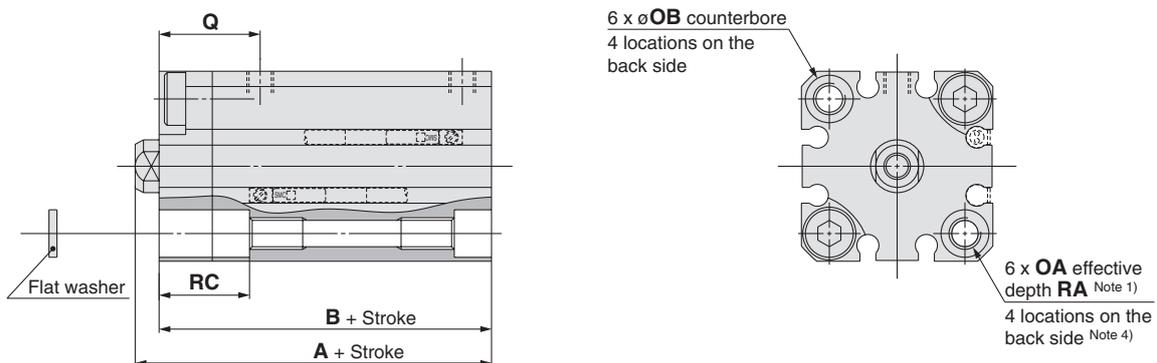
<b>—</b>	Standard (Rod end female thread)
<b>C</b>	With rubber bumper
<b>M</b>	Rod end male thread

\* Combination of body options is available.

**Action**

<b>D</b>	Double acting
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## Dimensions (Other dimensions are the same as the standard type.)



Note 1) For the standard type ø12 and ø16 with 5 strokes, ø20 with 15 strokes or less, and ø25 with 5 or 10 strokes, and for models with an auto switch and built-in magnet of ø20 with 5 strokes, the through-hole is threaded over the entire length.

Note 2) Be sure to use the attached flat washer for mounting cylinder with through-holes.

Note 3) For models with a rubber bumper, the stroke tolerance does not include bumper deflection.

Note 4) 2 locations on the back side for the standard-type ø20 with 15 strokes or less and ø25 with 5 strokes, and for models with an auto switch and built-in magnet.

Bore size (mm)	A		B		Q	OA	OB	RA	RC
	Without auto switch	With auto switch	Without auto switch	With auto switch					
<b>12</b>	30.5	35.5	27	32	17.5	M4 x 0.7	6.5	7	14
<b>16</b>	30.5	35.5	27	32	17.5	M4 x 0.7	6.5	7	14
<b>20</b>	34	44	29.5	39.5	19	M6 x 1.0	9	10	17
<b>25</b>	37.5	47.5	32.5	42.5	21	M6 x 1.0	9	10	17

# Dust Resistant Cylinder

## Series CQ2-XC92

ø32, ø40, ø50, ø63, ø80, ø100



### How to Order

**CQ2 B 32 - 30 D □ Z - XC92**

**With auto switch CDQ2 B 32 - 30 D □ Z - M9BW □ - XC92**

**With auto switch** (Built-in magnet)

**Mounting**

<b>B</b>	Through-hole (Standard)
<b>A</b>	Both ends tapped
<b>L</b>	Foot
<b>F</b>	Rod flange
<b>G</b>	Head flange
<b>D</b>	Double clevis

\* Mounting brackets are shipped together, (but not assembled).  
\* Cylinder mounting bolts are not included.

**Bore size**

<b>32</b>	32 mm
<b>40</b>	40 mm
<b>50</b>	50 mm
<b>63</b>	63 mm
<b>80</b>	80 mm
<b>100</b>	100 mm

**Cylinder stroke (mm)**

Bore size	Standard stroke
<b>32, 40</b>	5, 10, 15, 20, 25, 30, 35 40, 45, 50, 75, 100
<b>50 to 100</b>	10, 15, 20, 25, 30, 35 40, 45, 50, 75, 100

**Number of auto switches**

<b>—</b>	2 pcs.
<b>S</b>	1 pc.
<b>n</b>	"n" pcs.

**Auto switch**

<b>—</b>	Without auto switch
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\* Applicable auto switch is the same as for the standard type.

**Auto switch mounting groove**

<b>Z</b>	ø32 to ø100 4 surfaces
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**Body option**

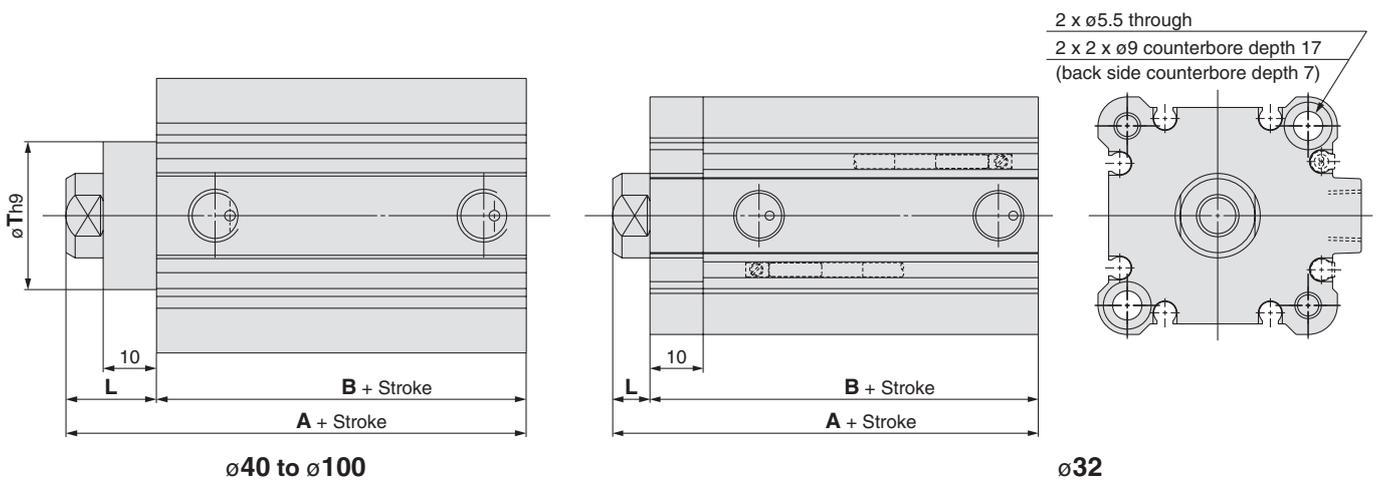
<b>—</b>	Standard (Rod end female thread)
<b>C</b>	With rubber bumper
<b>M</b>	Rod end male thread

\* Combination of body options is available.

**Action**

<b>D</b>	Double acting
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### Dimensions (Other dimensions are the same as the standard type.)



Bore size (mm)	A		B		L	T
	Without auto switch	With auto switch	Without auto switch	With auto switch		
<b>32</b>	40 (50)	50	33 (43)	43	7	—
<b>40</b>	46.5 (56.5)	56.5	29.5 (39.5)	39.5	17	28
<b>50</b>	48.5 (58.5)	58.5	30.5 (40.5)	40.5	18	35
<b>63</b>	54 (64)	64	36 (46)	46	18	35
<b>80</b>	63.5 (73.5)	73.5	43.5 (53.5)	53.5	20	43
<b>100</b>	75 (85)	85	53 (63)	63	22	59

(mm)

Note 1) For models with a rubber bumper, the stroke tolerance does not include bumper deflection.  
Note 2) Dimensions in ( ) indicates 75 st and 100 st

# Dust Resistant Cylinder

# Series MGP-XC92

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



## How to Order

**MGP M 25 - 30 - M9BW - XC92**

**Compact guide cylinder**

**Bearing type**  

M	Slide bearing
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**Bore size**

12	12 mm	40	40 mm
16	16 mm	50	50 mm
20	20 mm	63	63 mm
25	25 mm	80	80 mm
32	32 mm	100	100 mm

**Port thread type**

—	M5 x 0.8
N	Rc
TF	NPT
	G

\* For bore sizes 12 and 16, only M5 x 0.8 thread is available.

**Number of auto switches**

Symbol	Type	Drive unit	Guide unit	
			Rod end	Head end
—	With lube-retainers on one side	○	○	—
W	With lube-retainers on both sides	○	○	○

**Dust resistant cylinder**

**Number of auto switches**

—	2 pcs.
S	1 pc.
n	"n" pcs.

**Auto switch**

—	Without auto switch (Built-in magnet)
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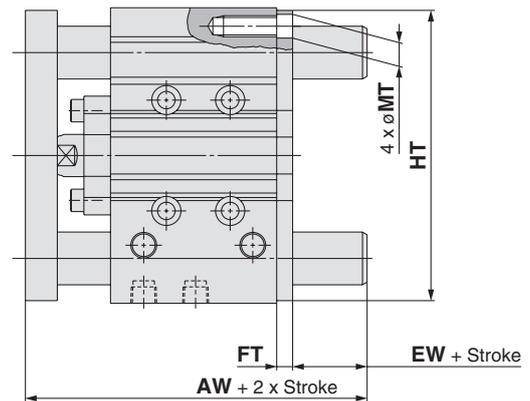
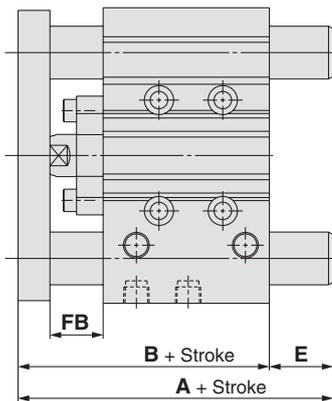
\* Applicable auto switch is the same as for the standard type.

**Cylinder stroke (mm)**

Bore size	Standard stroke
12, 16	10, 20, 30, 40, 50, 75, 100
20, 25	20, 30, 40, 50, 75, 100, 125, 150, 175, 200
32 to 100	25, 50, 75, 100, 125, 150, 175, 200

Diagram labels: Drive unit, Guide unit Rod end, Guide unit Head end.

## Dimensions (Other dimensions are the same as the standard type.)



### With lube-retainers on one side (mm)

Bore size (mm)	A		B	E		FB
	50 st or less	Over 50 st and 200 st or less*		50 st or less	Over 50 st and 200 st or less*	
12	52	70.5	52	0	18.5	15
16	56	74.5	56	0	18.5	15
20	63	94.5	63	0	31.5	16
25	63.5	95	63.5	0	31.5	16
32	97	112	69.5	27.5	42.5	20
40	97	112	76	21	36	20
50	106.5	128	82	24.5	46	22
63	106.5	128	87	19.5	41	22
80	125	152	106.5	18.5	45.5	28
100	147	172	126	21	46	35

### With lube-retainers on both sides (mm)

Bore size (mm)	AW	EW	FT	MT	HT
12	63	6	5	5	57
16	67	6	5	6	64
20	74	6	5	6	80
25	74.5	6	5	7	93
32	82.5	7	6	9	110
40	89	7	6	9	118
50	95	7	6	11	146
63	100	7	6	11	160
80	120.5	8	6	14	200
100	143	8	9	16	236

\* The standard stroke for ø12 and ø16 is 100 st.

## Safety Instructions

These safety instructions are intended to prevent hazardous situations and/or equipment damage. These instructions indicate the level of potential hazard with the labels of “**Caution**,” “**Warning**” or “**Danger**.” They are all important notes for safety and must be followed in addition to International Standards (ISO/IEC)\*1), and other safety regulations.

-  **Caution:** **Caution** indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.
-  **Warning:** **Warning** indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.
-  **Danger:** **Danger** indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.

- \*1) ISO 4414: Pneumatic fluid power – General rules relating to systems.  
ISO 4413: Hydraulic fluid power – General rules relating to systems.  
IEC 60204-1: Safety of machinery – Electrical equipment of machines.  
(Part 1: General requirements)  
ISO 10218-1: Manipulating industrial robots - Safety.  
etc.

### Warning

- 1. The compatibility of the product is the responsibility of the person who designs the equipment or decides its specifications.**  
Since the product specified here is used under various operating conditions, its compatibility with specific equipment must be decided by the person who designs the equipment or decides its specifications based on necessary analysis and test results. The expected performance and safety assurance of the equipment will be the responsibility of the person who has determined its compatibility with the product. This person should also continuously review all specifications of the product referring to its latest catalogue information, with a view to giving due consideration to any possibility of equipment failure when configuring the equipment.
- 2. Only personnel with appropriate training should operate machinery and equipment.**  
The product specified here may become unsafe if handled incorrectly. The assembly, operation and maintenance of machines or equipment including our products must be performed by an operator who is appropriately trained and experienced.
- 3. Do not service or attempt to remove product and machinery/equipment until safety is confirmed.**
  1. The inspection and maintenance of machinery/equipment should only be performed after measures to prevent falling or runaway of the driven objects have been confirmed.
  2. When the product is to be removed, confirm that the safety measures as mentioned above are implemented and the power from any appropriate source is cut, and read and understand the specific product precautions of all relevant products carefully.
  3. Before machinery/equipment is restarted, take measures to prevent unexpected operation and malfunction.
- 4. Contact SMC beforehand and take special consideration of safety measures if the product is to be used in any of the following conditions.**
  1. Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.
  2. Installation on equipment in conjunction with atomic energy, railways, air navigation, space, shipping, vehicles, military, medical treatment, combustion and recreation, or equipment in contact with food and beverages, emergency stop circuits, clutch and brake circuits in press applications, safety equipment or other applications unsuitable for the standard specifications described in the product catalogue.
  3. An application which could have negative effects on people, property, or animals requiring special safety analysis.
  4. Use in an interlock circuit, which requires the provision of double interlock for possible failure by using a mechanical protective function, and periodical checks to confirm proper operation.

### Caution

- 1. The product is provided for use in manufacturing industries.**  
The product herein described is basically provided for peaceful use in manufacturing industries.  
If considering using the product in other industries, consult SMC beforehand and exchange specifications or a contract if necessary.  
If anything is unclear, contact your nearest sales branch.

## Limited warranty and Disclaimer/ Compliance Requirements

The product used is subject to the following “Limited warranty and Disclaimer” and “Compliance Requirements”.

Read and accept them before using the product.

### Limited warranty and Disclaimer

1. The warranty period of the product is 1 year in service or 1.5 years after the product is delivered.\*2)  
Also, the product may have specified durability, running distance or replacement parts. Please consult your nearest sales branch.
2. For any failure or damage reported within the warranty period which is clearly our responsibility, a replacement product or necessary parts will be provided.  
This limited warranty applies only to our product independently, and not to any other damage incurred due to the failure of the product.
3. Prior to using SMC products, please read and understand the warranty terms and disclaimers noted in the specified catalogue for the particular products.

\*2) Vacuum pads are excluded from this 1 year warranty.

A vacuum pad is a consumable part, so it is warranted for a year after it is delivered. Also, even within the warranty period, the wear of a product due to the use of the vacuum pad or failure due to the deterioration of rubber material are not covered by the limited warranty.

### Compliance Requirements

1. The use of SMC products with production equipment for the manufacture of weapons of mass destruction (WMD) or any other weapon is strictly prohibited.
2. The exports of SMC products or technology from one country to another are governed by the relevant security laws and regulations of the countries involved in the transaction. Prior to the shipment of a SMC product to another country, assure that all local rules governing that export are known and followed.

## Safety Instructions

Be sure to read “Handling Precautions for SMC Products” (M-E03-3) before using.

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