Microspeed Cylinders

CJ2X/CUX/CQSX/CQ2X/CM2X

(ø10, ø16) (ø10 to ø32) (ø12 to ø25) (ø32 to ø100) (ø20 to ø40)

Clean room compatible
Series 10-/11-

Achieves stable low speed operation even at 0.5mm/s (1mm/s for ø16 bore size or smaller)
Minimum operating pressure reduced (Low friction characteristics improved)

Series CQ2X now includes four brand-new large bore sizes: ø50, ø63, ø80, and ø100.

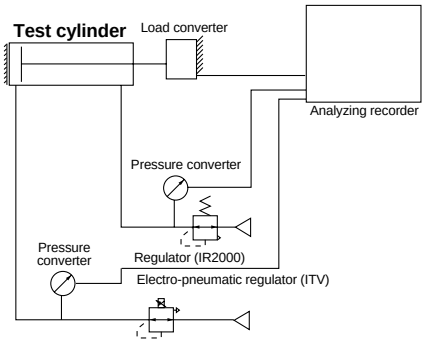
ORDER ONLINE

Microspeed Cylinders

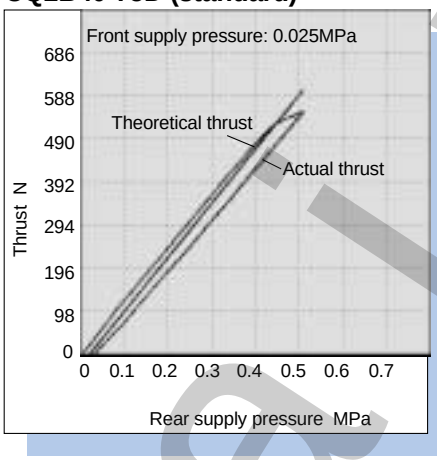
Improved low friction characteristics (CM2X, CQSX, CQ2X)

Minimum operating pressure is reduced in half (compared to previous version) while achieving stable thrust.

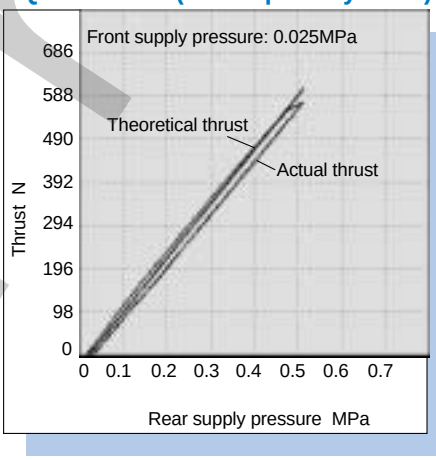
Measurement circuit of cylinder output relative to supply pressure



CQ2B40-75D (standard)



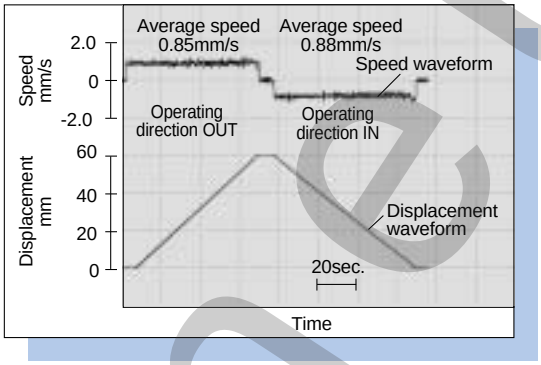
CQ2XB40-75D (microspeed cylinder)



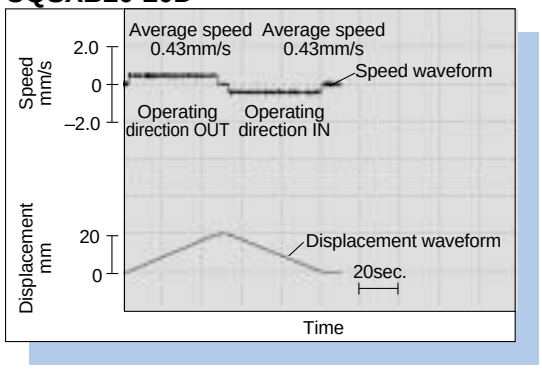
Stable low speed operation even at 0.5mm/s (1mm/s for ø16 bore size or smaller) is achieved.

Operates smoothly with minimal stick-slip

CJ2XB10-60



CQSXB20-20D

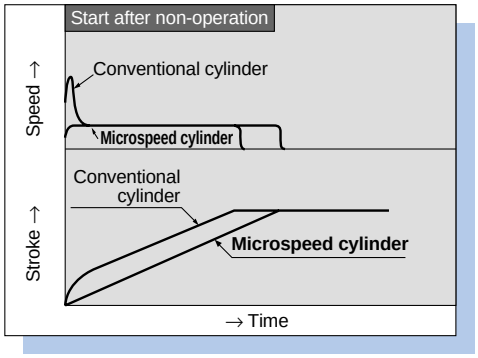


Note 1) The average speed is obtained by dividing the stroke by the movement time of the piston rod.
Note 2) The OUT operating direction is considered to be positive with regard to speed.

Data conditions
- Working fluid ..... Air
- Mounting orientation ... Horizontal no-load
- Operating pressure 0.35MPa
- Operating circuit ..... Meter-in

Possible low speed transfer of work pieces that cannot tolerate shock

Capable of smooth starts with minimal lurching even after long periods of no operation.



The dimensions of all models are the same as those of standard cylinders.

Addition of clean room specifications (10-/11-CQSX, CQ2X, CM2X)

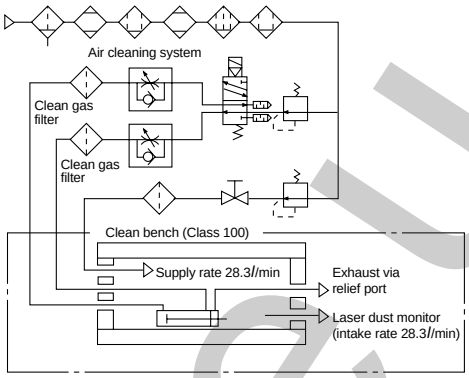
Particulate generation data for microspeed cylinder with clean room specifications are measured using the following test method.

[Example of test method]

The test sample is placed in an acrylic chamber. The chamber is set up on a Class 100 clean bench. The solenoid valve is operated while supplying a volume of clean air equal to the intake volume of a laser dust monitor (28.3//min). The amount of particle generation is measured for a specified number of operating cycles.

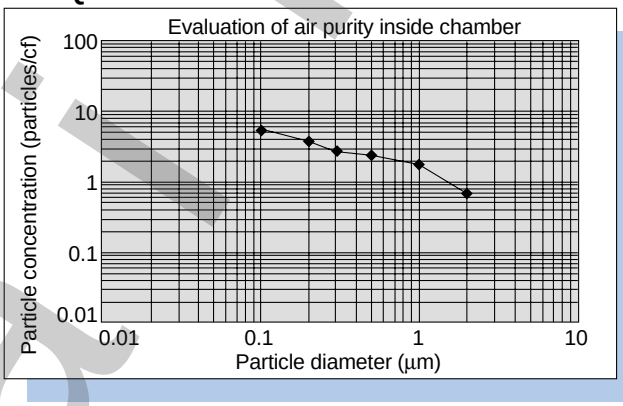
Measuring conditions

Chamber volume	15/
Purity of air supplied to chamber	Same quality as supply air
Laser dust monitor	Hitachi Electronics Engineering Corporation TS-6200 Min. measurable particle dia.: 0.1μm Intake rate: 28.3//min
Laser dust monitor setting conditions	Sampling time: 5min Interval time: 55min
Cylinder operating conditions	Operation frequency: 30cpm Average piston speed: 100mm/s Mounting: Horizontal no-load Supply pressure: 0.5MPa

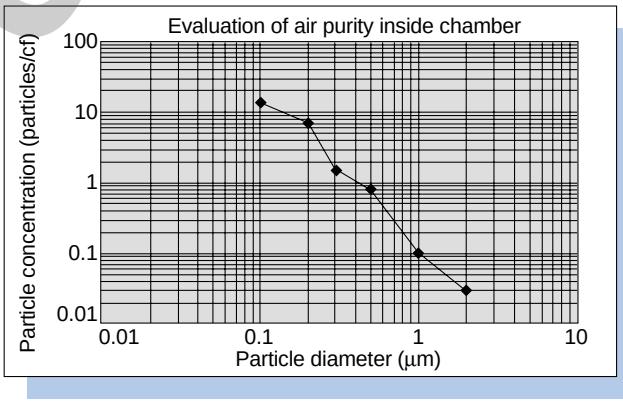


Particulate generation measuring circuit

10-CQSXB20-50D



10-CM2XB20-50



Applicable Cylinders: Series CQ2X now includes four brand-new large bore sizes: ø50, ø63, ø80, and ø100.

Air Cylinder
Series CJ2X

Bore sizes (mm)	Min. operating pressure (MPa)	Min. piston speed (mm/s)
10, 16	0.06	1

Free Mount Cylinder
Series CUX

Bore sizes (mm)	Min. operating pressure (MPa)	Min. piston speed (mm/s)
10, 16	0.06	1
20, 25, 32	0.05	0.5

Compact Cylinder
Series CQ2X

Bore sizes (mm)	Min. operating pressure (MPa)	Min. piston speed (mm/s)
32, 40	0.025	0.5
50, 63, 80, 100	0.01	0.5

Compact Cylinder
Series 10-/11-CQ2X

Bore size (mm)	Min. operating pressure (MPa)	Min. piston speed (mm/s)
32, 40	0.035 (0.025)	1 (0.5)

Figures in ( ) are for 11-CQ2X

Compact Cylinder
Series CQSX

Bore sizes (mm)	Min. operating pressure (MPa)	Min. piston speed (mm/s)
12, 16	0.03	1
20, 25	0.025	0.5

Compact Cylinder
Series 10-/11-CQSX

Bore sizes (mm)	Min. operating pressure (MPa)	Min. piston speed (mm/s)
12, 16	0.04 (0.03)	1 (1)
20, 25	0.035 (0.025)	1 (0.5)

Figures in ( ) are for 11-CQSX.

Air Cylinder
Series CM2X

Bore sizes (mm)	Min. operating pressure (MPa)	Min. piston speed (mm/s)
20, 25, 32, 40	0.025	0.5

Air Cylinder
Series 10-/11-CM2X

Bore size (mm)	Min. operating pressure (MPa)	Min. piston speed (mm/s)
20, 25, 32, 40	0.035 (0.025)	1 (0.5)

Figures in ( ) are for 11-CM2X.