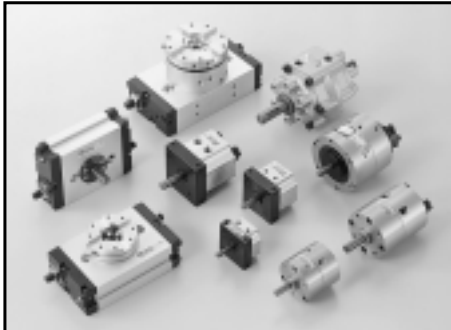


KURODA

PNEUMATIC EQUIPMENT

Actuators



Miniature HI-ROTOR/PRN Series
Standard Type,
Variable Oscillation Angle Type
Miniature HI-PAL HI-ROTOR/PRH Series
Cubic Mount HI-ROTOR/QR Series
Standard Type,
Variable Oscillation Angle Type
Step HI-ROTOR/SH Series
HI-ROTOR/PRN Series
Hydro-cushion/CRN Series
Hydraulic HI-ROTOR/HRN Series
Rotary Actuator
2-stop Position Type/RPM Series
Multi-stop Position Type/SRP Series
Rotary Table
2-stop Position Type/TRP,TRPJ Series
Multi-stop Position Type/TSR,TSRJ Series
Miniature Cylinder/Z3 Series
Standard Type, Double rod Type,
Custom Made
Miniature Cylinder/J1 Series
Standard Type, Double rod Type,
Direct Mount Type, Custom Made
Air Cylinder/K1 Series
Standard Type, Double Rod Type,
Custom Made
Air cylinder/A1 Series
Standard Type, Double Rod Type,
Custom Made
Cubic Mount Cylinder/Q1 Series
Standard Type,
Non-rotating Piston Rod Type
Flat Cylinder/X1 Series
Standard Type, Double Rod Type,
Custom Made
HI-PAL Cylinder
Air Cylinder With Lock Mechanism
Hybrid-arm
Float Coupler
Shock Absorber
Parallel Gripper/GPR Series
Grip & Rotated Parallel Gripper/GTS Series
Parallel Gripper With Cross Roller/GPCR Series
Parallel Gripper With Linear Guide/GPCL Series
Extremely Thin Parallel Gripper/GPDL Series
A Synchronous Type Parallel Gripper/GPEL Series
Crab Type Parallel Gripper/GPK Series
Rotating Gripper/GVC Series
Rotating Gripper 180 Finger Opening/GVH Series
Mechanical Type Parallel Gripper/GPML Series
Mechanical Type Parallel Gripper/GPM Series
Solenoid Valve for Vacuum VA01 Series
Multi-function Vacuum Unit/KPV Series
Vacuum Unit With Built-in Ejector/KEV Series
Vacuum Sensor
Vacuum Pad
High Accuracy Single Axis Module/SG Series
Light Duty Single Axis Module/KZG Series

Other Equipment



Speed controller With Push-in Fitting
Speed Controller
Metering Valve
Air Muffler
Cleanup Muffler
Miniature In-line Filter For Vacuum
Rotary Joint
Quick Exhaust Valve
Shuttle Valve
Check Valve
Perma-stop
Push-in Fitting
Miniature Fitting
Tube
Spiral Tube
Multi Straight Tube

Directional Control Valves



2 Port Solenoid Valve/AS Series
2,3,4 Port Solenoid Valve/SS Series
3,4 Port Miniature Solenoid Valve/SS Series
4 Port Miniature Solenoid Valve/PC1B,RC1B Series
3,5 Port Miniature Solenoid Valve/PC2,RC2 Series
3,5 Port Solenoid Valve/PC5,RC5 Series
3,5 Port Solenoid Valve/PC13,RC13 Series
4,5 Port Latched Type Solenoid Valve
5 Port Solenoid Valve/PC06,RC06 Series
5 Port Solenoid Valve/PC08,RC08 Series
5 Port Solenoid Valve/PC15 Series
3 Port Miniature Solenoid Valve/A00 Series
5 Port Solenoid Valve/A05,12,20 Series
5 Port Solenoid Valve/K20 Series
3,5 Port Solenoid Valve/PM Series
3,5 Port Solenoid Valve/A Series
Manual Control Valve/HV Series
Micro Valve
Manual Valve/M Series
Mechanical Valve/M Series
3,5 Port Air Operated Valve/VC Series
3,5 Port Air Operated Valve/YC Series
5 Port Air Operated Valve/VM Series
3,5 Port Air Operated Valve/V Series
Air Operated Ball Valve/Gemini Valve

Air Cleaning Equipment



QUBE Series Air Combination Unit
QUBE Series Air Combination Unit
QUBE Series Air Filter
QUBE Series Coalescing Filter
QUBE Series Sludge Filter
QUBE Series Air Regulator
QUBE Series Air Lubricator
QUBE Series Integral Filter-Regulator
QUBE Series Shut-off Valve
Air Combination Unit
 Miniature Type
Air Combination Unit
 Miniature Type
Air Filter Miniature Type
Sludge Filter Miniature Type
Micro Mist Filter Miniature Type
Air Regulator Miniature Type
Air Lubricator Miniature Type
Integral Filter-Regulator
 Miniature Type
Relief Valve
Pressure Gage
Air Dryer/KAD Series
Membrane type Air Dryer Q-Fit Dryer/KMD Series

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Equipment**

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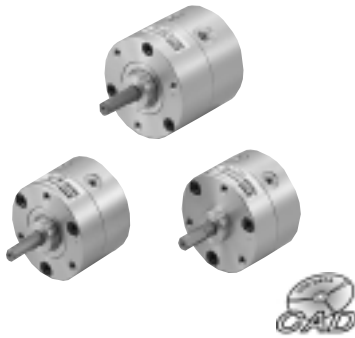
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LIBRARY**

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Actuators

MINIATURE HI-ROTOR PRN Series

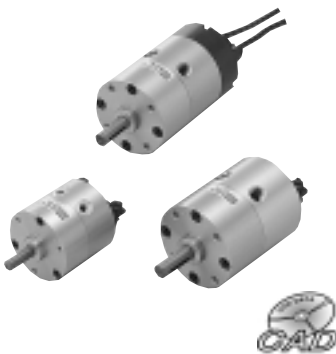
Vane type rotary actuator



Model No.	Vane type	Oscillation angle	Oscillation starting point	Output torque (N·cm)	Pressure range (MPa)		
PRNA1S	Single vane	90°	45°、90°	12.9	0.2 ~ 0.7		
		180°					
		270°	45°				
PRNA3S		90°	45°、90°	31		0.2 ~ 0.7	
		180°					
		270°	45°				
PRNA10S		90°	45°、90°	98			0.2 ~ 1
		180°					
		270°	45°				
PRNA20S	90°	45°、90°	170	0.2 ~ 1			
	180°						
	270°	45°					
PRN30S	90°	45°	319		0.2 ~ 1		
	180°						
	270°						
PRNA1D	Double vane	90°	45°			28.6	0.2 ~ 0.7
PRNA3D		90°	45°			71	
PRNA10D		90°	45°			211	
PRNA20D		90°	45°	388		0.2 ~ 1	
PRN30D		90°	45°	770			

Proximity switch unit mountable.
(Note) Output torque is the value at 0.5 MPa.

MINIATURE HI-ROTOR VARIABLE OSCILLATION ANGLE TYPE PRO Series

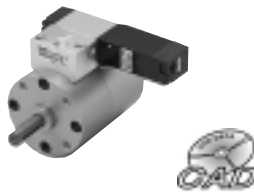


Model No.	Vane type	Oscillation angle	Oscillation starting point	Output torque (N·cm)	Pressure range (MPa)
PROA3S	Single vane	30 ~ 180°	90°	31	0.2 ~ 0.7
PROA10S				98	
PROA20S				170	
PRO30S	30 ~ 270°	45°	319	0.2 ~ 1	
PROA3D	Double vane	30 ~ 90°	45°	71	0.2 ~ 0.7
PROA10D				211	
PROA20D				388	0.2 ~ 1
PRO30D				770	

Proximity switch unit mountable.
(Note) Output torque is the value at 0.5 MPa.

MINIATURE HI-PAL HI-ROTOR PRH Series

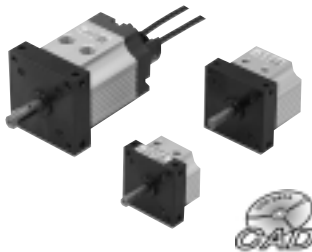
Valve combined HI-ROTOR



Model No.	Vane type	Oscillation angle	Oscillation starting point	Output torque (N·cm)	Pressure range (MPa)	Valve model
PRHA10S	Single vane	90°	45°、90°	98	0.2 ~ 0.7	PCS245
		180°				
		270°				
PRHA20S		90°	45°、90°	170	0.2 ~ 0.8	
		180°				
		270°				
PRH30S		90°	45°	319	0.2 ~ 0.8	
		180°				
		270°				
PRHA10D	Double vane	90°	45°	211	0.2 ~ 0.7	PCS245
PRHA20D		90°	45°	388	0.2 ~ 0.8	
PRH30D		90°	45°	770		

Proximity switch unit mountable.
(Note) Output torque is the value at 0.5 MPa.

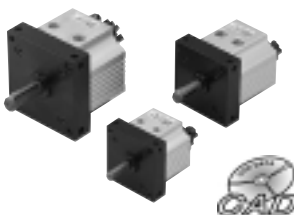
CUBIC MOUNT HI-ROTOR QR Series



Model No.	Vane type	Oscillation angle	Oscillation starting point	Output torque (N·cm)	Pressure range (MPa)	
QR3S	Single vane	90°	90°	27.9	0.3 ~ 0.7	
		180°				
QR10S		90°	90°	86	0.2 ~ 0.7	
		180°				
		270°				
QR20S		90°	90°	159		0.2 ~ 0.7
		180°				
QR30S		90°	45°	319		
		180°				
		270°				

Proximity switch unit mountable.
(Note) Output torque is the value at 0.5 MPa.

CUBIC MOUNT HI-ROTOR VARIABLE OSCILLATION ANGLE TYPE QRO Series



Model No.	Vane type	Oscillation angle	Oscillation starting point	Output torque (N·cm)	Pressure range (MPa)
QRO3S	Single vane	30 ~ 180°	90°	27.9	0.3 ~ 0.7
QRO10S				86	
QRO20S				159	
QRO30S		30 ~ 270°	45°	319	0.2 ~ 0.7

Proximity switch unit mountable.
(Note) Output torque is the value at 0.5 MPa.

STEP HI-ROTOR SH Series

Unique vane type oscillating actuator consisting of a combination of two HI-ROTORS designed for 2 and 3-step feeds.

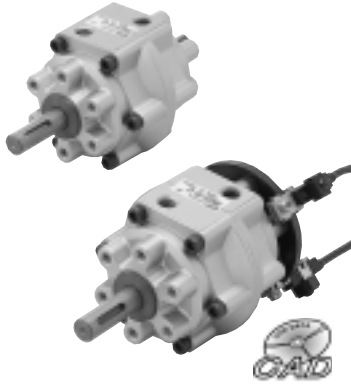


Model No.	Vane type	Oscillation angle		Oscillation starting point	Output torque (N·cm)	
		Internal HI-ROTOR	External HI-ROTOR		Internal HI-ROTOR	External HI-ROTOR
SH5S	Single vane	30 ~ 180°	30 ~ 180°	90°	47.9	227
SH20S		30 ~ 180°	30 ~ 180°	90°	195	575
SH5D	Double vane	30 ~ 90°	30 ~ 180°	90°	96	231
SH20D		30 ~ 90°	30 ~ 180°	90°	390	575

Proximity switch unit mountable.
(Note) Output torque is the value at 0.5 MPa.

HI-ROTOR PRN Series

Vane type rotary actuator



Model No.	Vane type	Oscillation angle	Oscillation starting point	Output torque (N·cm)	Pressure range (MPa)
PRN50S	Single vane	90°	45°	479	0.2 ~ 1
		180°	40°、45°		
		270°	45°		
		280°	40°		
PRN150S		90°	45°	1500	
		180°	40°、45°		
		270°	45°		
		280°	40°		
PRN300S		90°	45°	2850	
		180°	40°、45°		
		270°	45°		
		280°	40°		
PRN800S	90°	45°	10200		
	180°	40°、45°			
	270°	45°			
	280°	40°			
PRN50D	Double vane	90°	40°、45°	1040	0.2 ~ 1
		100°	40°		
PRN150D		90°	40°、45°	3500	
		100°	40°		
PRN300D		90°	40°、45°	6800	
		100°	40°		
PRN800D		90°	40°、45°	20600	
		100°	40°		

M type switch (reed type, proximity type) mountable.
(Note) Output torque is the value at 0.5 MPa.

HI-PAL HI-ROTOR PRH Series

Valve combined HI-ROTOR

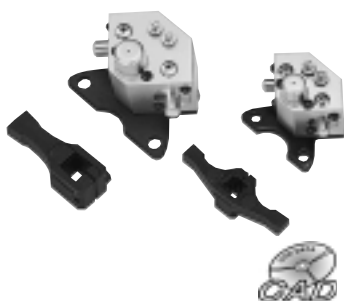


Model No.	Vane type	Oscillation angle	Oscillation starting point	Output torque (N·cm)	Pressure range (MPa)	Valve model
PRH50S	Single vane	90°	45°	479	0.2 ~ 0.8	PCS245
		180°	40°、45°			
		270°	45°			
		280°	40°			
PRH150S		90°	45°	1500		
		180°	40°、45°			
		270°	45°			
		280°	40°			
PRH300S		90°	45°	2850		
		180°	40°、45°			
		270°	45°			
		280°	40°			
PRH800S	90°	45°	10200			
	180°	40°、45°				
	270°	45°				
	280°	40°				
PRH50D	Double vane	90°	40°、45°	1040	0.2 ~ 0.8	PCS245
		100°	40°			
PRH150D		90°	40°、45°	3500		PCS2413
		100°	40°			
PRH300D		90°	40°、45°	6800		
		100°	40°			
PRH800D		90°	40°、45°	20600		PCS2408
		100°	40°			

M type switch (reed type, proximity type) mountable.
(Note) Output torque is the value at 0.5 MPa.

HYDRO-CUSHION CRN Series

Shock absorber for HI-ROTOR



Model No.	Oscillation angle	Oscillation starting point	Range of load (N·cm)	Max. absorbed energy (mJ)	Applicable HI-ROTOR
CRN50	90°	45°	981	2942	PRN50 PRH50
	100°	40°			
	180°	45°			
	270°	45°			
	280°	40°			
CRN150	90°	45°	2942	9807	PRN150 PRH150
	100°	40°			
	180°	45°			
	270°	45°			
	280°	40°			
CRN300	90°	45°	5884	19613	PRN300 PRH300
	100°	40°			
	180°	45°			
	270°	45°			
	280°	40°			
CRN800	90°	45°	19613	58840	PRN800 PRH800
	100°	40°			
	180°	45°			
	270°	45°			
	280°	40°			

HYDRAULIC HI-ROTOR HRN Series

Hydraulic vane type rotary actuator.



Model No.	Max. oscillation angle	Rated pressure (MPa)	Min. operating pressure (MPa)	Allowable load (N)	
				Radial	Thrust
HRN10S	270°	7	1	9.8	4.9
HRN10D	90°				
HRN15S	270°			19.6	9.8
HRN15D	90°				
HRN20S	270°			49	24.5
HRN20D	90°				
HRN30S	270°			78.4	39.2
HRN30D	90°				
HRN100S	270°			147	68.6
HRN100D	90°				
HRN200S	270°			294	137.2
HRN200D	90°				
HRN400S	270°			343	186.6
HRN400D	90°				
HRN700S	270°			343	166.8
HRN700D	90°				

Shaft/Double end (keyway and square)
Mounting/Flange mounting

HYDRAULIC HI-ROTOR WITH CUSHION HRN Series

Hydraulic vane type rotary actuator with cushion mechanism.

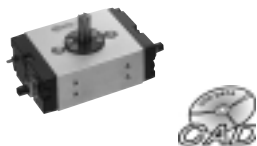


Model No.	Max. oscillation angle	Rated pressure (MPa)	Min. operating pressure (MPa)	Allowable load (N)	
				Radial	Thrust
HRN10S-C	180°	7	1	9.8	4.9
	90°				
HRN15S-C	180°			19.6	9.8
	90°				
HRN20S-C	180°			49	24.5
	90°				
HRN30S-C	180°			78.4	39.2
	90°				
HRN100S-C	180°			147	68.6
	90°				
HRN200S-C	180°			294	137.2
	90°				
HRN400S-C	180°			343	186.6
	90°				
HRN700S-C	180°			343	166.8
	90°				

Shaft/Double end (keyway and square)
Mounting/Flange mounting

2-STOP POSITION TYPE ROTARY ACTUATOR RPM Series

Use of double piston system has successfully realized compact design and high torque.

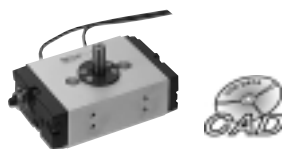


Model No.	Cylinder ID	Oscillation angle	Adjustable angle range	Output torque (N·m)	Pressure range (MPa)
RPM-14	14, 20	90°	70° ~ 95°	1.4	0.1 ~ 0.7
		180°	160° ~ 185°		
RPM-16	16, 24	90°	70° ~ 95°	2.6	
		180°	160° ~ 185°		
RPM-18	18, 26	90°	70° ~ 95°	4.3	
		180°	160° ~ 185°		
RPM-22	22, 30	90°	70° ~ 95°	7.0	
		180°	160° ~ 185°		

RC, ZC type switch (reed type, proximity type) mountable.
(Note) Output torque (theoretical output) is the value at 0.5 MPa.

MULTI-STOP POSITION TYPE ROTARY ACTUATOR SRP Series

Use of double piston system has successfully realized compact design and high torque.

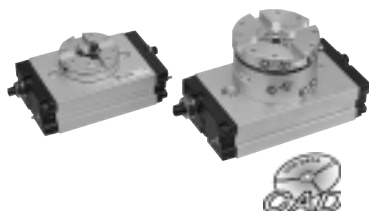


Model No.	Cylinder ID	Oscillation angle	Adjustable angle range	Output torque (N·m)	Pressure range (MPa)
SRP-13	13, 18	max.180°	120° ~ 185°	0.24	0.3 ~ 0.7
SRP-14	14, 22			0.45	
SRP-16	16, 24			0.8	0.2 ~ 0.7
SRP-18	18, 26			1.4	
SRP-22	22, 30			2.1	

RC, ZC type switch (reed type, proximity type) mountable.
(Note) Output torque (theoretical output) is the value at 0.5 MPa.

2-STOP POSITION TYPE ROTARY TABLE TRP,TRPJ Series

In addition to compactly designed standard type, a series of rotary tables with swivel joint are available realizing neat pipe arrangement.

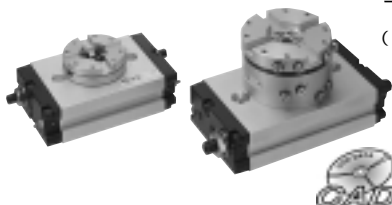


Model No.	Cylinder ID	Oscillation angle	Adjustable angle range	Output torque (N·m)	Pressure range (MPa)
TRP-16	16, 24	90°	70° ~ 95°	2.6	0.1 ~ 0.7
		180°	160° ~ 185°		
TRP-18	18, 26	90°	70° ~ 95°	4.3	
		180°	160° ~ 185°		
TRP-22	22, 30	90°	70° ~ 95°	7.0	
		180°	160° ~ 185°		

RC, ZC type switch (reed type, proximity type) mountable.
(Note) Output torque (theoretical output) is the value at 0.5 MPa.

MULTI-STOP POSITION TYPE ROTARY TABLE TSR,TSRJ Series

In addition to compactly designed standard type, a series of rotary tables with swivel joint are available, realizing neat pipe arrangement.



Model No.	Cylinder ID	Oscillation angle	Adjustable angle range	Output torque (N·m)	Pressure range (MPa)
TSR-16	16, 24	max.180°	120° ~ 185°	0.8	0.2 ~ 0.7
TSR-18	18, 26			1.4	
TSRJ-18				2.1	
TSR-22	22, 30				
TSRJ-22					

RC, ZC type switch (reed type, proximity type) mountable.
(Note) Output torque (theoretical output) is the value at 0.5 MPa.

MINIATURE CYLINDER Z3 Series

Non-lubricated air applicable.



Series	Acting	Bore size (mm)	Standard stroke (mm)	Pressure range (MPa)
Z3 1	Single acting (Retracted)	2.5	5、 0	0.35 ~ 0.7
		4	5、 10、 15、 20	
		6	15、 30、 45、 60	0.3 ~ 0.7
		10		0.15 ~ 0.7
Z3 0	Single acting (Extended)	6	15、 30	0.35 ~ 0.7
		10		0.15 ~ 0.7
		16		
Z3 2	Double acting	6	15、 30、 45、 60	0.12 ~ 0.7
		10		0.08 ~ 0.7
		16		0.06 ~ 0.7

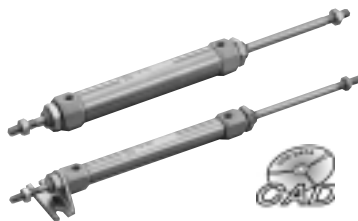
Mounting/Bore 2.5 ~ 4 : Nose mounting only

Bore 6, 10, 16 : Nose, Foot, Flange and Female clevis mounting

Switch/Bore 6, 10, 16 : M type switch(reed type, proximity type)mountable.

Cushion/Bore 2.5, 4 : Non-cushion Bore 6, 10, 16:Rubber cushion

MINIATURE CYLINDER DOUBLE ROD TYPE Z3 7 Series



Series	Acting	Bore size (mm)	Standard stroke (mm)	Pressure range (MPa)
Z3 7	Double acting	10	15、 30、 45、 60	0.1 ~ 0.7
		16		

Mounting/Nose, Foot and Flange mounting

Switch/M type switch(reed type, proximity type)mountable.

Cushion/Rubber cushion

CUSTOM MADE CYLINDER

Non rotating piston rod cylinder/ Z3 U

Acting	Bore size (mm)	Pressure range (MPa)
Single acting (Retracted)	10	0.15 ~ 0.7
	16	
Single acting (Extended)	10	0.2 ~ 0.7
	16	
Double acting	10	0.1 ~ 0.7
	16	

Cylinder built-in speed controller/ Z3GP2

A miniature speed controller(Meter-out type) is built-in

Acting	Double acting
Bore size (mm)	10、 16
Pressure range (MPa)	0.1 ~ 0.7

Cylinder with air cushion/Z3G2

Acting	Double acting
Bore size (mm)	10、 16
Pressure range (MPa)	10 : 0.2 ~ 0.7 16 : 0.1 ~ 0.7

Cylinder built-in linear bearing/ Z3GB2

Acting	Double acting
Bore size (mm)	10、 16
Pressure range (MPa)	10 : 0.12 ~ 0.7 16 : 0.10 ~ 0.7

**CUSTOM MADE
CYLINDER**

Dual stroke cylinder/Z3 D2

This cylinder consists of two cylinders connected in series and united as one unit. The stroke is controlled in two steps.

Acting	Double acting
Bore size (mm)	10、 16
Pressure range (MPa)	0.1 ~ 0.7

Dual stroke cylinder/Z3 D7

This cylinder consists of two cylinders connected on both head cover side form one unit. The stroke is controlled in three steps.

Acting	Double acting
Bore size (mm)	10、 16
Pressure range (MPa)	10 : 0.08 ~ 0.7 16 : 0.06 ~ 0.7

Adjustable stroke cylinder/Z3 A7

On the end where the rod is extended, the stroke is adjustable with stopper within a range of 0 to 15mm.

Acting	Double acting
Bore size (mm)	10、 16
Pressure range (MPa)	0.1 ~ 0.7

Adjustable stroke cylinder/Z3 A2

On the rod retracted end, the stroke is adjustable with a adjustable bolt within a range of 0 to 15mm.

Acting	Double acting
Bore size (mm)	10、 16
Pressure range (MPa)	10 : 0.08 ~ 0.7 16 : 0.06 ~ 0.7

Air-hydro cylinder/Z3 O

Cylinders of this series are for Air-hydro systems and are suitable for use at low speeds of 50mm/s or less.

Acting	Double acting
Bore size (mm)	6、 10、 16
Pressure range (MPa)	6 : 0.3 ~ 0.7 10 : 0.2 ~ 0.7 16 : 0.15 ~ 0.7

High-temperature resistant cylinder/Z3 Z

Since cylinders of this series use packings etc. made of heat-resistant materials, they can operate at high temperatures up to 150

Acting	Double acting
Bore size (mm)	6、 10、 16
Pressure range (MPa)	6 : 0.3 ~ 0.7 10 : 0.2 ~ 0.7 16 : 0.15 ~ 0.7

Cylinder for use in clean room/CFZ3

Acting	Bore size (mm)	Pressure range (MPa)
Single acting (Retracted)	6	0.35 ~ 0.7
	10	0.15 ~ 0.7
	16	
Double acting	6	0.15 ~ 0.7
	10	0.1 ~ 0.7
	16	0.08 ~ 0.8

MINIATURE CYLINDER J1 Series

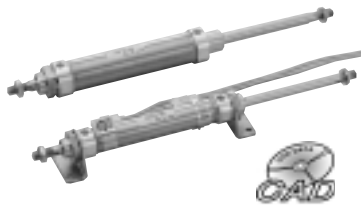
Non-lubricated air applicable.



Series	Acting	Bore size (mm)	Standard stroke (mm)	Pressure range (MPa)
J1 1	Single acting (Retracted)	20	25, 50, 75, 100, 125, 150	0.15 ~ 1
		25	25, 50, 75, 100, 125, 150, 175, 200	
		32		
		40		
J1 0	Single acting (Extended)	20	25, 50, 75, 100, 125, 150	0.15 ~ 1
		25	25, 50, 75, 100, 125, 150, 175, 200	
		32		
		40		
J1 2	Double acting	20	15, 25, 30, 50, 75, 100, 125, 150, 175, 200	0.05 ~ 1
		25	15, 25, 30, 50, 75, 100, 125, 150, 175, 200, 250, 300	
		32	15, 25, 30, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400	
		40	15, 25, 30, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400, 450, 500	
		50	25, 50, 75, 100, 150, 200, 250, 300, 350, 400, 450, 500	0.02 ~ 1
		63		

Mounting/Nose, Foot and Flange mounting
Switch/AX, ZC type switch (reed type, proximity type) mountable.
Cushion/Bore 20 ~ 40 : Rubber cushion Bore 50, 63 : Air cushion
Specific type/Bellows

MINIATURE CYLINDER DOUBLE ROD TYPE J1 7 Series

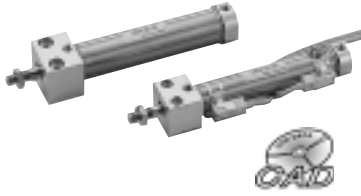


Series	Acting	Bore size (mm)	Standard stroke (mm)	Pressure range (MPa)
J1 7	Double acting	20	15, 25, 30, 50, 75, 100, 125, 150, 175, 200	0.05 ~ 1
		25	15, 25, 30, 50, 75, 100, 125, 150, 175, 200, 250, 300	
		32	15, 25, 30, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400	
		40	15, 25, 30, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400, 450, 500	
		50	25, 50, 75, 100, 150, 200, 250, 300, 350, 400, 450, 500	0.02 ~ 1
		63		

Mounting/Nose, Foot and Flange mounting
Switch/AX, ZC type switch (reed type, proximity type) mountable.
Cushion/Bore 20 ~ 40 : Rubber cushion Bore 50, 63 : Air cushion
Specific type/Bellows

DIRECT MOUNT CYLINDER J1 E Series

The rectangular rod cover of the cylinder is directly mountable on the unit to be mated. Using this cylinder will result not only in saving space but also improving the mounting strength and accuracy.



Series	Acting	Bore size (mm)	Standard stroke (mm)	Pressure range (MPa)
J1 E1	Single acting (Retracted)	20	25, 50, 75, 100, 125, 150	0.15 ~ 1
		25	25, 50, 75, 100, 125, 150, 175, 200	
		32		
		40		
J1 E0	Single acting (Extended)	20	25, 50, 75, 100, 125, 150	0.15 ~ 1
		25	25, 50, 75, 100, 125, 150, 175, 200	
		32		
		40		
J1 E2 J1 E7	Double acting	20	15, 25, 30, 50, 75, 100 125, 150, 175, 200	0.05 ~ 1
		25	15, 25, 30, 50, 75, 100 125, 150, 175, 200, 250, 300	
		32	15, 25, 30, 50, 75, 100, 125, 150 175, 200, 250, 300, 350, 400	
		40	15, 25, 30, 50, 75, 125, 150, 175 200, 250, 300, 350, 400, 450, 500	
		50	25, 50, 75, 100, 150, 200, 250 300, 350, 400, 450, (500)	0.02 ~ 1
		63		

Supporting type/Front mount type, side mount type
Switch/AX, ZC type switch (reed type, proximity type) mountable.
Cushion/Bore 20 ~ 40 : Rubber cushion Bore 50, 63 : Air cushion

CUSTOM MADE CYLINDER

Non-rotating piston rod cylinder/ J1 U

Acting	Bore size (mm)	Pressure range (MPa)
Single acting (Retracted)	25	0.15 ~ 1
	40	
Single acting (Extended)	25	0.15 ~ 1
	40	
Double acting	25	0.1 ~ 1
	40	0.05 ~ 1
	50	
	63	
Double acting (Double rod)	25	0.1 ~ 1
	40	0.05 ~ 1
	50	
	63	



Stainless steel cylinder/J1 S

The cylinder tube, rod cover and head cover, piston rod are made of stainless steel.

Acting	Double acting
Bore size (mm)	20, 25, 32, 40
Pressure range (MPa)	0.1 ~ 1

Short length cylinder/J ND

Cylinders short in overall length :
The nose screw portion on the head cover has been cut off.

Acting	Double acting
Bore size (mm)	20, 25, 32, 40 50, 63
Pressure range (MPa)	20 ~ 40 : 0.05 ~ 1 50, 63 : 0.02 ~ 1

High-temperature resistant cylinder/ J1 X

Since cylinders of this series use packings etc. made of heat-resistant materials, they can operate at high temperatures up to 120

Acting	Double acting
Bore size (mm)	20, 25, 32, 40
Pressure range (MPa)	0.1 ~ 1

CUSTOM MADE CYLINDER

Dual stroke cylinder/J1 D2

This cylinder consists of two cylinders connected in series and united as one unit. The stroke is controlled in two steps.

Acting	Double acting			
Bore size (mm)	20、	25、	32、	40
	50、 63			
Pressure range (MPa)	0.1 ~ 1			



Dual stroke cylinder/J1 D7

This cylinder consists of two cylinders connected on both head cover sides from one unit. The stroke is controlled in three steps.

Acting	Double acting			
Bore size (mm)	20、	25、	32、	40
	50、 63			
Pressure range (MPa)	0.1 ~ 1			



Adjustable stroke cylinder/J1 A7

On the end where the rod is extended, the stroke is adjustable with a stopper within a range of 0 to 50 mm.

Acting	Double acting			
Bore size (mm)	20、	25、	32、	40
	50、 63			
Pressure range (MPa)	0.1 ~ 1			



Adjustable stroke cylinder/J1 A2

On the rod retracted end, the stroke is adjustable with an adjustable bolt within a range of 0 to 50 mm.

Acting	Double acting			
Bore size (mm)	20、	25、	32、	40
	50、 63			
Pressure range (MPa)	0.1 ~ 1			



Port position in direction of piston axis/J1GNB

Acting	Double acting			
Bore size (mm)	20、	25、	32、	40
	50、 63			
Pressure range (MPa)	20 ~ 40 : 0.05 ~ 1			
	50、 63 : 0.02 ~ 1			

AIR CYLINDER K1 Series

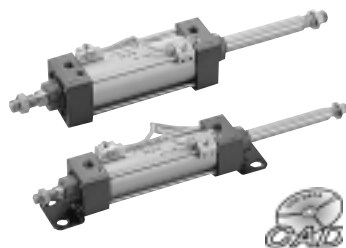
Non-lubricated air applicable.



Series	Acting	Bore size (mm)	Standard stroke (mm)	Pressure range (MPa)
K1 2	Double acting	32	50、 75、 100、 125、 150、 200、 250 300、 350、 400、 450、 500	0.05 ~ 1
		40		
		50		
		63		
		80		
		100		
		125		

Mounting/Nose, Foot, Flange, Male clevis, Female clevis and Trunion mounting
Switch/AX, SR type switch (reed type, proximity type) mountable.
Cushion/Air cushion
Specific type/Bellows

AIR CYLINDER DOUBLE ROD TYPE K1 7 Series



Series	Acting	Bore size (mm)	Standard stroke (mm)	Pressure range (MPa)
K1 7	Double acting	32	50、 75、 100、 125、 150、 200、 250 300、 350、 400、 450、 500	0.1 ~ 1
		40		
		50		
		63		
		80		
		100		
		125		

Mounting/Nose, Foot, Flange, mounting
Switch/AX, SR type switch (reed type, proximity type) mountable.
Cushion/Air cushion
Specific type/Bellows

CUSTOM MADE CYLINDER

Non-rotating piston rod cylinder/ K1 U

Acting	Bore size (mm)	Pressure range (MPa)
Single acting (Retracted)	40	0.1 ~ 1
	50	
	63	
	80	
	100	

Cylinder with hollow rod/K1 RP

The hollow piston rod allows the passage of air pressure, etc.

Acting	Double acting				
Bore size (mm)	32、	40、	50、	63、	80
Pressure range (MPa)	0.05 ~ 1				

Dual stroke cylinder/K1 D2

This cylinder consists of two cylinders connected in series and united as one unit. The stroke is controlled in two steps.

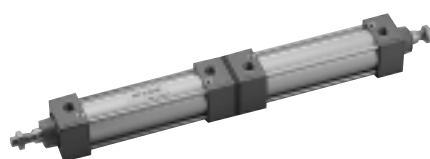
Acting	Double acting				
Bore size (mm)	40、	50、	63、	80、	100
Pressure range (MPa)	0.1 ~ 0.7				



Dual stroke cylinder/K1 D7

This cylinder consists of two cylinders connected on both head cover sides from one unit. The stroke is controlled in three steps.

Acting	Double acting				
Bore size (mm)	32、	40、	50、	63	80、
Pressure range (MPa)	0.05 ~ 0.7				



Adjustable stroke cylinder/K1 A7

On the end where the rod is extended, the stroke is adjustable with a stopper within a range of 0 to 50 mm.

Acting	Double acting				
Bore size (mm)	32、	40、	50、	63	80、
Pressure range (MPa)	0.1 ~ 1				



Adjustable stroke cylinder/K1 A2

On the rod retracted end, the stroke is adjustable with an adjustable bolt within a range of 0 to 50 mm.

Acting	Double acting				
Bore size (mm)	32、	40、	50、	63	80、
Pressure range (MPa)	0.05 ~ 1				



CUSTOM MADE CYLINDER

High-temperature resistant cylinder/ K1 X

Since cylinders of this series use packings made of special materials, they can operate at high temperatures up to 120

Acting	Double acting				
Bore size (mm)	40、	50、	63、	80、	100
Pressure range (MPa)	0.05 ~ 1				

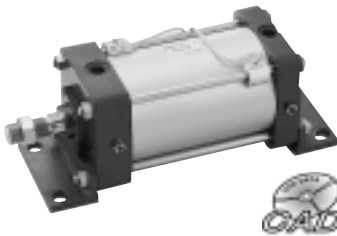
Air-hydro cylinder/K1 O

Cylinders of this series are for Air-hydro systems and are suitable for use at low speeds of 50 mm/s or less.

Acting	Double acting			
Bore size (mm)	32、	40、	50、	63
Pressure range (MPa)	0.2 ~ 1			

AIR CYLINDER A1 Series

Heavy duty type cylinder.



Series	Acting	Bore size (mm)	Maximum stroke (mm)	Pressure range (MPa)
A1 2	Double acting	125	2000	0.1 ~ 1
		140		
		160		
		180		
		200		
		250		

Mounting/Nose, Foot, Flange, Male clevis, Female clevis and Trunion mounting
Switch/AX, SR type switch(reed type, proximity type)mountable.
Cushion/Air cushion
Specific type/Bellows

AIR CYLINDER DOUBLE ROD TYPE A1 7 Series



Series	Acting	Bore size (mm)	Maximum stroke (mm)	Pressure range (MPa)
A1 7	Double acting	125	1200	0.1 ~ 1
		140		
		160		
		180		
		200		
		250		

Mounting/Nose, Foot and Flange mounting
Switch/AX, SR type switch(reed type, proximity type)mountable.
Cushion/Air cushion
Specific type/Bellows

CUSTOM MADE CYLINDER

Adjustable stroke cylinder/A1 A2

On the rod retracted end, the stroke is adjustable with a adjustable bolt within a range of 0 to 50 mm.

Acting	Double acting		
Bore size (mm)	125、	140、	160
Pressure range (MPa)	0.1 ~ 1		

COMPACT CUBIC MOUNT CYLINDER Q1 Series

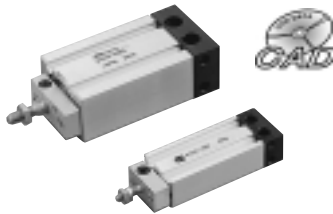
Rigidly designed cubical body improves design flexibility and accuracy.



Series	Acting	Bore size (mm)	Standard stroke (mm)	Pressure range (MPa)
Q1 1	Single acting (Retracted)	6	5, 10, 15	0.3 ~ 0.7
		10		0.2 ~ 0.7
		16		
		20		
		25		
32	0.15 ~ 0.7			
Q1 0	Single acting (Extended)	6	5, 10, 15	0.35 ~ 0.7
		10		0.2 ~ 0.7
		16		
		20		
		25		
32	0.15 ~ 0.7			
Q1 2	Double acting	6	5, 10, 15, 20, 25, 30	0.15 ~ 0.7
		10		
		16		0.1 ~ 0.7
		20	5, 10, 15, 20, 25, 30, 40, 50	
		25		
		32		

Supporting type/Rod side mount type, Head side mount type and Solid mount type
Switch/K type switch(reed type, proximity type)mountable.
Cushion/Rubber cushion

NON-ROTATING PISTON ROD TYPE COMPACT CUBIC MOUNT CYLINDER Q1 U Series

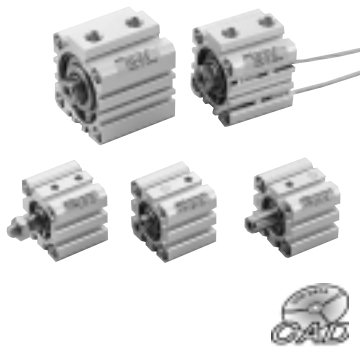


Series	Acting	Bore size (mm)	Standard stroke (mm)	Pressure range (MPa)
Q1 U2	Double acting	6	5, 10, 15, 20, 25, 30	0.15 ~ 0.7
		10		
		16		0.1 ~ 0.7
		20		
		25	5, 10, 15, 20, 25, 30, 40, 50	
32				

Supporting type/Head side mount type
Switch/K type switch(reed type, proximity type)mountable.
Cushion/Rubber cushion

FLAT CYLINDER X1 Series

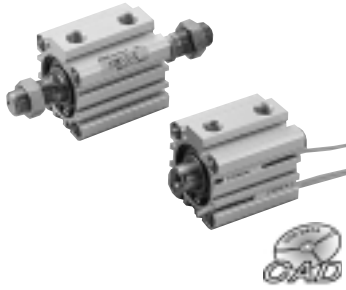
Slim and space-saving design suitable for clamping work.



Series	Acting	Bore size (mm)	Standard stroke (mm)	Pressure range (MPa)
X1 1	Single acting (Retracted)	12	5, 10, 15, 20	0.2 ~ 1
		16		
		20	5, 10, 15, 20, 25, 30	0.18 ~ 1
		25		
		32		
		40		
50	5, 10, 15, 20, 25, 30, 35, 40, 45, 50			
X1 0	Single acting (Extended)	12	5, 10	0.2 ~ 1
		16		0.18 ~ 1
		20		
		25		
		32		
		40		0.12 ~ 1
		50		
X1 2	Double acting	12	5, 10, 15, 20, 25, 30	0.1 ~ 1
		16		
		20	5, 10, 15, 20, 25, 30, 35	0.1 ~ 1
		25		
		32	5, 10, 15, 20, 25, 30, 35, 40, 45	0.1 ~ 1
		40		
		50	10, 15, 20, 25, 30, 35, 40, 45, 50	0.05 ~ 1
		63		
		80		
		100		
125	10, 20, 30, 40, 50, 75, 100, 125	0.05 ~ 1		
140				
160			150, 175, 200, 250, 300	

Rod end screw/Female screw(Standard) Male screw
Mounting/Nose, Both sides tap, Foot, Flange, Female clevis and Male clevis mounting
Switch/ZE, AX, AZ type switch(reed type, proximity type)mountable.
Cushion/Rubber cushion

FLAT CYLINDER DOUBLE ROD TYPE X1 7 Series



Series	Acting	Bore size (mm)	Standard stroke (mm)	Pressure range (MPa)
X1 7	Double acting	12	5、 10、 15、 20、 25	0.1 ~ 1
		16		
		20		
		25	5、 10、 15、 20、 25、 30	
		32		
		40		
		50	5、 10、 15、 20、 25、 30、 35、 40、 45、 50	0.05 ~ 1
		63		
		80		
		100	10、 15、 20、 25、 30、 35、 40、 45、 50	
		125		
		140		
160	10、 20、 30、 40、 50、 75、 100、 125			
	150、 175、 200、 250、 300			

Rod end serew/Female screw(Standard) Male screw
Mounting/Nose, Both sides tap, Foot and Flange mounting
Switch/ZE, AX type switch(reed type, proximity type)mountable.
Cushion/Rubber cushion

CUSTOM MADE CYLINDER

Non-rotating piston rod Flat Cylinder X1 U2

Acting	Double acting
Bore size (mm)	20、 25、 32、 40 50、 63、 80、 100
Pressure range (MPa)	20 ~ 50 : 0.1 ~ 1 63 ~ 100 : 0.05 ~ 1

Flat Cylinder with hollow rod X1 RP

The hollow piston rod allows the passage of air pressure, etc.

Acting	Double acting
Bore size (mm)	12、 16、 20、 25、 32 40、 50、 63、 80、 100
Pressure range (MPa)	12 ~ 32 : 0.1 ~ 1 40 ~ 100 : 0.05 ~ 0.7

Dual stroke Flat Cylinder X1 D2

This cylinder consists of two cylinders connected in series and united as one unit. The stroke is controlled in two steps.

Acting	Double acting
Bore size (mm)	12、 16、 20、 25、 32 40、 50、 63、 80、 100
Pressure range (MPa)	12 ~ 32 : 0.1 ~ 1 40 ~ 100 : 0.05 ~ 1



Dual stroke Flat Cylinder X1 D7

This cylinder consists of two cylinders connected on both head cover sides from one unit. The stroke is controlled in tree steps.

Acting	Double acting
Bore size (mm)	12、 16、 20、 25、 32 40、 50、 63、 80、 100
Pressure range (MPa)	12 ~ 32 : 0.1 ~ 1 40 ~ 100 : 0.05 ~ 1



Adjustable stroke Flat Cylinder X1 A7

On the end where the rod is extended, the stroke is adjustable with a stopper within a range of 0 to 10 mm.

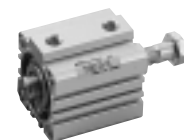
Acting	Double acting
Bore size (mm)	12、 16、 20、 25、 32 40、 50、 63、 80、 100
Pressure range (MPa)	12 ~ 32 : 0.1 ~ 1 40 ~ 100 : 0.05 ~ 1



Adjustable stroke Flat Cylinder X1 A2

On the rod retracted end, the stroke is adjustable with a adjustable bolt within a range of 0 to 10 mm.

Acting	Double acting
Bore size (mm)	12、 16、 20、 25、 32 40、 50、 63、 80、 100
Pressure range (MPa)	12 ~ 32 : 0.1 ~ 1 40 ~ 100 : 0.05 ~ 1



HI-PAL CYLINDER J1 HA Series

Valve combined cylinder.

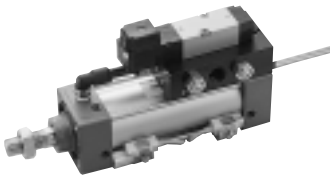


Series	Acting	Bore size (mm)	Standard stroke (mm)	Pressure range (MPa)
J1 HA2	Double acting	20	15, 25, 30, 50, 75, 100 125, 150, 175, 200	0.2 ~ 0.7
		25	15, 25, 30, 50, 75, 100 125, 150, 175, 200, 250, 300	
		32	15, 25, 30, 50, 75, 100, 125, 150 175, 200, 250, 300, 350, 400	
		40	15, 25, 30, 50, 75, 100, 125, 150, 175 200, 250, 300, 350, 400, 450, 500	

Mounting/Nose, Foot, Flange and Trunion mounting
Switch/AX, SR, ZC type switch(reed type, proximity type)mountable.
Cushion/Rubber cushion(Standard)
Specific type/Bellows

HI-PAL CYLINDER K1 HA Series

Valve combined cylinder.



Series	Acting	Bore size (mm)	Standard stroke (mm)	Pressure range (MPa)
K1 HA2	Double acting	40	100, 125, 150, 200, 250 300, 350, 400, 450, 500	0.2 ~ 0.8
		50		
		63		
		80		
		100		

Mounting/Nose, Foot, Flange, Male clevis, Female clevis and Trunion mounting
Switch/AX, SR type switch(reed type, proximity type)mountable.
Cushion/Air cushion
Specific type/Bellows

MINIATURE CYLINDER WITH LOCK MECHANISM J1 L Series

Built-in drop prevention and designed to lock at stroke end.



Series	Acting	Bore size (mm)	Standard stroke (mm)	Pressure range (MPa)
J1 L2	Double acting	20	15, 25, 30, 50, 75, 100 125, 150, 175, 200	0.2 ~ 1
		25	15, 25, 30, 50, 75, 100 125, 150, 175, 200, 250, 300	
		32	15, 25, 30, 50, 75, 100, 125, 150 175, 200, 250, 300, 350, 400	
		40	15, 25, 30, 50, 75, 100, 125, 150, 175 200, 250, 300, 350, 400, 450, 500	

Mounting/Nose, Foot, Flange and Trunion mounting
Switch/AX, SR, ZC type switch(reed type, proximity type)mountable.
Cushion/Rubber cushion(Standard)
Specific type/Bellows

AIR CYLINDER WITH LOCK MECHANISM K1 L Series

Built-in drop prevention and designed to lock at stroke end.

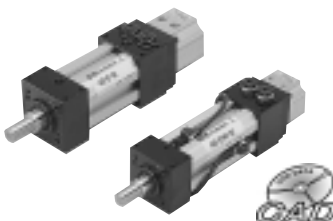


Series	Acting	Bore size (mm)	Maximum stroke (mm)	Pressure range (MPa)
K1 L2	Double acting	40	1000	0.15 ~ 1
		50	1500	
		63		
		80		
		100		

Mounting/Nose, Foot, Flange, Male clevis, Female clevis and Trunion mounting
Switch/AX, SR type switch(reed type, proximity type)mountable.
Cushion/Air cushion
Specific type/Bellows

HYBRID-ARM EXCEL HA Series

Combination of cylinder and HI-ROTOR realizes linear and oscillation motion with 0.8 degree backlash.



Series	Cylinder			HI-ROTOR		Pressure range (MPa)
	Acting	Bore size (mm)	Standard stroke (mm)	Oscillation angle	Output torque (N·cm)	
HA-25	Double acting	25	25, 50, 75, 100	90°, 180°	95.1	0.3 ~ 0.7
HA-32		32			161.8	
HA-40		40			337.3	

Mounting/Through hole(Standard) Flange mounting
Switch/Cylinder : M type switch(reed type, proximity type)mountable.
HI-ROTOR : Proximity switch unit mountable.
Cushion/Cylinder : Rubber cushion(20, 25) Air cushion(32, 40)
(Note) Output torque is the value at 0.5 MPa.

FLOAT COUPLER FC Series

Absorbs inclination and eccentricity between cylinder and piston rod and aligns shaft center.



Model No.	Applicable cylinder bore size	Oscillation angle	Allowable eccentricity (mm)	Mounting
FCM3-0.5	Z3 6、 Q1 6	± 5°	0.5	Direct mounting
FCM4-0.7	Z3 10、 Q1 10			
FCM5-0.8	Z3 16、 Q1 16			
FCM6-1	Q1 20		0.75	Direct mounting Flange mounting Foot mounting
FCM8-1.25	J1 20、 Q1 25			
FCM10-1.25	K1 32、 Q1 32			
FCM10-1.5	J1 25			
FCM12A-1.25	J1 32			
FCM12A-1.5	JGBC 40			
FCM14A-1.5	J1 40、 K1 40		1.0	
FCM18A-1.5	J1 50、 63、 K1 50、 63		1.5	
FCM22A-1.5	K1 80		2.0	
FCM26A-1.5	K1 100		3.0	
FCM30-1.5	K1 125、 A1 125、 140			
FCM40-1.5	A1 160、 180		4.0	
FCM45-1.5	A1 200			

SHOCK ABSORBER SA,SAE Series

Compact design and large absorbing capacity. Various types are available according to your load and speed requirements.

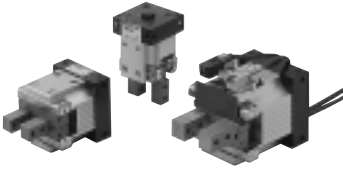


Model No.	Adjustment	Stroke absorption (mm)	Max. absorbed energy (J)	Max. collision speed (m/s)	Option
SA-0805AA1	Fixed type	5	0.392	1	Stopper nut Deflection angle adapter
SA-0805AA2			0.686		
SA-1005AA1		5	0.686	1	
SA-1005AA2			0.98		
SA-1008AA1		8	0.98	1	
SA-1008AA2			1.47		
SA-1210AA1		10	1.96	1	
SA-1210AA2			2.45		
SA-1412AC1		12	3.92	1.5	
SA-1412AC2			5.88		
SA-1008BB1	Analog adjusting type	8	1.47	1	Stopper nut Deflection angle adapter
SA-1210BB1		10	2.94	2	
SA-1410BB1		10	3.92	1.5	
SA-1612BB1		12	9.8	2	
SA-2016BB1		16	29.4	1	
SA-2530BB1		30	49	1	
SA-2540BB1		40	63.7	1	
SA-2725BB1		25	79.4	1	
SA-1008CC1	Analog fine adjusting type	8	1.47	3	Stopper nut Deflection angle adapter
SA-1210CC1		10	4.9	3	
SA-1410CC1		10	5.88	3	
SA-1612CC1		12	9.8	3	
SA-2016CC1		16	29.4	3	
SA-2530CC1		30	49	3	
SA-2540CC1		40	63.7	3	
SA-2725CC1		25	79.4	3	
SA-3035CC1		35	196	3	
SA-3650CC1		50	392	3	
SA-4250CC1	50	441	3		
SA-4280CC1	80	720	3		
SA-1008CD1	Analog fine adjusting type	8	1.76	2	Stopper nut Deflection angle adapter
SA-1210CD1		10	4.9	2	
SA-1410CD1		10	5.88	2	
SA-1612CD1		12	9.8	2	
SA-2016CD1		16	29.4	2	
SA-2530CD1		30	49	2	
SA-2540CD1		40	63.7	2	
SA-2725CD1		25	79.4	2	
SA-3035CD1		35	196	2	
SA-3650CD1		50	392	2	
SA-4250CD1	50	441	2		
SA-4280CD1	80	720	2		
SAE-2010	Fixed type	10	19.6	2	
SAE-3020		20	98	2	
SAR-1415AC1	Fixed type	15	11.76	2	Stopper nut
SAR-1415AC2		15	19.6	2	

SA : Spring return SAE : For emergency purpose SAR : Air return

PARALLEL GRIPPER GPR, Series

HI-ROTOR generates strong gripping force and large stroke.

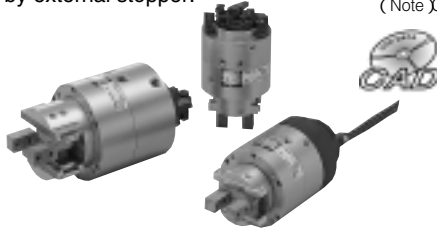


Model No.	Acting	Gripping force (N)	Max.stroke (mm)	Pressure range (MPa)
GPR1A	Double acting	17.7	10	0.3 ~ 0.6
GPR3A		33.3	14	
GPR10A		72.5	20	0.2 ~ 0.6

Mounting/Through holes and Tap mounting
Switch/PA type switch(proximity type)mountable.
(Note)Gripping force is the value at 0.5 MPa

GRIP & ROTATED PARALLEL GRIPPER GTS Series

Combing gripping with rotate motion. Rotate angle is adjustable by external stopper.

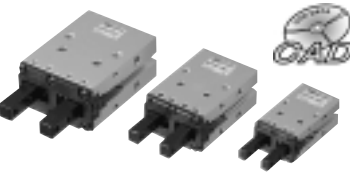


Model No.	Acting	Gripping force (N)	Max.stroke (mm)	Pressure range (MPa)
GTS5S	Double acting	45	20	0.3 ~ 0.6
GTS20		137	24	

Mounting/Tap and Flange mounting
Switch/PB type switch(proximity type)mountable.
(Note)Gripping force is the value at 0.5 MPa

PARALLEL GRIPPER WITH CROSS ROLLER GPCR Series

High degree of gripping accuracy and rigidity.
Dustproof cover and adaptor

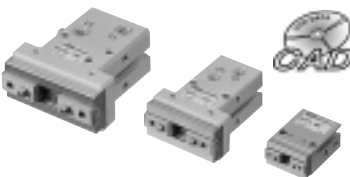


Model No.	Acting	Gripping force (N)	Max.stroke (mm)	Pressure range (MPa)
GPCR-10C	Double acting	9.4	4	0.18 ~ 0.7
GPCR-16C		25.5	8	0.12 ~ 0.7
GPCR-20C		45.7	12	0.1 ~ 0.7
GPCR-25C		67	14	
GPCR-10A	Normally open single acting	4.9	4	0.35 ~ 0.7
GPCR-16A		21	8	0.25 ~ 0.7
GPCR-20A		36.4	12	
GPCR-25A		54	14	

Mounting/Through holes, Tap and Mounting adapter
Switch/ZE type switch(proximity type)mountable.
(Note)Gripping force is the value at 0.5 MPa

PARALLEL GRIPPER WITH LINEAR GUIDE GPCL Series

High degree of repeatability :
± 0.01 mm or less
High degree of centering accuracy :
± 0.07 mm or less

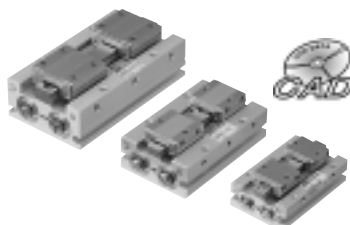


Model No.	Acting	Gripping force (N)	Max.stroke (mm)	Pressure range (MPa)
GPCL-8C	Double acting	5.78	4	0.22 ~ 0.7
GPCL-10C		9.4	6.5	0.2 ~ 0.7
GPCL-16C		26	10	0.12 ~ 0.7
GPCL-20C		45	14	0.1 ~ 0.7
GPCL-32C		157.8	22	
GPCL-50C		347.9	36	
GPCL-8A	Normally open single acting	4.1	4	0.4 ~ 0.7
GPCL-10A		6.8	6.5	0.35 ~ 0.7
GPCL-16A		20	10	0.25 ~ 0.7
GPCL-20A		34	14	

Mounting/Through holes, Tap and Mounting adapter
Switch/ZE type switch(proximity type)mountable.
(Note)Gripping force is the value at 0.5 MPa

EXTREMELY THIN PARALLEL GRIPPER WITH LINEAR GUIDE GPDL Series

High degree of gripping accuracy and rigidity.
Adjustable stroke in both opening and closing directions.

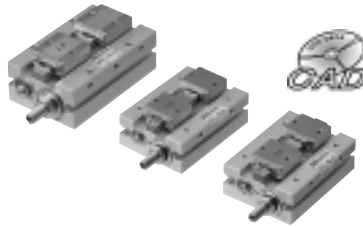


Model No.	Acting	Gripping force (N)	Max.stroke (mm)	Pressure range (MPa)
GPDL-8	Double acting	16.7	16	0.2 ~ 0.7
GPDL-12		44	22	0.15 ~ 0.7
GPDL-14		58.8	30、60	
GPDL-18		107.8	40、80	

Mounting/Through holes and Tap mounting
Switch/ZE type switch(proximity type)mountable.
(Note)Gripping force is the value at 0.5 MPa

ASYNCHRONOUS TYPE PARALLEL GRIPPER WITH LINEAR GUIDE GPEL Series

Asynchronous type designed to grip work based on the stop position of the single side finger. The stop position of the single side finger can be easily adjusted with a screw.

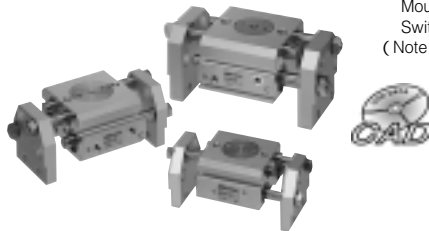


Model No.	Acting	Gripping force (N)	Max.stroke (mm)	Pressure range (MPa)
GPEL-8JA	Double acting	16.8	16	0.2 ~ 0.7
GPEL-8JB				
GPEL-12JA		44.2	22	
GPEL-12JB				

Mounting/Tap mounting
Switch/ZE type switch(proximity type)mountable.
(Note)Gripping force is the value at 0.5 MPa

CRAB TYPE PARALLEL GRIPPER GPK Series

High gripping force and high rigidity. Long gripping stroke, lightweight and compact body.

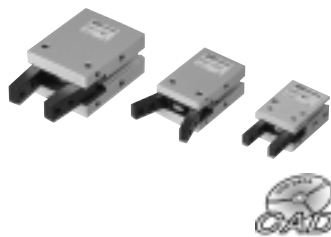


Model No.	Acting	Gripping force (N)	Max.stroke (mm)	Pressure range (MPa)
GPK-12	Double acting	27.8	24	0.2 ~ 0.7
GPK-16		52.2	32	
GPK-20		82.1	40	
GPK-25		143.3	50	

Mounting/Through holes and Tap mounting
Switch/ZE type switch(proximity type)mountable.
(Note)Gripping force is the value at 0.5 MPa

ROTATING GRIPPER GVC Series

The finger is made of chromium molybdenum steel and the main part is hardened, assuring long service.



Model No.	Acting	Gripping force (N)	Max.stroke (mm)	Pressure range (MPa)
GVC-8C	Double acting	2	- 10 ~ + 30	0.22 ~ 0.7
GVC-10C		2.5		0.1 ~ 0.7
GVC-16C		12.8		
GVC-20C		24		
GVC-25C		48		
GVC-8A	Normally open single acting	1.4	- 10 ~ + 30	0.36 ~ 0.7
GVC-10A		1.4		0.3 ~ 0.7
GVC-16A		10		0.2 ~ 0.7
GVC-20A		18		
GVC-25A		38		

Mounting/Through holes, Tap and Mounting adapter
Switch/ZE type switch(proximity type)mountable.
(Note)Gripping force is the value at 0.5 MPa

ROTATING GRIPPER WITH 180° FINGER OPENING GVH Series

High gripping force and high degree of gripping accuracy. Finger opening angle of 180°

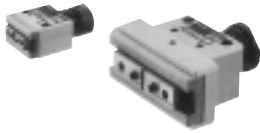


Model No.	Acting	Gripping force (N)	Max.stroke (mm)	Pressure range (MPa)
GVH-12	Double acting	0.7	- 6 ~ + 180	0.2 ~ 0.7
GVH-16		1.8		
GVH-20		3.2		
GVH-25		7.3		

Mounting/Through holes, Tap and Mounting adapter
Switch/ZE type switch(proximity type)mountable.
(Note)Gripping force is the value at 0.5 MPa

MECHANICAL TYPE PARALLEL GRIPPER WITH LINEAR GUIDE GPML Series

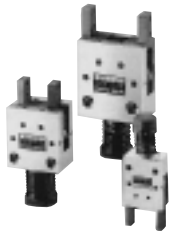
- Mechanical type without air line.
- Gripping by spring force.
Outside dia gripping by spring force.
Selecting spring force by work.
- External force is used for opening.
- High accuracy, long life.



Model No.	Acting	Gripping force (N)	Max.stroke (mm)
GPML-8-L	Single acting	1.6	4.0
GPML-8-M		2.5	
GPML-10-L		3.4	6.5
GPML-10-M		4.5	
GPML-16-L		4.4	10
GPML-16-M		6.4	
GPML-20-L		6.5	14
GPML-20-M		8.3	

MECHANICAL TYPE PARALLEL GRIPPER GPM Series

- Mechanical type without air line.
- Variation of spring tension.
- Using external force for operation.
- NC/NO type

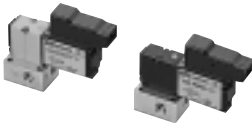


Model No.	Acting	Gripping force (N)	Max.stroke (mm)
GPM-10-L	Single acting	3.4	4
GPM-10-M		4.5	
GPM-16-L		4.4	8
GPM-16-M		6.4	
GPM-20-L		6.5	12
GPM-20-M		8.3	

SOLENOID VALVE FOR VACUUM VA01 Series

Most suitable for vacuum and vacuum break control

- Compact and lightweight
- Minimized vacuum leak
- Quick response time
- Mountable on manifold
- Usable for air blow



Direct Operate/Rubber Seal/Poppet

Model No.	Mounting	Port	Solenoid	Positions	Port size	Flow rate (ℓ/min(ANR))
VA01PSV23	Sub-base mounting	3	Single	2	M5	22 (at-100kPa)
VA01PSP23	Sub-base mounting	3	Single	2	M5	40 (at0.5MPa)

Voltage/DC24V
Wiring/Lead wire, Connector with lead wire

SOLENOID VALVE FOR VACUUM VA01 Series

Most suitable for attraction and conveyance of very small work

- Lightweight and compact
- One unit works for both Vacuum control and vacuum Break controls.
- Quick response time
- Throttle valve for vacuum Break flow control
- Atmospheric release mechanism
- Manifolding



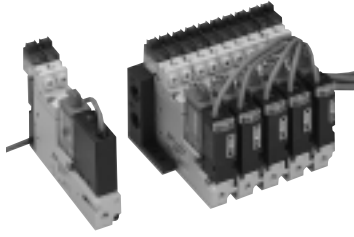
Direct Operate/Rubber Seal/Poppet

Model No.	Mounting	Port	Solenoid	Positions	Port size	Flow rate (ℓ/min(ANR))
VA01RDP33	In-line mounting	3	Double	3	M5	10 (at-90kPa) 8 (at 0.2MPa)
VA01PEP34	Sub-base mounting	4	Double	3	M5	10 (at-100kPa) 8 (at 0.5MPa)

Voltage/DC24V
Wiring/Lead wire (VA01RDP33 only), Connector with lead wire

MULTI-FUNCTION VACUUM UNIT KPV Series

Most suitable for conveyor systems using vacuum pumps.



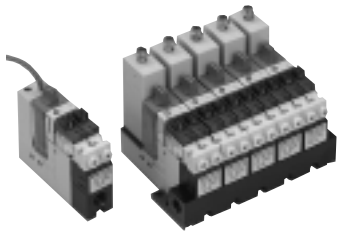
Model No.	Port size	Degree of attainable vacuum (kPa)	Operating pressure range (MPa)
KPV	Port V : M5、 Rc1/8	- 93.3	0.3 ~ 0.5
	Port P、 VP : Rc1/8		

Voltage/DC12, 24V AC100, 200V(50/60Hz)
Wiring/Plug-in connector



VACUUM UNIT WITH BUILT-IN EJECTOR KEV Series

Ejector, evacuator control valve, vacuum release valve, vacuum filter, vacuum sensor and silencer are united into one body.



Model No.	Port size	Degree of attainable vacuum (kPa)	Operating pressure range (MPa)
KEV- 05H	Port P : Rc1/8 Port V : M5	- 86.6	0.15 ~ 0.6
KEV- 07H			
KEV- 10H			
KEV- 05L		- 53.3	
KEV- 07L			

Voltage/DC12, 24V AC100, 200V(50/60Hz)
Wiring/Plug-in connector



VACUUM SENSOR

Choose optional type from among wide variations to meet your application.



Model No.	Pressure setting range (kPa)	Power supply voltage (V)	Output
MVS-030AB	- 10.1 ~ - 101.2	DC12 ~ 24	NPN open collector output : 1 point
MVS-035G	- 2.7 ~ - 101.2		
MVS-070P	0 ~ - 999hPa		
MVS-SGN	- 4 or less ~ 18 ± 2 (Differential pressure)	DC10.8 ~ 30	NPN open collector output : 2 points
MVS-SCN			
MPS-V2C	- 101 ~ 0		
MPS-R2C	- 101 ~ 500		

VACUUM PAD

Vacuum pad is a device for gripping workpiece directly by vacuum (sucking force) and is widely used for conveying workpiece.

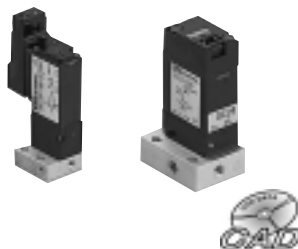


Model No.	Buffer function	Pad type	Pad diameter (mm)
NAPF	Spring type	Standard pad	2 ~ 200
NAPU		Gooseneck pad	10 ~ 200
NAPJ		Bellows pad	6 ~ 80
NAPA		Thin pad	10 ~ 50
PF	Fixed type	Standard pad	2 ~ 200
PU		Gooseneck pad	10 ~ 200

Pad material/Nitril rubber, silicon rubber, Urethane rubber and Fluoric rubber

Directional Control Valves

3·4 PORT MINIATURE SOLENOID VALVE SS Series



Poppet

Model No.	Type	Port	Positions	Port size	Effective area (mm ²)	Pressure range (MPa)
SS23F	Direct	3	2	M3	0.1	0 ~ 0.7
SS23J				M5	0.35	0 ~ 0.8
SS231				M5、Rc1/8	0.6	0 ~ 1

Voltage/DC12, 24 SS23F
 AC100/110, 200/220V(50/60Hz) DC12, 24V SS23J
 AC100/110, 200/220V(50/60Hz) DC24V SS231
 Wiring/Lead wire, Connector with lead wire SS23F, SS23J
 Lead wire, Terminal grommet, Terminal conduit SS231

4 PORT MINIATURE SOLENOID VALVE PC1B, RC1B Series

Compact design with 10mm width,
 Latch type double solenoid.
 Low vacuum applicable.



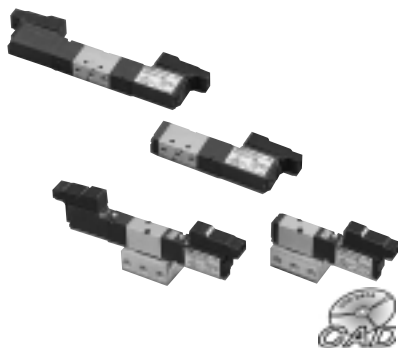
Direct Operate/Rubber Seal/Poppet

Model No.	Mounting	Solenoid	Positions	Port size	Effective area (mm ²)	Pressure range (MPa)
PCS241B	Sub-base mounting	Single	2	M5	1.0	- 0.1 ~ 0.8
PCL241B		Latch type				
RCS241B	In-line mounting	Single		M3		
RCL241B		Latch type				

Voltage/DC12, 24V
 Wiring/Lead wire, Connector with lead wire

3·5 PORT MINIATURE SOLENOID VALVE PC2,RC2 Series

Compact design with 10mm width. Low power consumption of 0.5W.



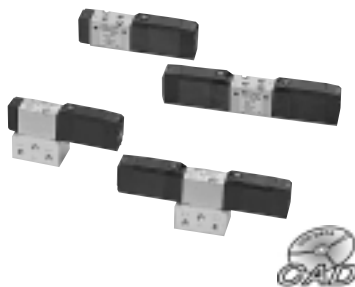
Pilot Operate/Rubber Seal

Model No.	Mounting	Port	Solenoid	Positions	Port size	Effective area (mm ²)	Pressure range (MPa)
PCC232	Sub-base mounting	3	Single	2· NC	M5	1.8	0.2 ~ 0.7
PCO232				2· NO			
PCS242		5	Double	2			
PCD242				3· Closed center			
PCD342				3· Exhaust center			
PCE342				3· Pressure center		0.4	
PCO342	In-line mounting	3	Single	2· NC	M3	2	0.2 ~ 0.7
RCC232				2· NO			
RCO232		5	Double	2			
RCS242				3· Closed center			
RCD242				3· Exhaust center			
RCD342				3· Pressure center		0.4	
RCE342	RCO342						

Voltage/DC12, 24V
Wiring/Lead wire, Connector with lead wire

3·5 PORT SOLENOID VALVE PC5,RC5 Series

Compact design with 15mm width. Flap type solenoid is mounted to assure long service life.



Pilot Operate/Rubber Seal

Model No.	Mounting	Port	Solenoid	Positions	Port size	Effective area (mm ²)	Pressure range (MPa)
PCC235	Sub-base mounting	3	Single	2· NC	M5 Rc ¹ / ₈	3.7 (M5) 4 (Rc ¹ / ₈)	0.2 ~ 0.8 0.2 ~ 0.7 (0.5W type)
PCO235				2· NO			
PCS245		5	Double	2			
PCD245				3· Closed center			
PCD345				3· Exhaust center			
PCE345				3· Pressure center			
PCO345	In-line mounting	3	Single	2· NC	M5	4	0.2 ~ 0.8 0.2 ~ 0.7 (0.5W type)
RCC235				2· NO			
RCO235		5	Double	2			
RCS245				3· Closed center			
RCD245				3· Exhaust center			
RCD345				3· Pressure center			
RCE345	RCO345						

Voltage/AC100/110, 200/220V(50/60Hz) DC12, 24V
DC24V 0.5W type
Standard type
Wiring/Lead wire, Connector with lead wire

5 PORT SOLENOID VALVE PC13,RC13 Series

Compact design with 18mm width. Flap type solenoid is mounted to assure long service life.

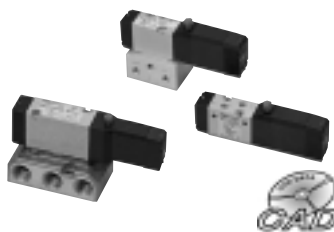


Pilot Operate/Rubber Seal

Model No.	Mounting	Port	Solenoid	Positions	Port size	Effective area (mm ²)	Pressure range (MPa)
PCS2413	Sub-base mounting	5	Single	2	Rc ¹ / ₄	12	0.2 ~ 0.8 0.2 ~ 0.7 (0.5W type)
PCD2413				Double		3· Closed center	
PCD3413			3· Exhaust center				
PCE3413			3· Pressure center	5			
PCO3413	In-line mounting	5	Single	2	Rc ¹ / ₈	12.5	0.2 ~ 0.8 0.2 ~ 0.7 (0.5W type)
RCS2413				Double		3· Closed center	
RCD2413		3· Exhaust center					
RCD3413		3· Pressure center	5				
RCE3413		RCO3413					

Voltage/AC100/110, 200/220V(50/60Hz) DC12, 24V
DC24V 0.5W type
Standard type
Wiring/Lead wire, Connector with lead wire

4·5 PORT LATCHED TYPE SOLENOID VALVE



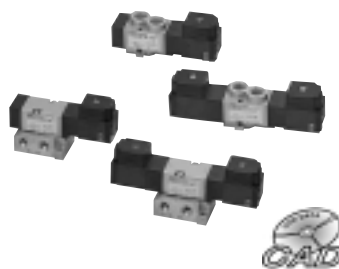
Rubber seal

Model No.	Mounting	Port	Solenoid	Position	Port size	Effective area (mm ²)	Pressure range (MPa)
PCL245	Sub-base In-line	5	Latched type	2	M5, Rc1/8	3.5 (M5) 3.8 (Rc1/8)	0.2 ~ 0.7
PCL2413					Rc1/4	12	
RCL245					M5	3.7	
RCL2413					Rc1/8	12.5	

Voltage/DC24

Wiring/Lead wire, connector with lead wire

5 PORT SOLENOID VALVE PC06,RC06 Series



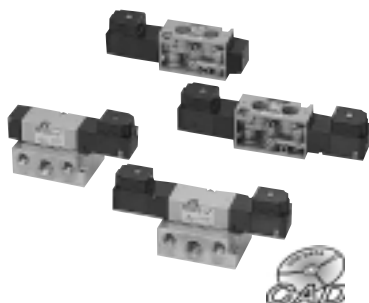
Pilot Operate/Rubber Seal

Model No.	Mounting	Port	Solenoid	Positions	Port size	Effective area (mm ²)	Pressure range (MPa)
PCS2406	Sub-base mounting	5	Single	2	Rc1/4	10	0.2 ~ 0.8
PCD2406			Double	3·Closed center 3·Exhaust center 3·Pressure center		9	
PCE3406							
PCO3406							
RCS2406	In-line mounting	5	Single	2	Rc1/4	12	0.2 ~ 0.8
RCD2406			Double	3·Closed center 3·Exhaust center 3·Pressure center		11	
RCD3406							
RCE3406							
RCO3406							

Voltage/AC100/110, 200/220V (50/60Hz) DC24V

Wiring/Lead wire, Terminal grommet, Terminal conduit, DIN connector

5 PORT SOLENOID VALVE PC08,RC08 Series



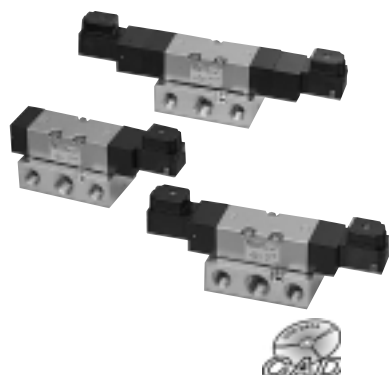
Pilot Operate/Rubber Seal

Model No.	Mounting	Port	Solenoid	Positions	Port size	Effective area (mm ²)	Pressure range (MPa)
PCS2408	Sub-base mounting	5	Single	2	Rc3/8	30	0.2 ~ 0.8
PCD2408			Double	3·Closed center 3·Exhaust center 3·Pressure center		14	
PCE3408							
PCO3408							
RCS2408	In-line mounting	5	Single	2	Rc3/8	30	0.2 ~ 0.8
RCD2408			Double	3·Closed center 3·Exhaust center 3·Pressure center		25	
RCD3408							
RCE3408							
RCO3408							

Voltage/AC100/110, 200/220V (50/60Hz) DC24V

Wiring/Lead wire, Terminal grommet, Terminal conduit, DIN connector

5 PORT SOLENOID VALVE PC15 Series



Pilot Operate/Rubber Seal

Model No.	Mounting	Port	Solenoid	Position	Port size	Effective area (mm ²)	Pressure range (MPa)
PCS2415	Sub-base mounting	5	Single	2	Rc1/2	70	0.2 ~ 0.8
PCD2415			Single	3·Closed center 3·Exhaust center 3·Pressure center		60	
PCE3415							
PCO3415							

Voltage/AC100/110, 200/220V (50/60Hz) DC24V

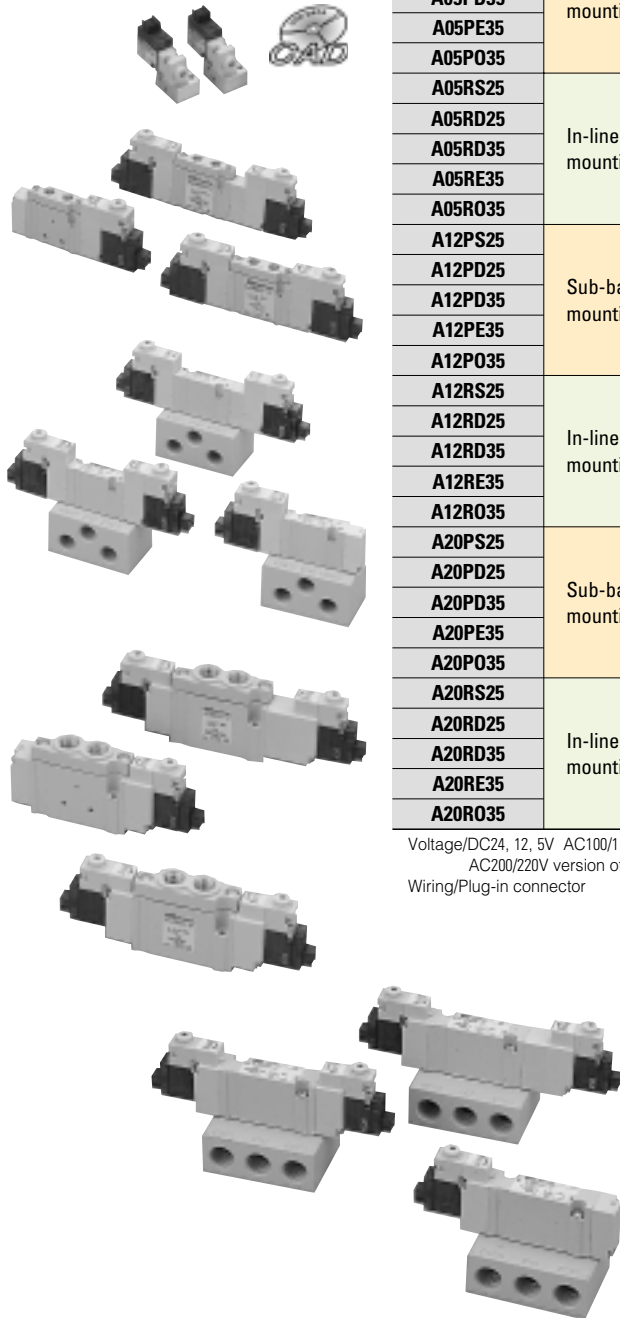
Wiring/Lead wire, Terminal grommet, Terminal conduit, DIN connector



3 PORT MINITURE SOLENOID VALVE A00 Series

5 PORT SOLENOID VALVE A05,12,20 Series

Body width remains the same, but the flow rate 1.5 to 3 times more than conventional valves.



Direct Operate/Poppet

Model No.	Mounting	Port	Positions	Port size	Effective area (mm ²)	Pressure range (MPa)
A00SC23	Sub-base mounting	3	2• NC	M3	0.14	0 ~ 0.7
A00SC23J					0.22	
A00SO23			2• NO		0.14	0 ~ 0.5
A00SO23J					0.22	

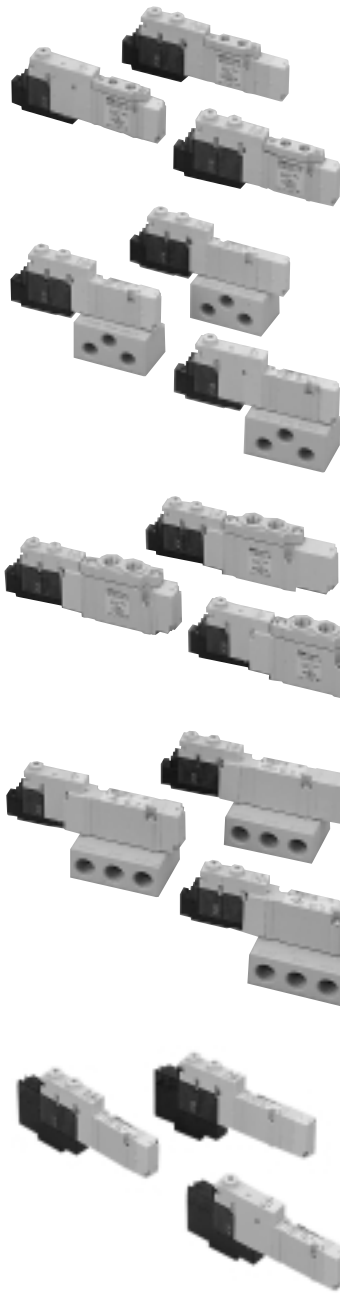
Voltage/DC24, 12, 5V AC100/110V(50/60Hz)
 AC200/220V version of AC100/110V with voltage convertor respectively.
 Wiring/Plug-in connector

Pilot Operate/Rubber Seal

Model No.	Mounting	Port	Solenoid	Positions	Port size	Effective area (mm ²)	Pressure range (MPa)
A05PS25	Sub-base mounting	5	Single	2	Rc1/8	5.8	0.15 ~ 0.7
A05PD25			Double				0.1 ~ 0.7
A05PD35				3• Closed center		4.5	0.2 ~ 0.7
A05PE35				3• Exhaust center			
A05PO35	3• Pressure center	6.7					
A05RS25	In-line mounting	5	Single	2	M5, C4, C6	4	0.15 ~ 0.7
A05RD25			Double				0.1 ~ 0.7
A05RD35				3• Closed center		3.7	0.2 ~ 0.7
A05RE35				3• Exhaust center			
A05RO35	3• Pressure center	4.5					
A12PS25	Sub-base mounting	5	Single	2	Rc1/4	11.1	0.15 ~ 0.7
A12PD25			Double				0.1 ~ 0.7
A12PD35				3• Closed center		7.6	0.2 ~ 0.7
A12PE35				3• Exhaust center			
A12PO35	3• Pressure center	14.1					
A12RS25	In-line mounting	5	Single	2	Rc1/8, C6, C8	8.8	0.15 ~ 0.7
A12RD25			Double				0.1 ~ 0.7
A12RD35				3• Closed center		8.5	0.2 ~ 0.7
A12RE35				3• Exhaust center			
A12RO35	3• Pressure center	12					
A20PS25	Sub-base mounting	5	Single	2	Rc1/4, 3/8	20.6	0.15 ~ 0.7
A20PD25			Double				0.1 ~ 0.7
A20PD35				3• Closed center		15.9	0.2 ~ 0.7
A20PE35				3• Exhaust center			
A20PO35	3• Pressure center	20.5					
A20RS25	In-line mounting	5	Single	2	Rc1/4, C8, C10	17.6	0.15 ~ 0.7
A20RD25			Double				0.1 ~ 0.7
A20RD35				3• Closed center		15.7	0.2 ~ 0.7
A20RE35				3• Exhaust center			
A20RO35	3• Pressure center	18.1					

Voltage/DC24, 12, 5V AC100/110V(50/60Hz)
 AC200/220V version of AC100/110V with voltage convertor respectively.
 Wiring/Plug-in connector

Pilot Operate/Rubber Seal



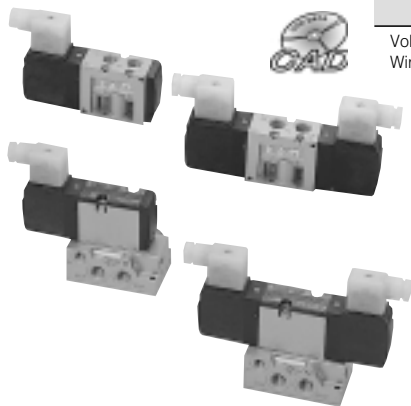
Model No.	Mounting	Port	Solenoid	Positions	Port size	Effective area (mm ²)	Pressure range (MPa)
A05GS25	Sub-base mounting	5	Single	2	Rc1/8	5.8	0.15 ~ 0.7
A05GD25			Double				3• Closed center
A05GD35				3• Exhaust center		0.2 ~ 0.7	
A05GE35				3• Pressure center			
A05G035							
A05FS25	In-line mounting	5	Single	2	M5, C4, C6	4	0.15 ~ 0.7
A05FD25			Double				3• Closed center
A05FD35				3• Exhaust center		0.2 ~ 0.7	
A05FE35				3• Pressure center			
A05F035							
A12GS25	Sub-base mounting	5	Single	2	Rc1/4	11.1	0.15 ~ 0.7
A12GD25			Double				3• Closed center
A12GD35				3• Exhaust center		0.2 ~ 0.7	
A12GE35				3• Pressure center			
A12G035							
A12FS25	In-line mounting	5	Single	2	Rc1/8, C6, C8	8.8	0.15 ~ 0.7
A12FD25			Double				3• Closed center
A12FD35				3• Exhaust center		0.2 ~ 0.7	
A12FE35				3• Pressure center			
A12F035							
A20GS25	Sub-base mounting	5	Single	2	Rc1/4, 3/8	20.6	0.15 ~ 0.7
A20GD25			Double				3• Closed center
A20GD35				3• Exhaust center		0.2 ~ 0.7	
A20GE35				3• Pressure center			
A20G035							
A20FS25	In-line mounting	5	Single	2	Rc1/4, C8, C10	17.6	0.15 ~ 0.7
A20FD25			Double				3• Closed center
A20FD35				3• Exhaust center		0.2 ~ 0.7	
A20FE35				3• Pressure center			
A20F035							
A05ES25	UNI-WIRE manifold mounting	5	Single	2		5.8	0.15 ~ 0.7
A05ED25			Double				3• Closed center
A05ED35				3• Exhaust center		0.2 ~ 0.7	
A05EE35				3• Pressure center			
A05E035							
A12ES25	UNI-WIRE manifold mounting	5	Single	2		11.1	0.15 ~ 0.7
A12ED25			Double				3• Closed center
A12ED35				3• Exhaust center		0.2 ~ 0.7	
A12EE35				3• Pressure center			
A12E035							

Voltage/A G, A F : DC24, 12, 5V A E : DC24V
Wiring/Plug-in connector



5 PORT SOLENOID VALVE K20 Series

Reliable design combination of lapped sleeve & spool and flapper type pilot operator.
Excellent for critical application with high protection grade of IP65, flame resistance plastic material envelop and standard ground terminal connection.
High pressure model up to 1.6 MPa supply pressure available.



Pilot Operate/Metal Seal

Model No.	Mounting	Port	Solenoid	Positions	Port size	Effective area (mm ²)	Pressure range (MPa)
K20GS25	Manifold mounting	5	Single	2	Rc 1/4 G 1/4	18	0.15 ~ 0.8
K20G025			Double				
K20GD35				3• Exhaust center			
K20GE35				3• Pressure center			
K20G035			Sub-base mounting	5			
K20PS25	Double	3• Closed center					
K20P025		3• Exhaust center					
K20PD35		3• Pressure center					
K20PE35	In-line mounting	5			Single	2	Rc 1/4 G 1/4
K20PO35			Double	3• Closed center			
K20RS25				3• Exhaust center			
K20RO25				3• Pressure center			
K20RD35			Double	3• Exhaust center			
K20RE35	3• Pressure center						
K20RO35							

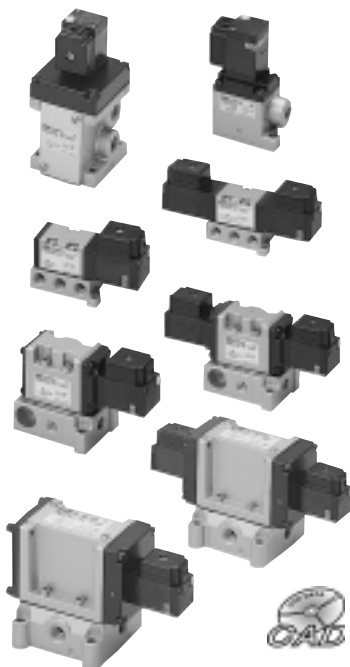
Voltage/AC100/110V, 200/220V(50/60Hz) DC24V
Wiring/Plug-in, DIN connector

K20 SERIES MANIFOLD

The 5 basic manifold models meet broad range of applications.
In terms of wiring, individual, integrated connector and serial interface(UNI-WIRE) come with IP65 protection grade.
Common auxiliary pilot version(except MFU manifold)s available.

3·5 PORT SOLENOID VALVE PM Series

Main valve is of sleeve spool type with metal seal.
Interface between sub-base and body is common to direct acting type solenoid valve A series.



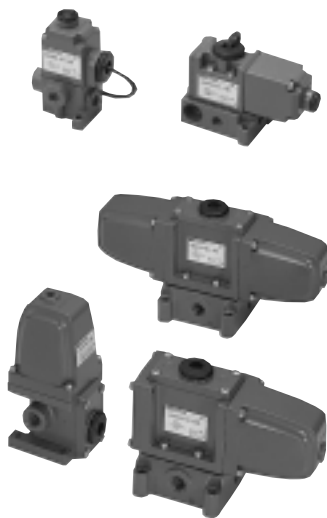
Pilot Operate/Metal Seal/Sub-base Mounting

Model No.	Port	Solenoid	Positions	Port size	Effective area (mm ²)	Pressure range (MPa)
PMS246	5	Single	2	Rc 1/8	6.5	0.15 ~ 1
PMD246		Double				
PMD346			3• Exhaust center			
PME346						
PMS2306	3	Single	2	Rc 1/8, 1/4	11	0.2 ~ 0.7
PMS2406	5				Double	12.5
PMD2406		3• Closed center				
PMD3406	3• Exhaust center					
PME3406				12		
PMS2308	3	Single	2	Rc 1/4, 3/8	22	0.2 ~ 0.7
PMS2408	5				Double	30
PMD2408		3• Closed center				
PMD3408	3• Exhaust center					
PME3408				25		
PMS2310	3	Single	2	Rc 3/8, 1/2	38	0.2 ~ 0.7
PMS2410	5				Double	50
PMD2410		3• Closed center				
PMD3410	3• Exhaust center					
PME3410						
PMS2315	3	Single	2	Rc 1/2, 3/4	80	0.2 ~ 0.7
PMS2415	5				Double	75
PMD2415		3• Closed center				
PMD3415	3• Exhaust center					
PME3415						
PMS2325	3	Single	2	Rc 3/4, 1	190	0.2 ~ 0.7
PMS2425	5			Double	3• Closed center	Rc 3/4, 1
PMD2425		3• Exhaust center	165(Rc 3/4) 190(Rc 1)			
PMD3425						
PME3425						

Voltage/AC100/110, 200/220V(50/60Hz) DC24V
Wiring/Lead wire, Terminal grommet, Terminal conduit, DIN connector

3·5 PORT SOLENOID VALVE A Series

Main valve is of sleeve spool type with metal seal.
Heavy duty type solenoid valve made of aluminium alloy.
Usable in low vacuum application.



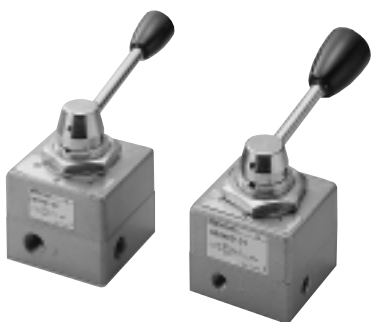
Direct Operate/Metal Seal/Sub-base Mounting

Model No.	Port	Solenoid	Positions	Port size	Effective area (mm ²)	Pressure range (MPa)
AS2306	3	Single	2	Rc1/8、1/4	9	- 0.1 ~ 1
AS2406	5				Double	
AD2406		3· Closed center	9			
AD3406		3· Exhaust center				
ADE3406		3	Single	2		Rc1/4、3/8
AS2408	5	Double			30	
AD2408			3· Closed center	25		
AD3408			3· Exhaust center			
ADE3408			3	Single	2	Rc3/8、1/2
AS2410	5	Double	50			
AD2410			3· Closed center	50		
AD3410			3· Exhaust center			
ADE3410			3	Single	2	Rc1/2、3/4
AS2315	5	Double	75			
AS2415			3· Closed center	75		
AD2415			3· Exhaust center			
AD3415						
ADE3415						

Voltage/AC100, 110, 200, 220V(50/60Hz)
Wiring/Lead wire conduit(06 type only)
Terminal conduit(08 ~ 15 type)

MANUAL CONTROL VALVE MR Series

Rotary type selector valve with metal seal.

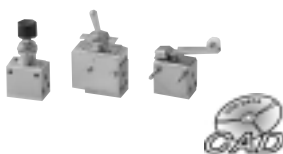


Metal Seal

Model No.	Port	Positions	Port size	Effective area (mm ²)	Pressure range (MPa)
MR3400	4	3 Closed center	Rc1/8	20	0 ~ 1
MR3400M			Rc1/4	36	
MR3401			Rc3/8	65	
MR3402			Rc1/2	110	
MR3403			Rc3/4	230	
MRE3400	4	3 Exhaust center	Rc1/8	20	0 ~ 1
MRE3400M			Rc1/4	36	
MRE3401			Rc3/8	65	
MRE3402			Rc1/2	110	
MRE3403			Rc3/4	230	

MICRO VALVE

Compact hand-operated valve and mechanical operated valve suitable for sequence control signals.



Metal Seal

Actuator	Model No.	Port	Port size	Orifice (mm)	Pressure range (MPa)
Roller lever	MMS232A-RL	3	M5	2	0 ~ 1
Push button	HMS232A-P				
Toggle	HMH232A-T				

MANUAL VALVE M Series

Hand-operated valve with large effective sectional area designed for direct control of actuator.

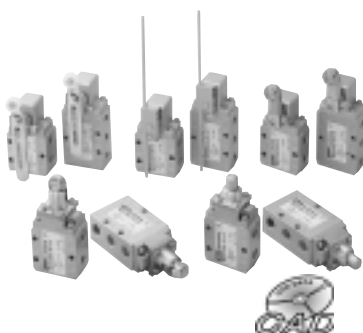


Metal Seal/In-line Mounting

Actuator	Model No.	Port	Port size	Effective area (mm ²)	Pressure range (MPa)
Selector	HHV2306-S	3	Rc1/8, 1/4	10(Rc1/8) 11(Rc1/4)	0 ~ 1
	HHV2406-S	5			
Long lever selector	HHV2306-SL	3			
	HHV2406-SL	5			
Flat type push button	HSV2306-F	3			
	HSV2406-F	5			
Medium-size flat type push button	HSV2306-M	3			
	HSV2406-M	5			
Large-size flat type push button	HSV2306-L	3			
	HSV2406-L	5			

MECHANICAL VALVE M Series

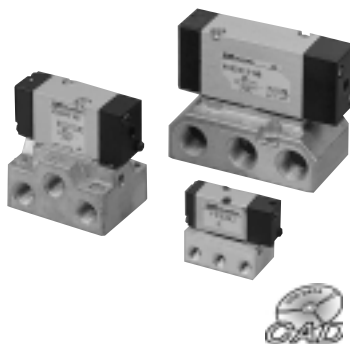
Mechanical valve with large effective sectional area. Direct control of actuator at fixed sequence is possible.



Metal Seal/In-line Mounting

Actuator	Model No.	Port	Port size	Effective area (mm ²)	Pressure range (MPa)
Adjustment rod	MSV2306-VR	3	Rc1/8, 1/4	10(Rc1/8) 11(Rc1/4)	0 ~ 1
	MSV2406-VR	5			
Roller adjustment	MSV2306-VA	3			
	MSV2406-VA	5			
Roller arm	MSV2306-RA	3			
	MSV2406-RA	5			
Roller plunger	MSV2306-RP	3			
	MSV2406-RP	5			
Plunger	MSV2306-PG	3			
	MSV2406-PG	5			

3·5 PORT AIR OPERATED VALVE VC Series



Rubber Seal/Sub-base mounting

Model No.	Port	Position	Port size	Effective area (mm ²)	Pressure range (MPa)	Pilot pressure (MPa)
VCC232	3	2· NC	M5	1.8	0.2 ~ 0.7	0.2 ~ 0.7
VCO232		2· NO				
VCS242	5	2		0.8	0 ~ 0.7	
VCD242		3· Closed center				
VCE342		3· Exhaust center				
VCO342		3· Pressure center				
VCC235	3	2· NC	M5, Rc ¹ / ₈	3.7(M5) 4(Rc ¹ / ₈)	0.2 ~ 0.8	0.2 ~ 0.8
VCO235		2· NO				
VCS245	5	2		2.2(M5) 2.5(Rc ¹ / ₈)	0 ~ 0.8	
VCD245		3· Closed center				
VCE345		3· Exhaust center				
VCO345		3· Pressure center				
VCS2413	5	2	Rc ¹ / ₄	12	0.2 ~ 0.8	0.2 ~ 0.8
VCD2413		3· Closed center		7.5	0 ~ 0.8	
VCE3413			3· Exhaust center			
VCO3413		3· Pressure center				
VCS2408	5	2	Rc ³ / ₈	30	0 ~ 0.8	0.2 ~ 0.8
VCD2408		3· Closed center		25		
VCE3408			3· Exhaust center			
VCO3408		3· Pressure center				
VCS2415	5	2	Rc ¹ / ₂	70	0 ~ 0.8	0.2 ~ 0.8
VCD2415		3· Closed center		60		0.25 ~ 0.8
VCE3415			3· Exhaust center			
VCO3415		3· Pressure center				

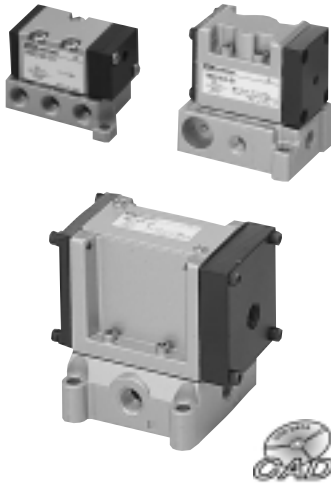
3·5 PORT AIR OPERATED VALVE YC Series



Rubber Seal/In-line mounting

Model No.	Port	Position	Port size	Effective area (mm ²)	Pressure range (MPa)	Pilot pressure (MPa)
YCC232	3	2· NC	M5	1.8	0.2 ~ 0.7	0.2 ~ 0.7
YCO232		2· NO				
YCS242	5	2		0.8	0 ~ 0.7	
YCD242		3· Closed center				
YCE342		3· Exhaust center				
YCO342		3· Pressure center				
YCC235	3	2· NC	M5, Rc ¹ / ₈	4	0.2 ~ 0.8	0.2 ~ 0.8
YCO235		2· NO				
YCS245	5	2		2.2	0 ~ 0.8	
YCD245		3· Closed center				
YCE345		3· Exhaust center				
YCO345		3· Pressure center				
YCS2413	5	2	Rc ¹ / ₈	12.5	0.2 ~ 0.8	0.2 ~ 0.8
YCD2413		3· Closed center		8	0 ~ 0.8	
YCE3413			3· Exhaust center			
YCO3413		3· Pressure center				

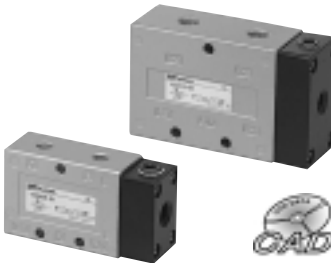
5 PORT AIR OPERATED VALVE VM Series



Metal Seal/Sub-base Mounting

Model No.	Port	Positions	Port size	Effective area (mm ²)	Pressure range (MPa)	Pilot pressure (MPa)
VMS246	5	2	Rc1/8	6.5	- 0.1 ~ 1	0.15 ~ 1
VMD246		3• Closed center				
VMD346		3• Exhaust center				
VME346		3• Exhaust center				
VMS2406	5	2	Rc1/8, 1/4	12.5	- 0.1 ~ 1	0.2 ~ 0.8
VMD2406		3• Closed center		12		
VMD3406		3• Exhaust center				
VME3406		3• Exhaust center				
VMS2408	5	2	Rc1/4, 3/8	30	- 0.1 ~ 1	0.2 ~ 0.8
VMD2408		3• Closed center		25		
VMD3408		3• Exhaust center				
VME3408		3• Exhaust center				
VMS2410	5	2	Rc3/8, 1/2	50	- 0.1 ~ 1	0.2 ~ 0.8
VMD2410		3• Closed center				
VMD3410		3• Exhaust center				
VME3410		3• Exhaust center				
VMS2415	5	2	Rc1/2, 3/4	75	- 0.1 ~ 1	0.2 ~ 0.8
VMD2415		3• Closed center				
VMD3415		3• Exhaust center				
VME3415		3• Exhaust center				
VMS2425	5	2	Rc3/4, 1	170(Rc3/4) 200(Rc1)	- 0.1 ~ 1	0.2 ~ 0.8
VMD2425		3• Closed center		165(Rc3/4) 190(Rc1)		
VMD3425		3• Exhaust center				
VME3425		3• Exhaust center				

3•5 PORT AIR OPERATED VALVE V Series



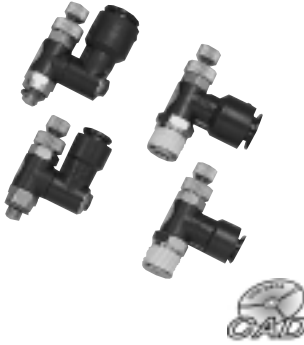
Metal Seal/In-line Mounting

Model No.	Port	Positions	Port size	Effective area (mm ²)	Pressure range (MPa)	Pilot pressure (MPa)
VS2306	3	2	Rc1/8, 1/4	10(Rc1/8) 11(Rc1/4)	- 0.1 ~ 1	0.15 ~ 1
VP2306						
VS2406	5	2	Rc1/8, 1/4	10(Rc1/8) 11(Rc1/4)	- 0.1 ~ 1	0.15 ~ 1
VP2406						
VS2410	5	2	Rc1/4, 3/8, 1/2	40	- 0.1 ~ 1	0.15 ~ 1
VP2410						

Other Equipment

SPEED CONTROLLER WITH PUSH-IN FITTING

For nylon and polyurethane tubes. Sealant is coated on threaded portion, eliminating need for sealing tape.

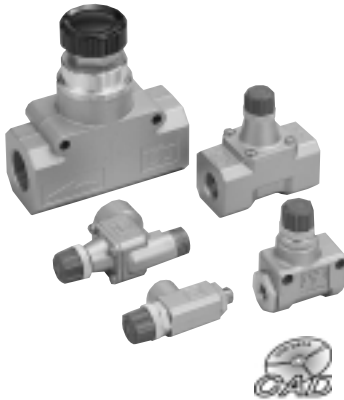


Model No.		Screw size	Applicable tube No.	Pressure range (MPa)
Universal type	Elbow type			
MB4R-M3	M4R-M3	M3	TP-4、TN-4	MAX.0.7
MB4R-M5	M4R-M5	M5		
MB4R-01	M4R-01	Rc $\frac{1}{8}$		
MB6R-M5	M6R-M5	M5	TP-6、TN-6	
MB6R-01	M6R-01	Rc $\frac{1}{8}$		
B6R-M5SC	6R-M5SC	M5		
B6R-01SC	6R-01SC	Rc $\frac{1}{8}$		
B6R-02SC	6R-02SC	Rc $\frac{1}{4}$	TP-8、TN-8	
B8R-01SC	8R-01SC	Rc $\frac{1}{8}$		
B8R-02SC	8R-02SC	Rc $\frac{1}{4}$		
B8R-03SC	8R-03SC	Rc $\frac{3}{8}$	TP-10、TN-10	
B10R-02SC	10R-02SC	Rc $\frac{1}{4}$		
B10R-03SC	10R-03SC	Rc $\frac{3}{8}$		
B10R-04SC	10R-04SC	Rc $\frac{1}{2}$	TP-12、TN-12	
B12R-03SC	12R-03SC	Rc $\frac{3}{8}$		
B12R-04SC	12R-04SC	Rc $\frac{1}{2}$		

Meter-out type and meter-in type available

SPEED CONTROLLER

Outstanding controllability attainable in low flow rate region.



Model No.	Type	Port size (Screw size)	Effective area (mm ²)	Pressure range (MPa)
SP-Z-M3	Straight	M3	0.4	0 ~ 0.8
SPER-Z-M3	Universal elbow			
SPSR-Z-M3	Universal			
SPR-Z-M3	Universal	M5	1.0	
SP-H-M5	Straight			
SPE-H-M5	Elbow			
SPF-H-M5	Flat			
SPER-H-M5	Universal elbow			
SPSR-H-M5	Universal	Rc $\frac{1}{8}$ 、 $\frac{1}{4}$	2.7	0 ~ 1
SPR-H-M5	Universal			
SP-2H-1、2	Straight	R、Rc $\frac{1}{8}$ 、 $\frac{1}{4}$	14、17	
SPE-2H-1、2	Elbow	R、Rc $\frac{1}{8}$ 、 $\frac{1}{4}$		
SP-06-1、2	Straight	Rc $\frac{1}{8}$ 、 $\frac{1}{4}$	39	
SPE-06-1、2	Elbow	R、Rc $\frac{1}{8}$ 、 $\frac{1}{4}$		
SPE-10-3	Elbow	R、Rc $\frac{3}{8}$	45	
SPE-10-34		External R $\frac{1}{2}$ 、Internal Rc $\frac{3}{8}$		
SP-15-3、4、6	Straight	Rc $\frac{3}{8}$ 、 $\frac{1}{2}$ 、 $\frac{3}{4}$	64、69、70	
SP-20-6、8	Straight	Rc $\frac{3}{4}$ 、1	155、174	

METERING VALVE



Model No.	Type
MV-M5	M5
MV-1	R $\frac{1}{8}$
MV-2	R $\frac{1}{4}$
MV-3	R $\frac{3}{8}$
MV-4	R $\frac{1}{2}$
MV-6	R $\frac{3}{4}$
MV-8	R1

AIR MUFFLER



Model No.	Screw size	Effective area (mm ²)	Exhaust noise reduction (dB)
SL-M5	M5	4	Min.20
SL-1	R $\frac{1}{8}$	12	
SL-2L	R $\frac{1}{4}$	30	
SL-6	R $\frac{3}{4}$	80	Min.25
SL-8	R1	150	
AS-6	R $\frac{1}{8}$	16	
AS-8	R $\frac{1}{4}$	40	Min.30
AS-10	R $\frac{3}{8}$	80	
AS-15	R $\frac{1}{2}$	106	

CLEANUP MUFFLER

Removes exhaust noise and oil mist to prevent deterioration of working environment.



Model No.	Port size	Max.flow (m ³ /min(ANR))	Pressure range (MPa)	Oil mist removal (%)
CM-03	Rc $\frac{3}{8}$	450	0 ~ 1	99.9
CM-06	Rc $\frac{3}{4}$	1600		
CM-08	Rc1	3000		

MINIATURE IN-LINE FILTER FOR VACUUM



Model No.	Port size	Pressure range (kPa)	filter element (μm)
LF-M5A	M5	- 100 ~ 0	60
LF-M5AA			40
LF-M5S		- 100 ~ 400	
MFL-M5S			

ROTARY JOINT

Liquid supply to the rotating objects is easy even in a high pressure or a high speed.



Model No.	Port size	Fluid	Rated pressure (MPa)	Max.revolution (rpm)	Pass dia. (mm)	Numbers of pass
RJC-061H	Rc $\frac{1}{4}$	Hydraulic	21	3000	6	1
		Air	1			
RJC-062L	Rc $\frac{1}{4}$	Hydraulic	3	3000	6	2
		Air	1			
RJH-062M	Rc $\frac{1}{4}$	Hydraulic	14	3000	6	2
RJC-122L	Rc $\frac{3}{8}$	Hydraulic	3	2000	12	2
		Air	1			
RJH-122M	Rc $\frac{3}{8}$	Hydraulic	14	2000	12	2

QUICK EXHAUST VALVE



Model No.	Port size	Effective area (mm ²)	Pressure range (MPa)	Note
T70C3800	A port G ³ / ₈ , BC port G ³ / ₈	A B70 B C101	0.05 ~ 1	-
S/511H	A port G ¹ / ₂ , BC port G ³ / ₄	A B73 B C200	0.07 ~ 1	
S/513	A port G ¹ / ₄ , B port G ³ / ₈	A B33 B C70	0.07 ~ 0.7	With muffler
S/514	A port G ¹ / ₂ , B port G ³ / ₄	A B71 B C155		

SHUTTLE VALVE



Model No.	Port size	Effective area (mm ²)	Pressure range (MPa)
T65C1800	G ¹ / ₈	7.7	0.07 ~ 0.98
T65C2800	G ¹ / ₄	11.8	

CHECK VALVE



Model No.	Port size	Effective area (mm ²)	Pressure range (MPa)	Cracking pressure (MPa)
T55C1800	G ¹ / ₈	14	0.01 ~ 1	0.005
T55C2800	G ¹ / ₄	18		
T55C4800	G ¹ / ₂	90		
TS/523	G ³ / ₄	195	0.07 ~ 1	0.03
TS/524	G1	317		

PERMA-STOP

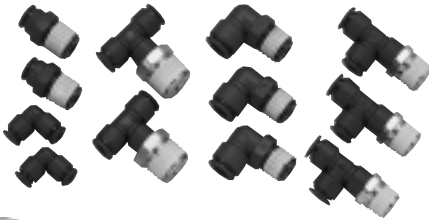
Connects cylinder and valve to stop cylinder halfway, preventing adverse effect by leak in valve.



Model No.	Port size	Effective area (mm ²)	Pressure range (MPa)
ST-10	Rc ¹ / ₄ , ³ / ₈	45	0.15 ~ 1
ST-15	Rc ¹ / ₂	70	
ST-25	Rc ³ / ₄ , 1	190	

PUSH-IN FITTING

For nylon and polyurethane tubes.
Sealant is coated on threaded portion, eliminating need for sealing tape.



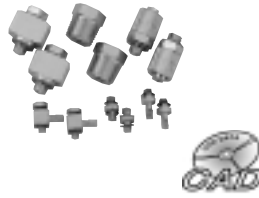
Type	Model	Connection	Applicable tube O.D.				
			4	6	8	10	12
Male connector	M	M5					
		R1/8					
		R1/4					
		R3/8					
		R1/2					
Female connector	F	R1/8					
		R1/4					
		R3/8					
		R1/2					
Male elbow	ML	M5					
		R1/8					
		R1/4					
		R3/8					
		R1/2					
Long male elbow	M2L	R1/8					
		R1/4					
		R3/8					
		R1/2					
Male branch tee	MT	M5					
		R1/8					
		R1/4					
		R3/8					
		R1/2					
Male run tee	RT	M5					
		R1/8					
		R1/4					
		R3/8					
		R1/2					
Union	U	-					
Union elbow	UL	-					
Union tee	UT	-					
Bulk head union	BU	-					

Type	Model	Connection	Applicable tube O.D.				
			4	6	8	10	12
Female bulk	FB	R1/8					
		R1/4					
		R3/8					
Branch Y	BY	M5					
		R1/8					
		R1/4					
		R3/8					
Union Y	UY	-					
Union Y of defferent dia.	UY	4					
		6					
		8					
		10					
Y connector	Y	4					
		6					
		8					
		10					
		12					
Reducer	RC	6					
		8					
		10					
		12					
L connector	LC	4					
		6					
		8					
		10					
Tee connector	TC	4					
		6					
		8					
		10					
Tee connector	TC	12					

Type	Model	Connection	Applicable tube O.D.				
			4	6	8	10	12
Single banjo	S1	M5					
		R1/8					
		R1/4					
		R3/8					
		R1/2					
Single banjo	D1	M5					
		R1/8					
		R1/4					
		R3/8					
Double banjo	S2	M5					
		R1/8					
		R1/4					
		R3/8					
		R1/2					
Double banjo	S1D1	M5					
		R1/8					
		R1/4					
Double banjo	D2	M5					
		R1/8					
		R1/4					
		R3/8					
		R1/2					
Triple banjo	S3	R1/8					
		R1/4					
		R3/8					
Triple banjo	S2D1	R1/8					
		R1/4					
		R3/8					
Triple banjo	S1D2	R1/8					
		R1/4					
		R3/8					
Triple banjo	D3	R1/8					
		R1/4					
		R3/8					
		R1/2					

MINIATURE FITTING

For nylon and polyurethane tubes.



Type	Applicable tube material	Model No.	Connection	Applicable tube O.D.			
				3.2	3.5	4	6
Tube nipple	Nylon	TN-04-M5	M5				
		TN-06-M5					
	Polyurethan	TU-04-M5	M5				
		TU-06-M5					
Barb connector	Nylon	BC-03-M3	M3				
		BC-04-M3					
		BC-03-M5	M5				
	Polyurethan	BC-03-M3	M3				
		BC-04-M3					
		BC-03-M5	M5				
Barb nipple	Nylon	BN-03	-				
	Polyurethan						
universal barb elbow	Nylon	BE-03-M3	M3				
	Polyurethan						
Barb tee	Nylon	BT-03	-				
	Polyurethan						
Barb joint	Nylon	BJ-03	4				
	Polyurethan						

Type	Model No.	Connection
Universal elbow	UE-M5	M5
Universal tee	UT-M3	M3
	UT-M5	M5
Bushing	B-M3	M5-M3
	B-M5	R $\frac{1}{8}$ -M5
Nipple	N-M3	M3
	N-M5	M5
Plug	P-M3	M3
	P-M5	M5
Extension fitting	LN-M3	M3
Panel fitting	PJ-M3	M3
Terminal	TM-M3	Rc $\frac{1}{8}$ -M3
Gasket	G-M3	For M3
	G-M5	For M5

TUBE



Nylon tube

Model	O. D. (mm)	I. D. (mm)	Applicable fitting			Length	
			Barb fitting	Miniature fitting	Instant fitting	20m	100m
TN	3.2	2.2					
	4	2.5					
		3					
	6	4					
		4.5					
	8	6					
	10	7.5					
12	9						

Color/Black, White, Yellow, Red, Green

Polyurethane tube

Model	O. D. (mm)	I. D. (mm)	Applicable fitting			Length		
			Barb fitting	Miniature fitting	Instant fitting	20m	25m	100m
TP	3	1.8						
	3.5	2						
	4	2						
		2.5						
	6	4						
	8	5						
	10	6.5						
	12	8						

Color/Black, White, Yellow, Red, Green, Blue, Clear, Light green

SPIRAL TUBE



Model	O. D. (mm)	I. D. (mm)	Number of turns		
			15	30	45
TPS	4	2			
	6	4			
	8	5			
	10	6.5			
	12	8			

MULTI STRAIGHT TUBE



Model	O. D. (mm)	I. D. (mm)	Cores			
			2	4	6	8
MP	4	2				
	6	4				
	8	5				
	10	6.5				
	12	8				

Air Cleaning Equipment

QUBE Series AIR COMBINATION UNIT

Modular type FRL unit consisting of air filter, air regulator and air lubricator.



Model No.	Port size	Components			Filter element (μm)	Reduced pressure range (MPa)	Option
		Air Filter	Air Regulator	Air Lubricator			
C45-01, 02, 03	Rc $\frac{1}{8}$, $\frac{1}{4}$, $\frac{3}{8}$	F45-01, 02, 03	R45-01, 02, 03	L45-01, 02, 03	5(Standard) 20	0.03 ~ 0.8	Bracket Manual drain Onepush drain Combination drain Drainmaster(45) Automatic drain (65,105)
C45D-01, 02, 03		F45D-01, 02, 03		L45D-01, 02, 03			
C45W-01, 02, 03		F45W-01, 02, 03		L45W-01, 02, 03			
C45L-01, 02, 03		F45-01, 02, 03	L45-01, 02, 03				
C45LD-01, 02, 03		F45D-01, 02, 03	R45L-01, 02, 03	L45D-01, 02, 03			
C45LW-01, 02, 03		F45W-01, 02, 03	L45W-01, 02, 03				
C65-02, 03, 04	Rc $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$	F65-02, 03, 04	R65-02, 03, 04	L65-02, 03, 04	5(Standard) 40	0.03 ~ 0.8	
C65L-02, 03, 04		F65-02, 03, 04	R65L-02, 03, 04	L65-02, 03, 04		0.02 ~ 0.42	
C105-04, 06	Rc $\frac{1}{2}$, $\frac{3}{4}$	F105-04, 06	R105-04, 06	L105-04, 06	5(Standard) 40	0.03 ~ 0.8	
C105D-04, 06		F105D-04, 06		L105D-04, 06			
C105W-04, 06		F105W-04, 06		L105W-04, 06			
C105L-04, 06		F105, 04, 06	L105-04, 06				
C105LD-04, 06		F105D-04, 06	R105L-04, 06	L105D-04, 06			
C105LW-04, 06		F105W-04, 06	L105W-04, 06				
C55-2, 3, 4	Rc $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$	F55-2, 3, 4	R55-2, 3, 4	L55-2, 3, 4	5(Standard) 40	0.03 ~ 0.8	
C55-2, 3, 4D		F55-2, 3, 4D		L55-2, 3, 4D			
C55-2, 3, 4W		F55-2, 3, 4W		L55-2, 3, 4W			
C55-2, 3, 4L		F55-2, 3, 4	L55-2, 3, 4				
C55-2, 3, 4DL		F55-2, 3, 4D	R55-2, 3, 4L	L55-2, 3, 4D			
C55-2, 3, 4WL		F55-2, 3, 4W	L55-2, 3, 4W				

(Note)W: Metal bowl encircled with sight glass

D: Metal bowl without sight glass

QUBE Series AIR COMBINATION UNIT

FRL unit consisting to integral Filter-Regulator and Air Lubricator.



Model No.	Port size	Components		Filter element (μm)	Reduced pressure range (MPa)	Option
		Intergal Filter Regulator	Air Lubricator			
U45-01, 02, 03	Rc $\frac{1}{8}$, $\frac{1}{4}$, $\frac{3}{8}$	B45-01, 02, 03	L45-01, 02, 03	5(Standard) 20	0.03 ~ 0.8	Bracket Manual drain Spring drain Onepush drain Combination drain Drainmaster(45) Automatic drain (65,105)
U45D-01, 02, 03		B45D-01, 02, 03	L45D-01, 02, 03			
U45W-01, 02, 03		B45W-01, 02, 03	L45W-01, 02, 03			
U45L-01, 02, 03		B45L-01, 02, 03	L45-01, 02, 03			
U45LD-01, 02, 03		B45LD-01, 02, 03	L45D-01, 02, 03			
U45LW-01, 02, 03		B45LW-01, 02, 03	L45W-01, 02, 03			
U65-02, 03, 04	Rc $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$	B65-02, 03, 04	L65-02, 03, 04	5(Standard) 40	0.03 ~ 0.8	
U65L-02, 03, 04		B65L-02, 03, 04	L65-02, 03, 04		0.02 ~ 0.42	
U105-04, 06	Rc $\frac{1}{2}$, $\frac{3}{4}$	B105-04, 06	L105-04, 06	5(Standard) 40	0.03 ~ 0.8	
U105D-04, 06		B105D-04, 06	L105D-04, 06			
U105W-04, 06		B105W-04, 06	L105W-04, 06			
U105L-04, 06		B105L-04, 06	L105-04, 06			
U105LD-04, 06		B105LD-04, 06	L105D-04, 06			
U105LW-04, 06		B105LW-04, 06	L105W-04, 06			
U55-2, 3, 4	Rc $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$	B55-2, 3, 4	L55-2, 3, 4	5(Standard) 40	0.03 ~ 0.8	
U55-2, 3, 4D		B55-2, 3, 4D	L55-2, 3, 4D			
U55-2, 3, 4W		B55-2, 3, 4W	L55-2, 3, 4W			
U55-2, 3, 4L		B55-2, 3, 4L	L55-2, 3, 4			
U55-2, 3, 4DL		B55-2, 3, 4DL	L55-2, 3, 4D			
U55-2, 3, 4WL		B55-2, 3, 4WL	L55-2, 3, 4W			

(Note)W: Metal bowl encircled with sight glass

D: Metal bowl without sight glass

QUBE Series AIR FILTER

Separates and removes water and dust in compressed air.



Model No.	Port size	Bowl capacity (cm ³)	Filter element (μm)	Option
F45-01, 02, 03	Rc 1/8, 1/4, 3/8	22	5 (Standard) 20	Bracket Manual drain Spring drain Onepush drain Combination drain Drainmaster(45) Automatic drain(65,105)
F45D-01, 02, 03				
F45W-01, 02, 03				
F65-02, 03, 04	Rc 1/4, 3/8, 1/2	45	5 (Standard) 40	
F105-04, 06	Rc 1/2, 3/4	140		
F105D-04, 06				
F105W-04, 06	Rc 1/4, 3/8, 1/2	47		Bracket Automatic drain Spring drain
F55-2, 3, 4				
F55-2, 3, 4D				
F55-2, 3, 4W				

(Note) W: Metal bowl encircled with sight glass
D: Metal bowl without sight glass

QUBE Series COALESCING FILTER

High-performance air filter capable of removing more than 99.99998% of aerosol consisting of water and oil of more than 0.01 μm.



Model No.	Port size	Recommended max.flow (ℓ/min(ANR))	Bowl capacity (cm ³)	Filter element (μm)	Option
M45-01, 02, 03	Rc 1/8, 1/4, 3/8	250	22	0.01	Bracket Manual drain Spring drain Onepush drain Combination drain Drainmaster(45) Automatic drain(65,105)
M45D-01, 02, 03					
M45W-01, 02, 03					
M65-02, 03, 04	Rc 1/4, 3/8, 1/2	340	45		
M105-04, 06	Rc 1/2, 3/4	750	140		
M105D-04, 06					
M105W-04, 06	Rc 1/4, 3/8, 1/2	340	45		Bracket Automatic drain Spring drain
M55-2, 3, 4					
M55-2, 3, 4D					
M55-2, 3, 4W					

(Note) W: Metal bowl encircled with sight glass
D: Metal bowl without sight glass

QUBE Series SLUDGE FILTER

Separates and removes sludge and drain produced by compressor.



Model No.	Port size	Recommended max.flow (ℓ/min(ANR))	Bowl capacity (cm ³)	Filter element (μm)	Option
S45-01, 02, 03	Rc 1/8, 1/4, 3/8	250	22	0.3	Bracket Manual drain Spring drain Onepush drain Combination drain Drainmaster(45) Automatic drain(65,105)
S45D-01, 02, 03					
S45W-01, 02, 03					
S65-02, 03, 04	Rc 1/4, 3/8, 1/2	340	45		
S105-04, 06	Rc 1/2, 3/4	750	100		
S105D-04, 06					
S105W-04, 06	Rc 1/4, 3/8, 1/2	340	45		Bracket Automatic drain Spring drain
S55-2, 3, 4					
S55-2, 3, 4D					
S55-2, 3, 4W					

(Note) W: Metal bowl encircled with sight glass
D: Metal bowl without sight glass

QUBE Series AIR REGULATOR

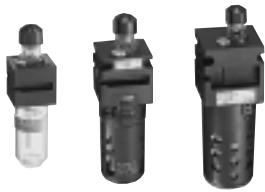
Easy-to-use and high-performance regulator with one-touch locking adjust knob.



Model No.	Port size	Reduced pressure range (MPa)	Max. supply pressure (MPa)	Option
R45-01, 02, 03	Rc 1/8, 1/4, 3/8	0.03 ~ 0.8	1	Bracket Pressure gauge Ring for Panel-mounting
R45L-01, 02, 03		0.02 ~ 0.42		
R65-02, 03, 04	Rc 1/4, 3/8, 1/2	0.03 ~ 0.8		
R65L-02, 03, 04		0.02 ~ 0.42		
R105-04, 06	Rc 1/2, 3/4	0.03 ~ 0.8		
R105L-04, 06		0.02 ~ 0.42		
R55-2, 3, 4	Rc 1/4, 3/8, 1/2	0.03 ~ 0.8		
R55-2, 3, 4L		0.02 ~ 0.42		

QUBE Series AIR LUBRICATOR

Sprays lubricating oil into compressed air.



Model No.	Port size	Bowl capacity (cm ³)	Min air flow for oil dropping (ℓ/min(ANR))	Option
L45-01, 02, 03	Rc $\frac{1}{8}$, $\frac{1}{4}$, $\frac{3}{8}$	43	50	Bracket
L45D-01, 02, 03				
L45W-01, 02, 03				
L65-02, 03, 04	Rc $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$	75	80	
L105-04, 06	Rc $\frac{1}{2}$, $\frac{3}{4}$	240		
L105D-04, 06				
L105W-04, 06				
L55-2, 3, 4	Rc $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$	78	50	
L55-2, 3, 4D				
L55-2, 3, 4W				

(Note)W: Metal bowl encircled with sight glass
D: Metal bowl without sight glass

QUBE Series INTEGRAL FILTER-REGULATOR

Compact design with united air filter and air regulator.

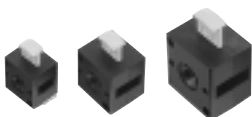


Model No.	Port size	Bowl capacity (cm ³)	Filter element (μm)	Reduced pressure range (MPa)	Option
B45-01, 02, 03	Rc $\frac{1}{8}$, $\frac{1}{4}$, $\frac{3}{8}$	22	5(Standard) 20	0.03 ~ 0.8	Bracket Manual drain Spring drain Onepush drain Combination drain Drainmaster(45) Automatic drain(65,105)
B45D-01, 02, 03				0.02 ~ 0.42	
B45W-01, 02, 03					
B45LD-01, 02, 03					
B45LW-01, 02, 03					
B65-02, 03, 04	Rc $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$	47		0.03 ~ 0.8	
B65L-02, 03, 04				0.02 ~ 0.42	
B105-04, 06	Rc $\frac{1}{2}$, $\frac{3}{4}$	140	5(Standard) 40	0.03 ~ 0.8	
B105D-04, 06				0.02 ~ 0.42	
B105W-04, 06					
B105L-04, 06					
B105LD-04, 06					
B105LW-04, 06					
B55-2, 3, 4	Rc $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$	47	5(Standard) 20	0.03 ~ 0.8	Bracket Pressure gauge Automatic drain Spring drain Ring for panel-monuting
B55-2, 3, 4D					
B55-2, 3, 4W					
B55-2, 3, 4L					
B55-2, 3, 4DL					
B55-2, 3, 4WL					
B55-2, 3, 4WDL					

(Note)W: Metal bowl encircled with sight glass
D: Metal bowl without sight glass

QUBE Series SHUT-OFF VALVE

3-way valve provided to stop main pressure and exhaust remaining pressure in pipes connecting to shut-off valve.



Model No.	Port size	Applicable unit
SV35-01	Rc $\frac{1}{8}$	QUBE45 series
SV35-02	Rc $\frac{1}{4}$	
SV35-03	Rc $\frac{3}{8}$	
SV75-02	Rc $\frac{1}{4}$	QUBE65 series
SV75-03	Rc $\frac{3}{8}$	
SV75-04	Rc $\frac{1}{2}$	
SV105-04	Rc $\frac{1}{2}$	QUBE105 series
SV105-06	Rc $\frac{3}{4}$	

AIR COMBINATION UNIT MINIATURE TYPE

Modular type FRL unit consisting of air filter, air regulator and air lubricator.



Model No.	Port size	Components			Filter element (μm)	Reduced pressure range (MPa)	Option
		Air Filter	Air Regulator	Air Lubricator			
C528(D)02	Rc $\frac{1}{4}$	F504(D)02	R364-02	L508(D)02	5 20(Standard)	0.02 ~ 0.75	Bracket Pressure gauge Drainmaster Spring drain

(Note) C528 : Plastic bowl
C528D : Metal bowl without sight glass

AIR COMBINATION UNIT MINIATURE TYPE

FRL unit consisting to integral Filter-Regulator and Air Lubricator.



Model No.	Port size	Components		Filter element (μm)	Reduced pressure range (MPa)	Option
		Integral Filter Regulator	Air Lubricator			
U558(D)02	Rc $\frac{1}{4}$	B549(D)02	L508(D)02	5 20(Standard)	0.02 ~ 0.75	Bracket Pressure gauge Drainmaster Spring drain

(Note) U558 : Plastic bowl
U558D : Metal bowl without sight glass

AIR FILTER MINIATURE TYPE

Separates and removes water and dust in compressed air.



Model No.	Port size	Bowl capacity (cm^3)	Filter element (μm)	Option
F504-01, 02	Rc $\frac{1}{8}$, $\frac{1}{4}$	10	5(Standard)	Drainmaster
F504D-01, 02	Rc $\frac{1}{8}$, $\frac{1}{4}$		20	Spring drain

(Note) F504 : Plastic bowl
F504D : Metal bowl without sight glass

SLUDGE FILTER

Separates and removes sludge and drain produced by compressor.



Model No.	Port size	Recommended max. flow (ℓ/min (ANR))	Filter element (μm)	Option
S504-01, 02	Rc $\frac{1}{8}$, $\frac{1}{4}$	250	0.3	Drainmaster
S504D-01, 02	Rc $\frac{1}{8}$, $\frac{1}{4}$			Spring drain

(Note) S504 : Plastic bowl
S504D : Metal bowl without sight glass

MICRO MIST FILTER

High-performance air filter capable of removing more than 99.99998% of aerosol consisting of water and oil of more than 0.01 μm .



Model No.	Port size	Recommended max. flow (ℓ/min (ANR))	Filter element (μm)	Oil mist removal (%)	Option
M500-01, 02	Rc $\frac{1}{8}$, $\frac{1}{4}$	250	0.01	99.99998	Drainmaster
M500D-01, 02	Rc $\frac{1}{8}$, $\frac{1}{4}$				Spring drain

(Note) M500 : Plastic bowl
M500D : Metal bowl without sight glass

AIR REGULATOR MINIATURE TYPE



Model No.	Port size	Reduced pressure range (MPa)	Max. supply pressure (MPa)	Option
R364-01、02	Rc1/8、1/4	0.02 ~ 0.75	1.4	Bracket Pressure gauge
R364L-01、02		0.01 ~ 0.3		

AIR LUBRICATOR MINIATURE TYPE



Model No.	Port size	Bowl capacity (cm³)	Max. supply pressure (MPa)	Option
L508-02	Rc1/4	30	1	Bracket
L508D-02			1.2	

(Note) L508 : Plastic bowl
L508D : Metal bowl without sight glass

INTEGRAL FILTER-REGULATOR MINIATURE TYPE



Model No.	Port size	Bowl capacity (cm³)	Filter element (μm)	Reduced pressure range (MPa)	Option
B549-01、02	Rc1/8、1/4	10	5(Standard)	0.02 ~ 0.75	Bracket Spring drain Drainmaster Pressure gauge
B549D-01、02			20		

(Note) B549 : Plastic bowl
B549D : Metal bowl without sight glass

RELIEF VALVE



Model No.	Port size (Screw size)	Reduced pressure range (MPa)
P130-02	Rc1/4(R1/4)	0 ~ 0.07

PRESSURE GAUGE

For air regulators



Model No.	Pressure indicating range	Screw size	Mounting position		
			Screw at behind	Screw at bottom	Direct
G25-52	2.5MPa	R1/4		-	-
G10-52	1MPa	R1/4		-	-
G10-51		R1/8		-	-
G10-41				-	-
G10-21		R1/8		-	-
G10-41A				-	-
G10-21A			-	-	-
G10-3D		-	-	-	-
G06-41	0.6MPa	R1/8		-	-
G06-3D		-	-	-	-
G04-52	0.4MPa	R1/4		-	-
G04-51		R1/8		-	-
G04-41				-	-
G025-41	0.25MPa	R1/8		-	-
G01-41	0.1MPa	R1/8		-	-

(Note) Direct mount pressure gauge for QUBE-45, 65 and 105 series is attached mounting screws.

AIR DRYER KAD Series

This is the air dryer which is ozone safety with R-134a Ozone rupture modulus 0 as refrigerant.



Standard type

Model No.	Air flow (m ³ /min(ANR))	Applicable compressor (HP)	Inlet air condition	Max.pressure (MPa)	Outlet air dew point ()	Power voltage (V Hz)	Connection
KAD-3E	0.3	3	Pressure 0.7MPa Inlet air temperature 35 Ambient temperature 32	1	10 under pressure	1 phase 100 50/60	Rc ³ / ₈
KAD-5G	0.5	5					Rc ¹ / ₂
KAD-10G	1.1	10					Rc ³ / ₄
KAD-15E	1.5	15				3 phase 200 50/60	R ³ / ₄
KAD-30E	3.7	30					1B union
KAD-50E	6.3	50					1 ¹ / ₂ B union

Higher temperature (max.80) inlet type

Model No.	Air flow (m ³ /min(ANR))	Applicable compressor (HP)	Inlet air condition	Max.pressure (MPa)	Outlet air dew point ()	Power voltage (V Hz)	Connection
KAD-5SG	0.5	5	Inlet air condition Pressure 0.7MPa Inlet air temperature 55 Ambient temperature 30	1	5 ~ 14 under pressure	1 phase 100 50/60	Rc ¹ / ₂
KAD-10SG	1.1	10				1 phase 200 50/60	Rc ³ / ₄
KAD-15SE	1.5	15				R ³ / ₄	
KAD-20SE II	2.2	20				R1	
KAD-30SE	3.7	30				3 phase 200 50/60	1B union
KAD-50SE	6.3	50					1 ¹ / ₂ B union
KAD-100SE	12.3	100	2B union				

MEMBRANE TYPE AIR DRYER Q-FIT DRYER KMD Series

No external power source required.
Freon free, environmentally friendly air dryer.



Model No.	Port size	Pressure range (MPa)	Inlet air temperature ()	Outlet air flow rate (m ³ /min(ANR))	Purge air flow rate (m ³ /min(ANR))
KMD2	Rc ¹ / ₄ , ³ / ₈	0.2 ~ 0.8	5 ~ 50	20 ~ 200	24(Std.) 10
KMD5	Rc ¹ / ₂			50 ~ 500	50(Std.) 24

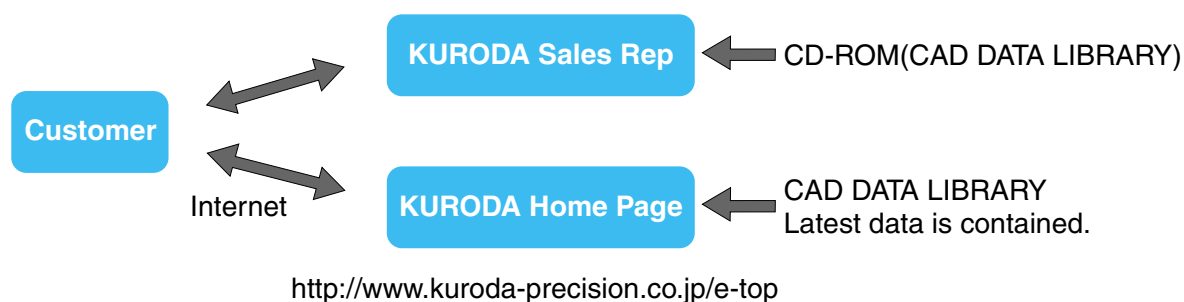
INTRODUCTION OF KURODA CAD DATA LIBRARY

KURODA CAD DATA LIBRARY contains CAD data of pneumatic equipment, ball screws, support units and single-axis modules.

In addition, various tools for selecting pneumatic equipment and ball screws are listed in it. Please use this library to improve the design performance of your FA related equipment.

How to Obtain CAD Data Library

CAD Data Library is available from CD-ROM supplied by our company or our company's Home Page via Internet. For a CD-ROM, please ask KURODA sales representative in charge of your company.



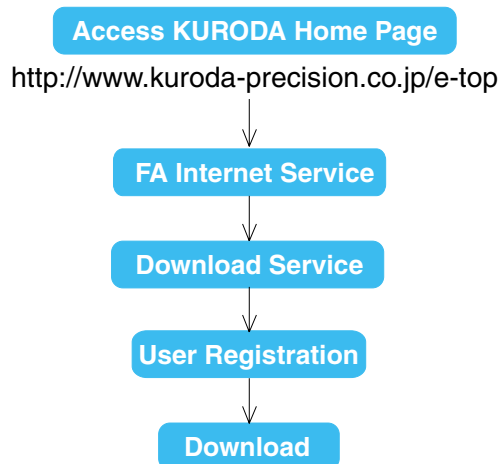
Kind of CAD data

Type of data		CD-ROM	Home Page
DXF	r12		
DWG(AUTO CAD) *1	r12		*2

1 : Name of CAD software is our company's registered trademark.

2 : Some of DWG type product data are not contained

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CAD Data of Main Pneumatic Equipment

Pneumatic Actuators

Series of air cylinders and rotary actuators are listed in CAD DATA LIBRARY.

Pneumatic Grippers/Vacuum Equipment

Series of parallel grippers, rotary opening/closing grippers, vacuum units and pads are listed in it.

Control Valves

Series of solenoid valves such as ADEX VALVES are listed in it.

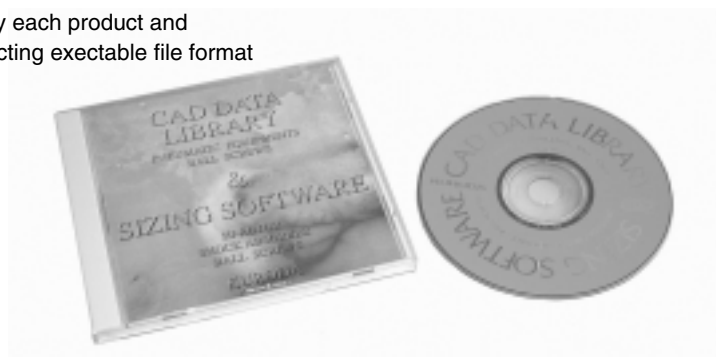
Other Equipment

Series of speed controllers, joints, etc. are listed in it.

Air Cleaning Equipment

Series of FRL combination QUBE are listed in it.

(Note) CAD data is classified by each product and contained in a self-extracting executable file format (.exe).



WARNING

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