

Series **CLEAN**

CR/CV Clean Cylinder

Bore Size : CR/CV-ARD Ø50, Ø63

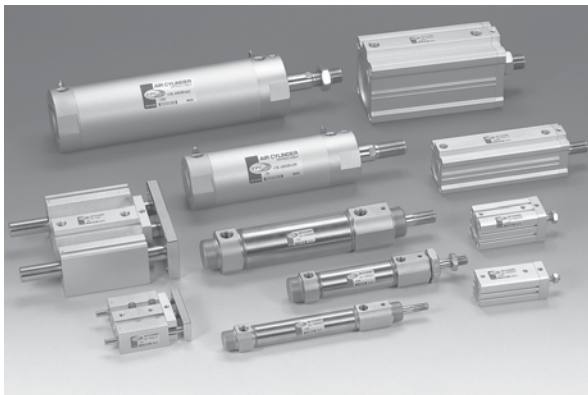
CR/CV-AQ2 Ø12, Ø16, Ø20, Ø25, Ø32, Ø40, Ø50, Ø63, Ø80, Ø100

CR/CV-AX Ø20, Ø25, Ø32, Ø40

CR/CV-AGL Ø12, Ø16, Ø20, Ø25, Ø32, Ø40, Ø50, Ø63

CR/CV-NGQL Ø12, Ø16, Ø20, Ø25, Ø32, Ø40, Ø50, Ø63

CR/CV/SC-NLCD Ø8, Ø16, Ø20, Ø25, Ø32

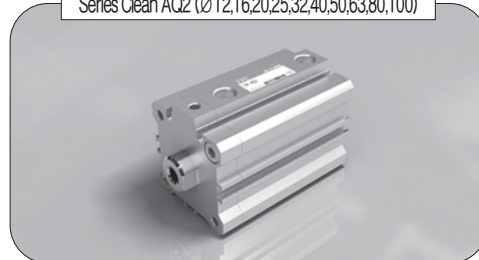


- TPC CLEAN SERIES CARRIES OUT OSCILLATION TEST, SO THAT IT IS POSSIBLE TO USE CLEANLY IN CLASS 10~CLASS1000 ALONG OSCILLATION LEVEL OF EQUIPMENT.
- PARTICLES ARE NOT ALLOWED TO COME INTO CLEAN ROOM.
- BLOWING IS IMPLEMENTED (CLEAN BOOTH/CLASS 100) USING HIGHLY CLEANING AIR WITHIN CLEAN ENVIRONMENT AFTER THE TEST.
- 2 LAYERS OF STATIC ELECTRICITY PREVENTING VINYL ARE APPLIED FOR PACKING.

Series Clean AX (Ø20,25,32,40)



Series Clean AQ2 (Ø12,16,20,25,32,40,50,63,80,100)



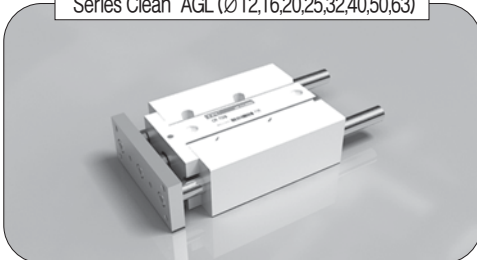
Series Clean NLCD (Ø8,16,20,25,32)



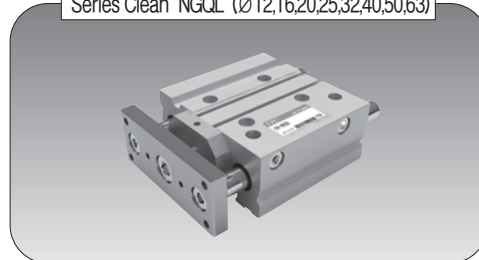
Series Clean ARD (Ø50,63)



Series Clean AGL (Ø12,16,20,25,32,40,50,63)



Series Clean NGQL (Ø12,16,20,25,32,40,50,63)



Series **CR(CV)–ARD**


Clean Series Round Cylinder

Bore Size : Ø50, Ø63



- CYLINDER IN LOW PARTICLE GENERATION FOR CLEAN ROOM.
- PISTON ROD IS MADE IN THE MATERIAL QUALITY OF STAINLESS STEEL TO ENHANCE RESISTANCE AGAINST MOISTURE AND OTHER CHEMICALS.
- EXCLUSIVE GREASE USE, DUST GENERATION IS MINIMIZED WHEN CYLINDER IS ACTING.

How to Order

CR(CV) — **ARD** **B** **A** **50** — **150** — **W5** 

1
2
3
4
5
6
7
8

[1] Clean Series

CR : relief port type
CV : vacuum suction type

[2] Round Cylinder

Magnet, bumper, non-lube types are standard

[3] Mounting

B : basic type
※ For foot and flange type, please contact us.

[4] Cushion(rubber cushion is provided.)

Blank : rubber cushion
A : air cushion

[5] Bore Size

50 : 50mm
63 : 63mm

[6] Stroke(mm)

Stroke : 20~300
※ For long stroke, please contact us for confirmation.

[7] Auto Switch

– Reed switch
– Band attached type(grommet)
: W5
※ The length of lead wire is 0.5m (standard).
For 3m, L is added to the end of part number.
ex) W5L

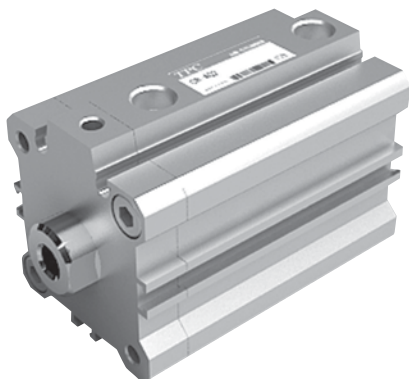
[8] Number of Auto Switches

Blank : 2 pcs
S : 1 pc
N : N pcs

Series **CR(CV)–AQ2/ADQ2**


Clean Series Compact Cylinder(square tube)/Double Acting, Single Rod

Bore Size(mm) : Ø12, Ø16, Ø20, Ø25, Ø32, Ø40, Ø50, Ø63, Ø80, Ø100



- CYLINDER IN LOW PARTICLE GENERATION FOR CLEAN ROOM
- PISTON ROD IS MADE IN THE MATERIAL QUALITY OF STAINLESS STEEL TO ENHANCE RESISTANCE AGAINST MOISTURE AND OTHER CHEMICALS
- EXCLUSIVE GREASE USE, DUST GENERATION IS MINIMIZED WHEN CYLINDER IS ACTING
- SINCE THE TOTAL LENGTH IS COMPACT TYPE, IT SAVES THE INSTALLING SPACE. BEING USED FOR CLAMP OR CHUCK OF SMALL PARTS, IT FACILITATES COMPACT DESIGN OF VARIOUS TOOLS OR EXCLUSIVE EQUIPMENT

How to Order

CR(CV) — A D Q 2 B 20 — 30 D M — W4 

1 2 3 4 5 6 7 8 9

1 Clean Series

CR : Relief port type
CV : Vacuum suction type

2 Built-in Magnet

Blank : Without Magnet
D : Built-in Magnet

3 Mounting

B : Ø 12, Ø 16, Ø 20, Ø 25
Penetrating hole, common tap
at both ends(standard)
Ø 32, Ø 40, Ø 50, Ø 63
Penetrating hole(standard)

4 Bore Size

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

5 Stroke(mm)

Bore : Stroke
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, 63 : 10, 15, 20, 25, 30, 35, 40, 45, 50,
75, 100

6 Action

D : Double acting

7 Feature of Body

Blank : Standard type
(female screw at the end of rod)
M : Male screw at the end of rod

8 Auto Switch

Blank : None
(cylinder with built-in magnet)
W8,W9(H,V) : compact auto switch(Ø 4)
H : Horizontal type, V : Vertical type
※ W8,W9 type is basic for square
tube of Ø 12~Ø 25.

※ W4 type is basic for Ø 32~Ø 63.

※ For length of lead wire over 3m, L
is added to the end of part number.(W9HL)

※ For length of lead wire over 5m,
please contact us.

9 Number of auto switches

Blank : 2 pcs
S : 1 pc
N : N pcs

! Cautions

* Production of middle stroke
By installing spacer in the
cylinder of standard stroke, it is
possible to produce middle
stroke at every 3mm.
Ex) For AQ2B20-37D, spacer
with width of 13mm is installed in
the cylinder of standard stroke
AQ2B20-50D.

Series **CR(CV)–AX**

Clean Series Small Cylinder/Double Acting, Single Rod

Bore Size : Ø20, Ø25, Ø32, Ø40



- CYLINDER IN LOW PARTICLE GENERATION FOR CLEAN ROOM
- PISTON ROD IS MADE IN THE MATERIAL QUALITY OF STAINLESS STEEL TO ENHANCE RESISTANCE AGAINST MOISTURE AND OTHER CHEMICALS.
- EXCLUSIVE GREASE USE, DUST GENERATION IS MINIMIZED WHEN CYLINDER IS ACTING.
- COMPACT APPEARANCE AND LIGHTWEIGHT, EASY INSTALLATION.

CLEAN

CR(CV)
ARD

CR(CV)
AQ2/ADQ2

CR(CV)
AX

CR(CV)
AGL

CR(CV)
NGQL

CR(CV)
NLCD

LOW SPEED
CYLINDER

How to Order

CR(CV) — **AX** **B** **20** — **125** **A** — — **W5**

1 2 3 4 5 6 7 8 9

1 Clean Series

CR : Relief Port Type
CV : Vacuum Suction Type

2 Air Cylinder(Double Acting, Single Rod)

Basic type : Built-in magnet

3 Mounting

B : Basic type
L : Foot type in the axial direction
F : Type of flange at the rod side
G : Type of flange at the head side
BZ : Basic type of boss-cut
FZ : Flange type boss-cut

4 Bore Size

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

5 Stroke(mm)

20 : 25,50,75,100,125,150,175,200,250,300
25 : 25,50,75,100,125,150,175,200,250,300
32 : 25,50,75,100,125,150,175,200,250,300
40 : 25,50,75,100,125,150,175,200,250,300

6 Cushion

Blank : Rubber cushion type
A : Air cushion type
※ For boss-cut, only rubber cushion type is available.

7 Series

Blank : Standard type
XC16 : Copper-free

8 Auto Switch

Blank : None
(Cylinder with built-in magnet)
Reed switch
- Band attached type(grommet)
- W5
※ The standard length of lead wire is 0.5m
※ For length lead wire over 3m, L is added to the end of part number.
(EX) W5L
※ For length lead wire over 5m, please contact us.

9 Number of Auto Switches

Blank : 2 pcs
S : 1 pc
N : N pcs

Bracket/Parts Number

Bore size(mm)	20	25	32	40
Foot in the axial direction	TCM-L020B	TCM-L032B	TCM-L040B	
Flange	TCM-F020B	TCM-F032B	TCM-F040B	

※ Foot must be ordered in 2 units for 1 cylinder.

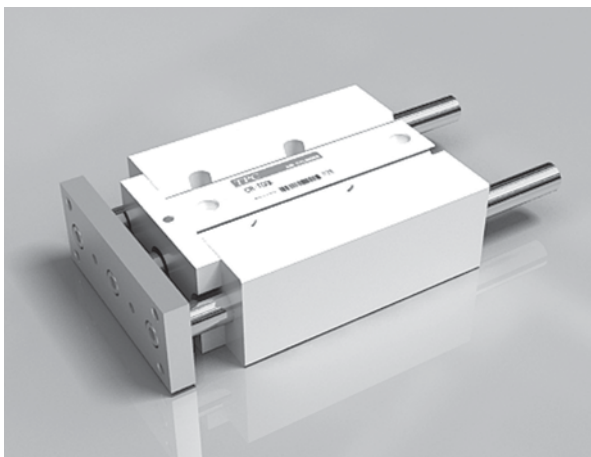
Band to Attach Auto Switch/Parts Number

Type of auto switch	Bore size(mm)			
	20	25	32	40
W5	TBM2-020	TBM2-025	TBM2-032	TBM2-040

Series **CR(CV)–AGL**


Clean Series Compact Guide Cylinder

Bore Size : Ø12, Ø16, Ø20, Ø25, Ø32, Ø40, Ø50, Ø63



- CYLINDER IN LOW PARTICLE GENERATION FOR CLEAN ROOM
- PISTON ROD IS MADE IN THE MATERIAL QUALITY OF STAINLESS STEEL TO ENHANCE RESISTANCE AGAINST MOISTURE AND OTHER CHEMICALS.
- EXCLUSIVE GREASE USE, DUST GENERATION IS MINIMIZED WHEN CYLINDER IS ACTING.
- GUIDE ONE-BODY TYPE THAT REALIZES COLD HORIZONTAL LOAD, HIGH PRECISION AND PREVENTION OF ROTATION

How to Order

CR(CV) — AG L 20 — 75 — W4 

1
2
3
4
5
6
7

[1] Clean Series

CR : Relief Port Type
CV : Vacuum Suction Type

[2] Compact Cylinder with Guide

Magnet, Bumper, No lubrication
Are Standard Type

[3] Bearing

L : Ball bush bearing

[4] Bore Size

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

[5] Stroke(mm)

12 : 10, 20, 30, 40, 50, 75, 100
16 : 10, 20, 30, 40, 50, 75, 100
20 : 20, 30, 40, 50, 75, 100
25 : 20, 30, 40, 50, 75, 100
32 : 25, 50, 75, 100, 125, 150

40 : 25, 50, 75, 100, 125, 150
50 : 25, 50, 75, 100, 125, 150
63 : 25, 50, 75, 100, 125, 150

[6] Auto Switch

Blank : None
(cylinder with built-in magnet)

Reed Switch

— W4(W4, 2 or 3 lines
DC 24V, AC110V)
— W13(2 lines, DC 24V, AC110V)

Reed Switch

— W1H(3 lines, DC 24V)

※ The standard length of lead wire is 0.5m
For length lead wire over 3m, L is added
to the end of part number.

ex) W13M, W1HL

(Ø12~25 : W13 and W1H are applied)

(Ø32~63 : W4 is applied)

[7] Number of Auto Switches

Blank : 2 pcs

S : 1 pc

N : N pcs

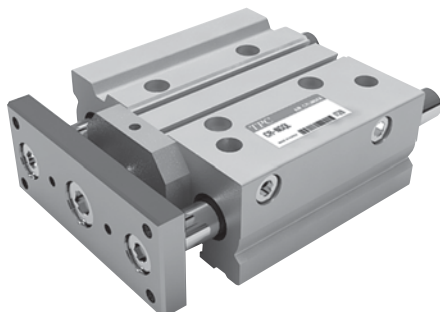
Cautions

* Production of middle stroke
By installing spacer in the cylinder of
standard stroke, it is possible to
produce middle stroke at every 5mm.
Ex) For AGL20~25, spacer with width
of 5mm is installed in the cylinder of
standard stroke AGL20~30.

Series **CR(CV)–NGQL**

Clean Series Compact Guide Cylinder

Bore Size : Ø12, Ø16, Ø20, Ø25, Ø32, Ø40, Ø50, Ø63



- A LOW PARTICLE CYLINDER FOR CLEAN ROOM
- STAINLESS PISTON ROD IS APPLIED IN ORDER TO STRENGTH ENDURANCE AGAINST WATER OTHER CHEMICALS
- A SPECIAL GREASE MINIMIZES THE AMOUNT OF PARTICLE RELEASED AS THE CYLINDER IS OPERATED

CLEAN

CR(CV)
ARD

CR(CV)
AQ2/ADQ2

CR(CV)
AX

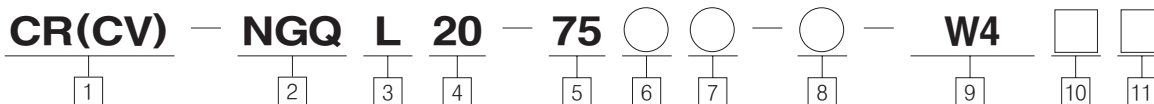
CR(CV)
AGL

CR(CV)
NGQL

CR(CV)
NLCD

LOW SPEED
CYLINDER

How to Order



1 Clean Series

CR : Relief Port Type

CV : Vacuum Suction Type

2 Compact Cylinder with Guide

Magnet, Bumper, No Lubrication

3 Bearing

L : Ball bush bearing

4 Bore Size

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

5 Stroke(mm)

Bore	Stroke(mm)
Ø12, Ø16	10, 20, 30, 40, 50, 75, 100, 125, 150, 175, 200
Ø20, Ø25	20, 30, 40, 50, 75, 100, 125, 150, 175, 200, 250, 300
Ø32, Ø40 Ø50, Ø63	25, 50, 75, 100, 125, 150, 175, 200, 250, 300

Note) For intermediate stroke, spacer can be used.

Note) Manufacturing middle stroke.

It is able to make a middle stroke cylinder by equipping a spacer to a standard stroke cylinder.

Ex) In case of NGQL 20–25, a 5mm spacer is equipped inside of NGQL 20–30

6 Port Size

Bore	Blank		U Type
Ø12, Ø16	M5×0.8		UNF
Bore	Blank	G Type	U Type
Ø20~100	RC	G	NPT

* Contact us if you need European or American port type.

7 Mounting

Blank : No side mounting hole

H : Side mounting hole

8 Series

Blank : Basic

XC16 : Cooper free

(Only L Type is available)

9 Auto Switch

Blank : None

(Built-in Magnetic)

W4 : Reed switch

W2P : Magnetism resistant switch

(φ 32~φ 100)

W8V : Reed switch (Vertical type)

W8H : Reed switch (Horizontal type)

W9V : Solid state switch (Vertical type)

W9H : Solid state switch (Horizontal type)

10 Length of Lead Wire

Blank : 0.5m

L : 3m

11 Number of Auto Switches

Blank : 2 pcs

S : 1 pc

N : N pcs

Caution

Manufacturing middle stroke.

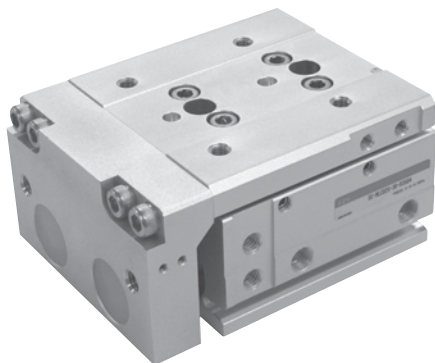
It is able to make a middle stroke cylinder by equipping a spacer to a standard stroke cylinder.

Ex) In case of NGQL 20–25, a 5mm spacer is equipped inside of NGQL 20–30

Series **CR(CV,SC)–NLCD**

Clean Series Table

Bore Size(mm) : Ø8, Ø16, Ø20, Ø25, Ø32



- CYLINDER IN LOW PARTICLE GENERATION FOR CLEAN ROOM.
- PISTON ROD IS MADE IN THE MATERIAL QUALITY OF STAINLESS STEEL TO ENHANCE RESISTANCE AGAINST MOISTURE AND OTHER CHEMICALS.
- EXCLUSIVE GREASE USE. DUST GENERATION IS MINIMIZED WHEN CYLINDER IS ACTING.

How to Order

CR(CV,SC) – NLCD 25 – 50 RF15R W8H S

1
2
3
4
5
6

1 Clean Series

CR : Relief Port Type
CV : Vacuum Suction Type
SC : Semi–Clean Type

2 New Linear Cylinder Double Rod (Built-in Magnet)

3 Bore Size(Ømm)–Stroke(mm)

8 : 10,20,30,40,50,75
16 : 10,20,30,40,50,75,100,125
20 : 10,20,30,40,50,75,100,125,150
25 : 10,20,30,40,50,75,100,125,150
32 : 30,75,100

※ Ø32: Semi Clean Type only

4 Adjuster Option

RF : Front Side
RB : Rear Side
R : RF+RB Adjusting Bolt
Blank : Left Side
R : Right Side
※ Adjustable Range : 5mm(Basic)
※ NLCD32 : unable shock-absorber

5 Auto Switch

Blank : None
W8H : Reed Switch(Horizontal Type)
W8V : Reed Switch(Vertical Type)
W9H : Solid State Switch(Horizontal Type)
W9V : Solid State Switch(Vertical Type)
W9HN : Solid State Switch(3 Wire, NPN)
W9HP : Solid State Switch(3 Wire, PNP)
※ Standard auto switch lead wire length is 1m. 3m leads available on all models by adding a "L" suffix to the part number.
(ex : W8HL, W9VL)

6 Number of Auto Switches

Blank : 2 pcs
S : 1 pc
N : N pcs

Specifications

Bore size	8, 16, 20, 25, 32
Type	Relief port Type Vacuum suction Type Semi–Clean Type
Operation	Double Acting
Port Size	Rc(PT) 1/4
Operating Pressure	0.15~0.7Mpa (1.5~7.1kgf/cm ²)
Proof Pressure	1.05Mpa (10.7kgf/cm ²)
Ambient and Fluid Temperature	–10~60℃
Piston Speed	50~500mm/s
Lubrication	Non–Lub
Auto Switch (Option)	Reed Switch :DC(24V)/AC(110V) Solid State Switch :DC(24V)
Stroke Tolerance	0~ +1mm
OPTION(STROKE ADJUST)	Rubber Damper (Front/Back/Both Side)

Low Speed Cylinder

- A cylinder with special specification which smoothly operates without stick slip under the condition lower than minimum operating speed of standard product

CLEAN

CR(CV)
ARD

CR(CV)
AQ2/ADQ2

CR(CV)
AX

CR(CV)
AGL

CR(CV)
NGQL

CR(CV)
NLCD

LOW SPEED
CYLINDER

How to Order

Standard Product Order Specification — XLS

1

2

1 Type

: Applied cylinder number
Ex) AQ2B32-50D-XLS

2 XLS

: Low speed cylinder

Applied piston speed : 5~50mm/sec

※ Other dimensions and specification are identical to standard product

Applied Cylinder Series

Index	Applied Tube Diameter
ACP	Ø6~Ø16
NLCD(S)	Ø6~Ø32
ADR	Ø10~Ø25
NDM	Ø10~Ø25
AS	Ø20~Ø40
AM	Ø20~Ø40
AGX	Ø20~Ø40
ARD	Ø20~Ø63
AQ2	Ø12~Ø125
AQ	Ø12~Ø25
TGQ, NGQ	Ø12~Ø100
AM2	Ø40~Ø100
AM	Ø40~Ø100
AL/ALX	Ø125~Ø200

Note1) Contact a manufacturer for application of cylinder beside the lists above.

Note2) Air cushion is not necessary for low speed operation, so that make an order without cushion for AM, AM2, AL/ALX (2) and ARD cylinders.

Ex) AM50-150N-XLS
ARDB40-150-XLS

Notices

- Operation beyond specified operation piston speed degrades cylinder durability.
- Since special lubricant is used, refueling may consume lubricant, which possibly causes degradation of performance.