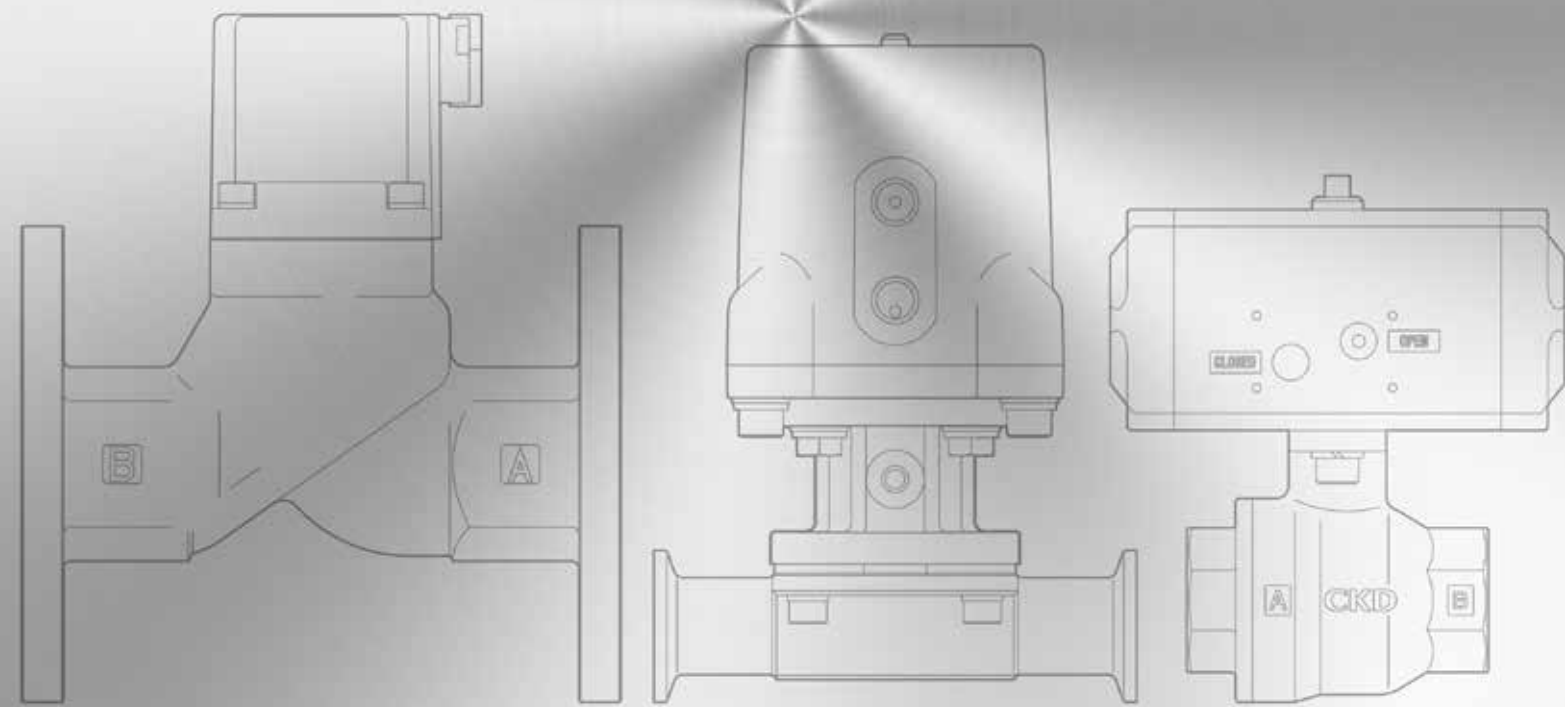


Fluid Control Valve

Stainless Steel Variation

SUS COMPONENTS



Full bore valves added to the Stainless Steel Series lineup



Almost no pressure loss

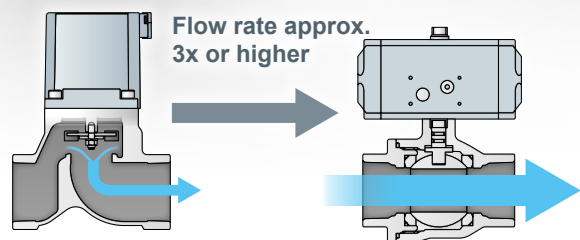
Full bore ball valve mechanism

Due to a full bore ball valve mechanism with identical valve and piping internal diameters, there is almost no differential pressure at the fluid intake/outlet.

Large flow rate with the same piping diameter

Poppet

Full bore ball valve



High corrosion resistance

Stainless steel material

Can also be used for fluid control of detergents, solvents, etc.

Examples of applications

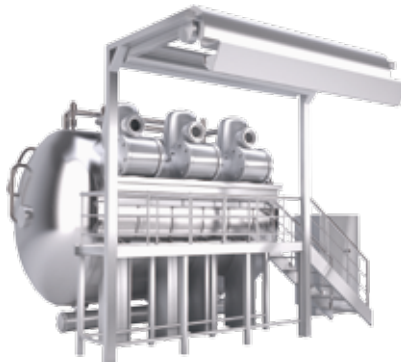
Industrial laundry machines

Liquid detergent control



Fiber material processing equipment

Solvent control



Wire processing machines

Fill/discharge of coolant water



Each stainless steel series also supports series for special applications

P4 Series

Compatible with rechargeable battery manufacturing processes.

Material restrictions for the flow path/sliding parts.

Material restrictions Dry environment

FP1 Series

Food-grade lubricants are used for flow paths and sliding parts.

Lubricant

FP2 Series

Materials compliant with the Food Sanitation Act of Japan for peace of mind.

Lubricant Material Assembly environment

W Series

Proven durability for outdoor use.

Combined cycle test

Accelerated weathering test

Ozone exposure test

Stainless Steel Variation

Actuation	Model	Working fluid	Port size Rc, NPT, G
Air operated ball valve	Standard CHB/G FP2 P4 W	Water Air Oil	3/8 to 2
	For steam CSB W	Steam Water	3/8 to 2
	With solenoid valve CHB/G-X W	Water Air Oil	3/8 to 2
Ball valve motorized	Standard MXB/G FP2	Water Air Oil	3/8 to 2
	With relay MXB/G1D FP2		3/8 to 2
	Oil-prohibited specifications MXB/G1N FP2	Water Air	3/8 to 2
	For steam MSB	Steam Water	3/8 to 2
	Proportional control MXB/GC2	Water	3/8 to 1
Air operated poppet 2-port	Air operated / With solenoid valve SAB/SVB FP1 P4	Water Air Gas Low vacuum Steam Chemical liquid *	1/4 to 80F
	Air operated NAB/GNAB	Air Water Gas Low vacuum (Air , Water)	1/4 / 3/8
Air operated diaphragm 2-port	Diaphragm LAD FP2 P4	Water Pure water Air N₂ Gas	3/8 to 1
	Diaphragm NAD/GNAD FP2 P4	Air Inert gas Water Low vacuum Chemical liquid *	1/4 / 3/8
Air operated/manual weir diaphragm	Air operated SWD	Water Pure water Chemical liquid *	8 A to 1.5 S
	Manual MWD		
Solenoid valve for high vacuum	HVB*12 P4	Air Vacuum Inert gas	1/4 / 3/8
Multi-fluid control solenoid valve	Direct acting/pilot APK11 W AB-Z/AG-Z/ADK-Z P4 APK FP1 AB/AG/ADK FP2	Water Air Kerosene Oil	1/8 to 2
Direct acting solenoid valve for water	FWB/FWG GFWB/GFWG	Water	1/8 to 1/2
Compact pilot operated solenoid valve for water	FWD FP2	Water	1/4 to 1
High corrosion-resistant solenoid valves	HB FP2	Water Pure water Chemical liquid *	M5 to 3/8

*For details, refer to General Purpose Valves (Catalog No. CB-03-1SA).

For details on each series for special applications, refer to FP Series for Food Manufacturing Processes (Catalog No. CC-1271A) , P4 Series for Components for Rechargeable Battery Production (Catalog No. CC-1226A) and Outdoor Products W Series (Catalog No. CC-1276A).

* **Chemical liquid** : Check the compatibility of product component materials and working fluids.



Air operated 2-port ball valve stainless steel full bore
(compact rotary valve)

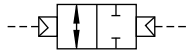
CHBF/CHBF-V* Series CHBF-R*/CHBF-X* Series

● Port size: Rc1/2 to Rc1 1/2

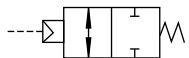


JIS symbol

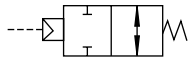
● CHBF
(double acting)



● CHBF-R1
(single acting-NC)



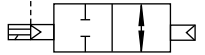
● CHBF-R2
(single acting-NO)



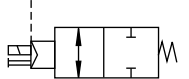
● CHBF-V1
(double acting-NC)



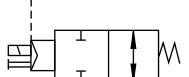
● CHBF-V2
(double acting-NO)



● CHBF-X1
(single acting-NC)



● CHBF-X2
(single acting-NO)



Common specifications

Item		Double acting		Single acting		
		CHBF/CHBF-V*		CHBF-R*/CHBF-X*		
Actuation		Air operated, with solenoid valve				
Working fluid		Water/air/oil (500 mm ² /s or less)				
Working pressure	MPa	0 to 1.0				
Proof pressure (water)	MPa	2.0				
Fluid temp	°C	0 to 80 (no freezing)				
Ambient temp	°C	-10 to 60 (no freezing)				
Working environment		Indoors				
Mounting orientation		Unrestricted				
Frequency	Cycle/min.	1 or less				
Rotary actuator	Pilot fluid	Compressed air				
	Lubrication	Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)				
	Proof pressure (water)	MPa	1.5 (air operated), 1.05 (with solenoid valve)			
	Working pressure	MPa	0.35 to 0.7		0.4 to 0.7	
	Fluid temp	°C	5 to 60			
	Port size	Rc1/8				

Electrical specifications (with solenoid valve)

Rated voltage		100 VAC (50/60 Hz), 200 VAC (50/60 Hz), 24 VDC		
Starting current (A) (with lamp)	100 VAC	0.056/0.044 (50/60 Hz)		
	200 VAC	0.028/0.022 (50/60 Hz)		
	24 VDC	0.075 (0.083)		
Holding current (A)	100 VAC	0.028/0.022 (50/60 Hz)		
	200 VAC	0.014/0.011 (50/60 Hz)		
	24 VDC	0.075		
Power consumption (W) (with lamp)	100 VAC	1.8/1.4 (1.9/1.5) (50/60 Hz)		
	200 VAC	1.8/1.4 (1.9/1.5) (50/60 Hz)		
	24 VDC	1.8 (2.0)		
Thermal class		Class 130 (B)		
Degree of protection		Dust-proof		
Voltage fluctuation range		±10%		

Individual specifications

Item	Model No.	Port size	Orifice size (mm)	Cv	Weight (kg)		Weight (kg)	
					Air operated		With solenoid valve	
					Double acting	Single acting	Double acting	Single acting
Full bore	CHBF-(-)-15	Rc1/2	15	23	1.1	1.2	1.3	1.4
	CHBF-(-)-20	Rc3/4	20	51	1.3	2.1	1.5	2.3
	CHBF-(-)-25	Rc1	25	66	2.0	2.4	2.2	2.6
	CHBF-(-)-32	Rc1 1/4	32	114	2.5	4.7	2.7	4.9
	CHBF-(-)-40	Rc1 1/2	40	176	3.2	5.4	3.4	5.6

*1: Weight increases by 0.2 kg with one limit switch and by 0.3 kg with two limit switches.

2: Limit switch CHBF-R-32/40 and CHBF-X*-32/40 are made-to-order products.

CHBF/CHBF-V* CHBF-R*/CHBF-X* Series

How to order

● Air operated

CHBF - **R1** - **15** - **N** ————— **FP2**

● With solenoid valve

CHBF - **V1** - **25** - **N** **B** - **W** **S** - **AC100V**

A Actuator

B Port size

C Body material

D Coil option

E Limit switch

F Other options

G Voltage

H Series

H Series

Standard

Blank

For food
manuf.
processes

For rechargeable
batt. prod.
components

FP2 P4

Air operated

Code	Description	Air operated	+Solenoid valve	Air operated	
A Actuator					
Blank	Double acting	●		●	●
R1	Single acting NC (normally closed)	●		●	
R2	Single acting NO (normally open)	●		●	
V1	Double acting NC (normally closed)		●		
V2	Double acting NO (normally open)		●		
X1	Single acting NC (normally closed)		●		
X2	Single acting NO (normally open)		●		
B Port size					
15	Rc1/2	●	●	●	●
20	Rc3/4	●	●	●	●
25	Rc1	●	●	●	●
32	Rc1 1/4	●	●	●	●
40	Rc1 1/2	●	●	●	●
C Body material					
E	Stainless steel	●	●		
N	Stainless steel/oil-prohibited specifications	●	●	●	●
D Coil option					
Blank	Grommet lead wire		●		
B	Compact terminal box		●		
L	Compact terminal box with lamp (Surge suppressor is built into the DC type)		●		
C	C type connector with lead wire		●		
C2	C type connector with lead wire with surge suppressor and indicator lamp		●		
D	D type connector with lead wire		●		
D2	D type connector with lead wire with surge suppressor and indicator lamp		●		
E Limit switch *1 *2					
Blank	Without switch	●	●	●	●
H	Detection at valve open	●	●		
V	Detection at valve closed	●	●		
W	With 2 switches	●	●		
F Other options					
Blank	No	●	●	●	●
S	Metering valve with silencer *3		●		
G Voltage					
AC100V	100 VAC 50 Hz/60 Hz, 110 VAC/60 Hz		●		
AC200V	200 VAC 50 Hz/60 Hz, 220 VAC/60 Hz		●		
DC24V	24 VDC		●		

[Example of model No.]

CHBF-R1-15-E-W

Model name: CHBF (Full bore)

- A** Actuator : Single acting
NC (normally closed)
- B** Port size : Rc1/2
- C** Body material : Stainless steel
- E** Limit switch : With 2 switches

1: CHBF-R-32/40 and CHBF-X*-32/40 with limit switch are made to order products.

*2: OMRON D4E-1G20N

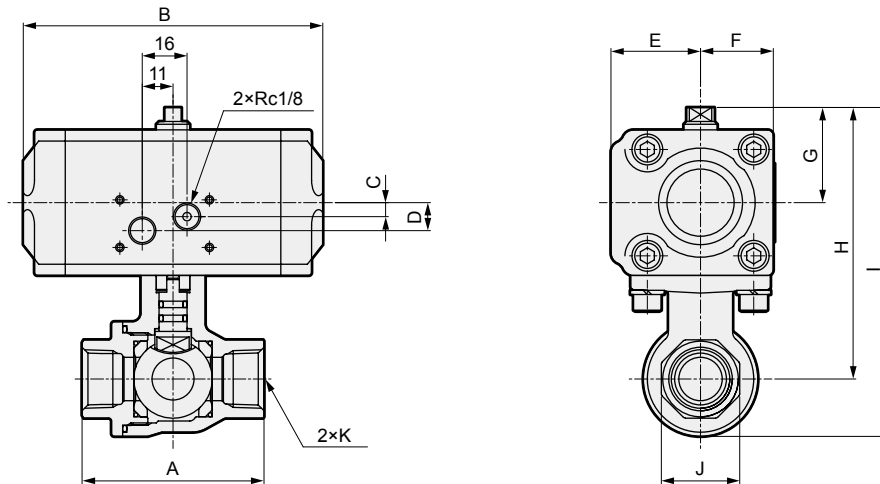
*3: CKD SMW2-6A is included with the product.

CHBF/CHBF-R* Series

Dimensions: CHBF/CHBF-R* Series

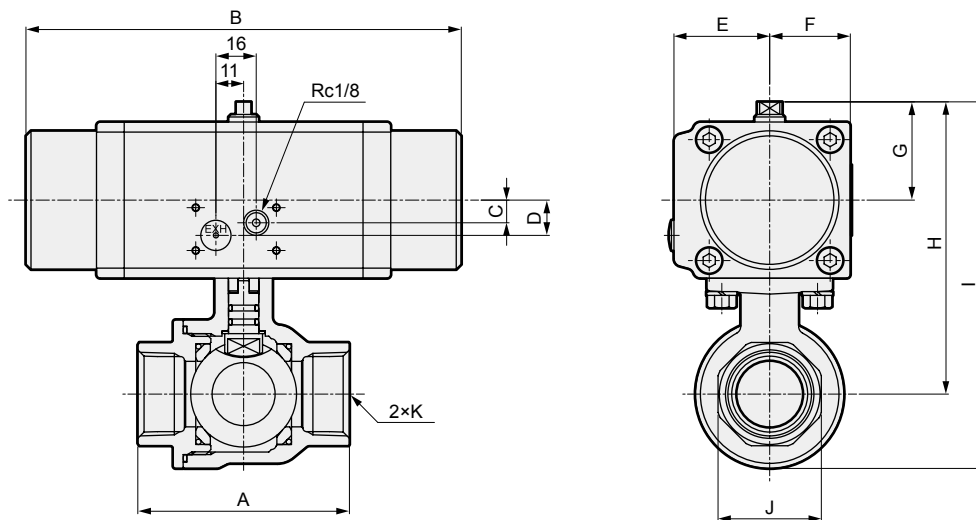


●CHBF-15/20/25/32/40 CHBF-R*-15

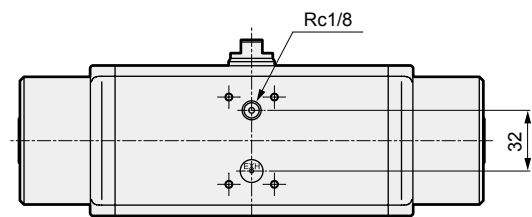


Model No.	A	B	C	D	E	F	G	H	I	J	K
CHBF-15	65	107	5	10	32	26	34	97	117.5	28	Rc1/2
CHBF-R*-15								100	124	34	Rc3/4
CHBF-20	71	125	9	14	38	32	39	116	144.5	41	Rc1
CHBF-25	84							122	156.5	50	Rc1 1/4
CHBF-32	95							131	171.5	57	Rc1 1/2
CHBF-40	107										

●CHBF-R*-20/25/32/40



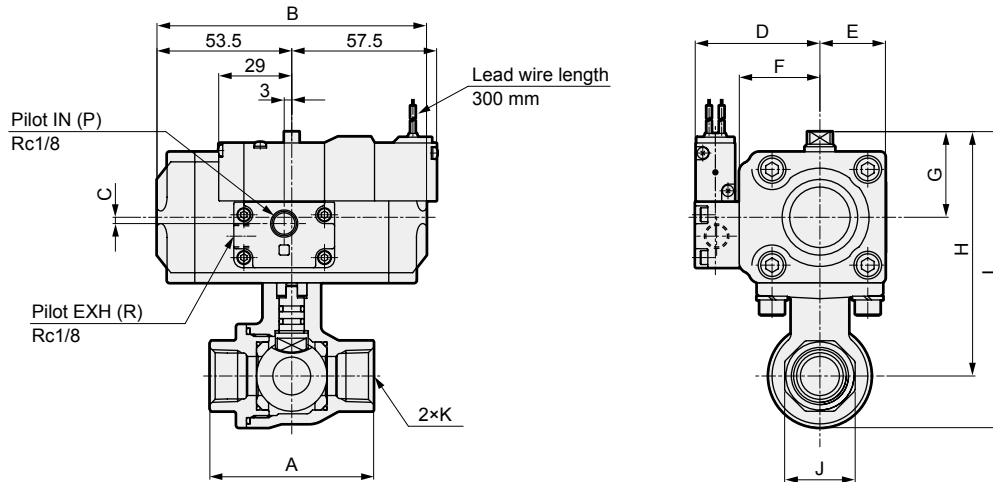
●CHBF-R*-32/40 Actuator



Model	A	B	C	D	E	F	G	H	I	J	K
CHBF-R*-20	71	173	9	14	38	32	39	110	134	34	Rc3/4
CHBF-R*-25	84							116	144.5	41	Rc1
CHBF-R*-32	95	244	-	-	43	38	53	156.5	191	50	Rc1 1/4
CHBF-R*-40	107		-	-				165.5	206	57	Rc1 1/2

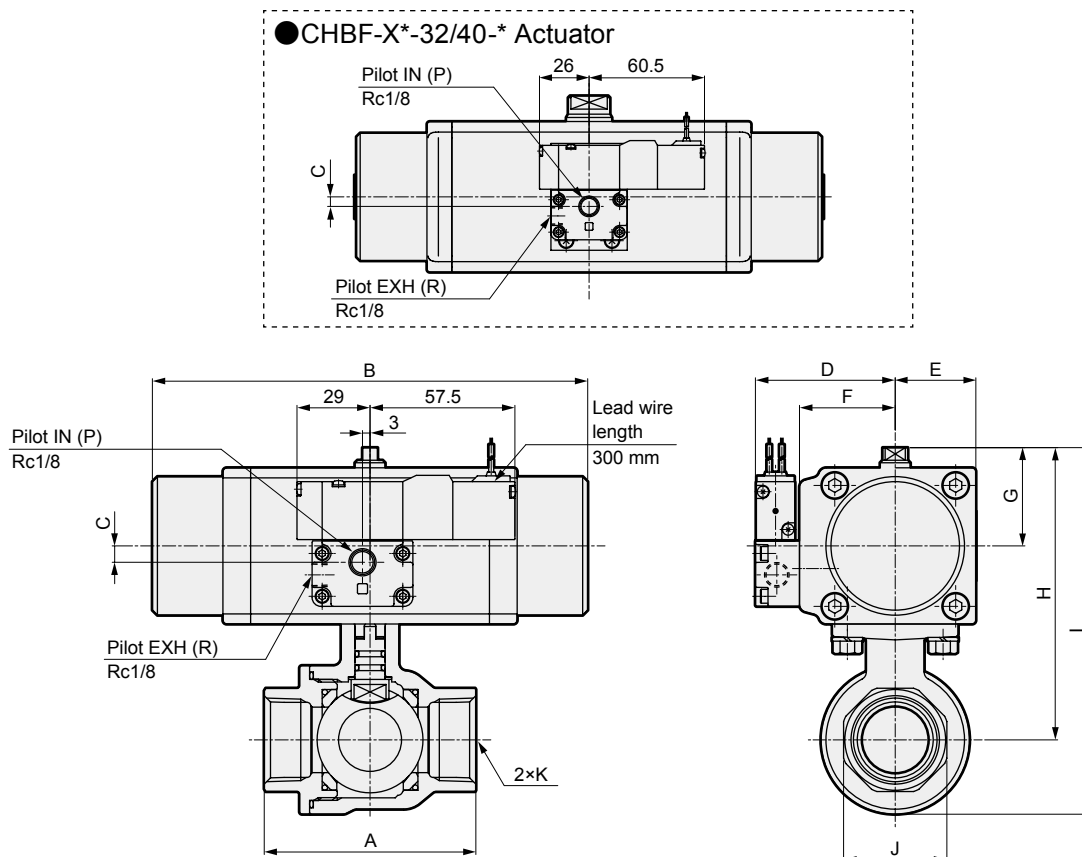
Dimensions: CHBF-V*/CHBF-X* Series

- CHBF-V*-15/20/25/32/40-*
- CHBF-X*-15-*



Model No.	A	B	C	D	E	F	G	H	I	J	K
CHBF-V*-15-*	65	107	2.5	49.5	26	32	34	97	117.5	28	Rc1/2
CHBF-X*-15-*								100	124	34	Rc3/4
CHBF-V*-20-*	71	125	6.5	55.5	32	38	39	116	144.5	41	Rc1
CHBF-V*-25-*	84							122	156.5	50	Rc1 1/4
CHBF-V*-32-*	95							131	171.5	57	Rc1 1/2
CHBF-V*-40-*	107										

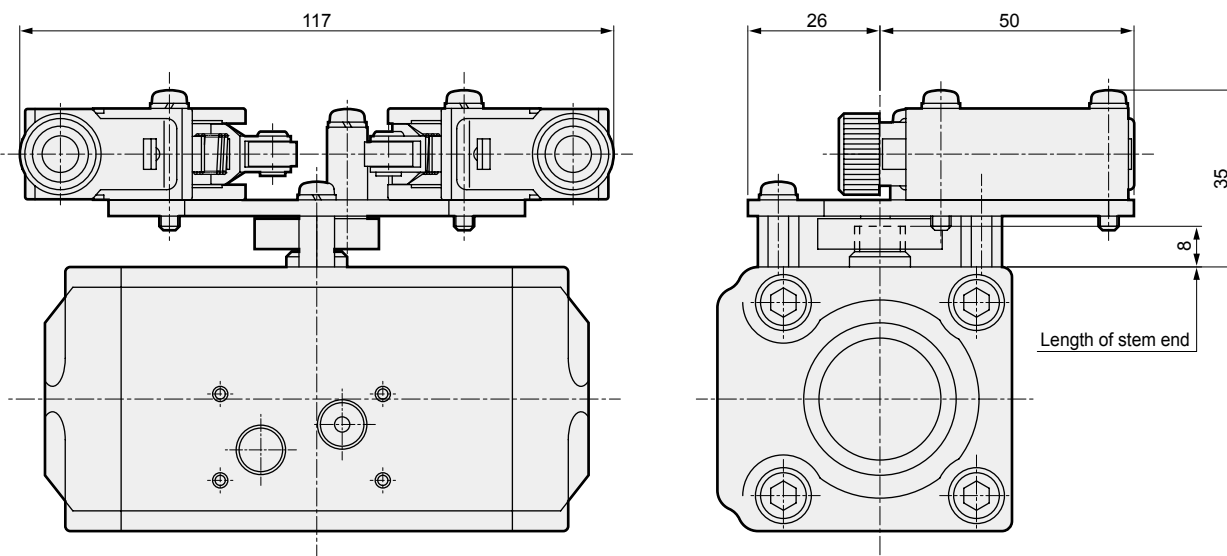
- CHBF-X*-20/25/32/40-*



Model	A	B	C	D	E	F	G	H	I	J	K
CHBF-X*-20-*	71	173	6.5	55.5	32	38	39	110	134	34	Rc3/4
CHBF-X*-25-*	84							116	144.5	41	Rc1
CHBF-X*-32-*	95	244	5	70.5	38	43	53	156.5	191	50	Rc1 1/4
CHBF-X*-40-*	107							165.5	206	57	Rc1 1/2

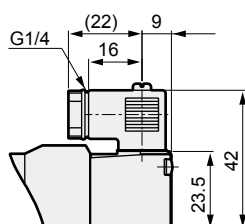


● Limit switch

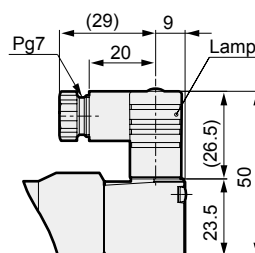


● Compact terminal box: (B [without indicator lamp]/L [with indicator lamp])

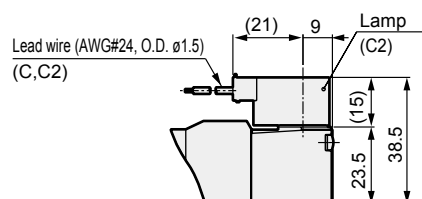
Without indicator lamp



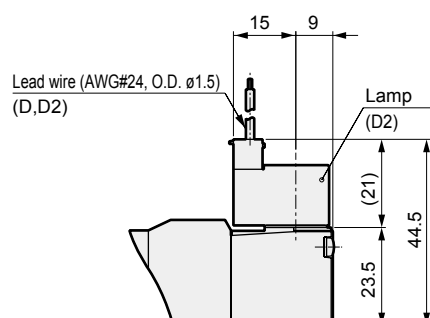
With indicator lamp



● C-connector: (C/C2)



● D-connector: (D/D2)



MEMO

Stainless Steel Variation

Air operated 2, 3-port ball valve (compact rotary valve) CHB/G



[Large flow rate]

Large flow rate control is possible with low pressure loss ball valve.

[Reliability]

Stable operation resistant to foreign matter is realized by strong air operated opening and closing.

[Ease of use]

Bi-directional pressurization is possible with 2-port valve.

[Wide variation]

Supports a wide range of port sizes from 3/8 to 2. Available for various applications with a lineup including models with spring return and with solenoid valve. Stainless steel full bore added to lineup

Motorized 2, 3-port ball valve MXB/G



[Safety/Large flow rate]

Motorized ball valve with low pressure loss and low water hammer. Various types of fluids can be controlled, from general fluids to pure water, with a wide range of port sizes and optional variations.

[Wide variation]

A wide range of port sizes from 3/8 to 2 is available.

Available for various applications such as oil-prohibited specifications.

Air operated 2-port valve (cylinder valve) SAB/SVB



[Reliability]

External pilot air operated cylinder is resistant to foreign matter and guarantees reliable opening/closing.

[Supports multiple fluids]

Series that supports water, air, low vacuum and steam is available.

By selecting the body and sealant material option in each series, a wider range of fluids can be supported.

Abundant port sizes from Rc1/4 to 80 flange.

[Improved workability]

The actuator section can be changed in 4 directions, enabling easy piping and wiring work.

Air operated 2-port valve NAB/GNAB



[Supports multiple fluids]

The body material (copper alloy/stainless steel) and sealant material (nitrile rubber/fluoro rubber) can be selected accordingly to support various fluids.

[Lightweight]

It is compact, lightweight and can be further reduced in weight by selecting PPS resin as the cylinder guard material.

[Easy air piping]

In connection for the external pilot air, integrated fitting for fiber tube (ø1.8 mm air tube) can be selected.

Multi-fluid control solenoid valve AB/AG/GAB/GAG/AP/AD/APK/ADK



[Supports multiple fluids]

Supports various fluids including air, water, gas, oil, vacuum, etc.

[Wide variety of options and variations]

Varieties of options including wetted parts material and coil housing.

[Wide range of series and variations]

Wide ranging series options.

(Direct acting): 2/3-port valve, port size, orifice size, and working pressure, etc.

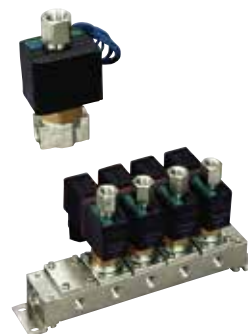
(Pilot): piston, diaphragm, port size, orifice size, and working pressure etc.

[Energy saving]

DC low wattage series power consumption: 7 W.

Substantial energy savings compared with 11 W of conventional models.

Direct acting solenoid valve for water FWB/FWG/GFWB/GFWG



[Wide range of series and variations]

Four types with coil width 22 to 40 mm are available.

Series variation with different port sizes, orifice sizes, and working pressure.

[Energy saving/space saving]

Realizes dedicated fluid support with a more compact form and decreased wattage.

[Reliability]

Improved corrosion resistance with the adoption of a special magnetic substance.

Stainless Steel Variation

Diaphragm cylinder valve LAD



[Clean]

By separating the sliding part from the flow path, a clean flow path is ensured without using grease.

Supports metal-free usage.

[Supports multiple fluids]

It can control various fluids from general fluids to nitrogen gas and pure water depending on the body material (PPS resin/stainless steel) and diaphragm material (PTFE/EPDM) selected.

[Large flow rate/compact body]

The flow path structure with low pressure loss supports a large flow rate with a compact body.

[Flow rate adjustment]

The flow rate can be adjusted with the optional manual flow adjustment mechanism.

Diaphragm cylinder valve NAD/GNAD



[Clean]

By separating the sliding part from the flow path, a clean flow path is ensured without using grease.

[Space saving/reduced processes]

Manifold is available, making it possible to save piping space and reduce piping hours.

Weir diaphragm valve SWD/MWD



[Sterilization]

Seal structure that prevents accumulation of liquids to ensure sterilization. SIP and CIP are also supported.

[Washability]

High liquid displacement to reduce cleaning work-hours.

[Compact]

By adopting a thin film diaphragm and reducing the opening and closing load, the actuator can be made more compact.

[Maintainability]

Improved diaphragm replacement workability by unique positioning mechanism.

Solenoid valve for high vacuum HVB



[High vacuum]

Vacuum leakage rate 1.0×10^{-9} Pa·m³/s or less, compatible with high vacuum systems.

[Lightweight and compact]

Lightweight and compact thanks to the thin coil.

[Variation]

Optimum selection is possible from four coil sizes and multiple orifice sizes.

[Wide range of connections]

VCR compatible fitting (JXR fitting), double barbed integrated fitting also available, vacuum container, degree of vacuum retention for piping.

Compact pilot operated solenoid valve for water FWD



[Energy saving]

Dedicated fluid support with low power consumption.

[Space saving/lightweight]

Materials optimized to realize downsizing and weight reduction.

[Large flow rate]

Compared with conventional models, 1.3x or more.

[Sealant]

Fluoro rubber available as option.

High corrosion-resistant solenoid valves HB



[High corrosion resistance]

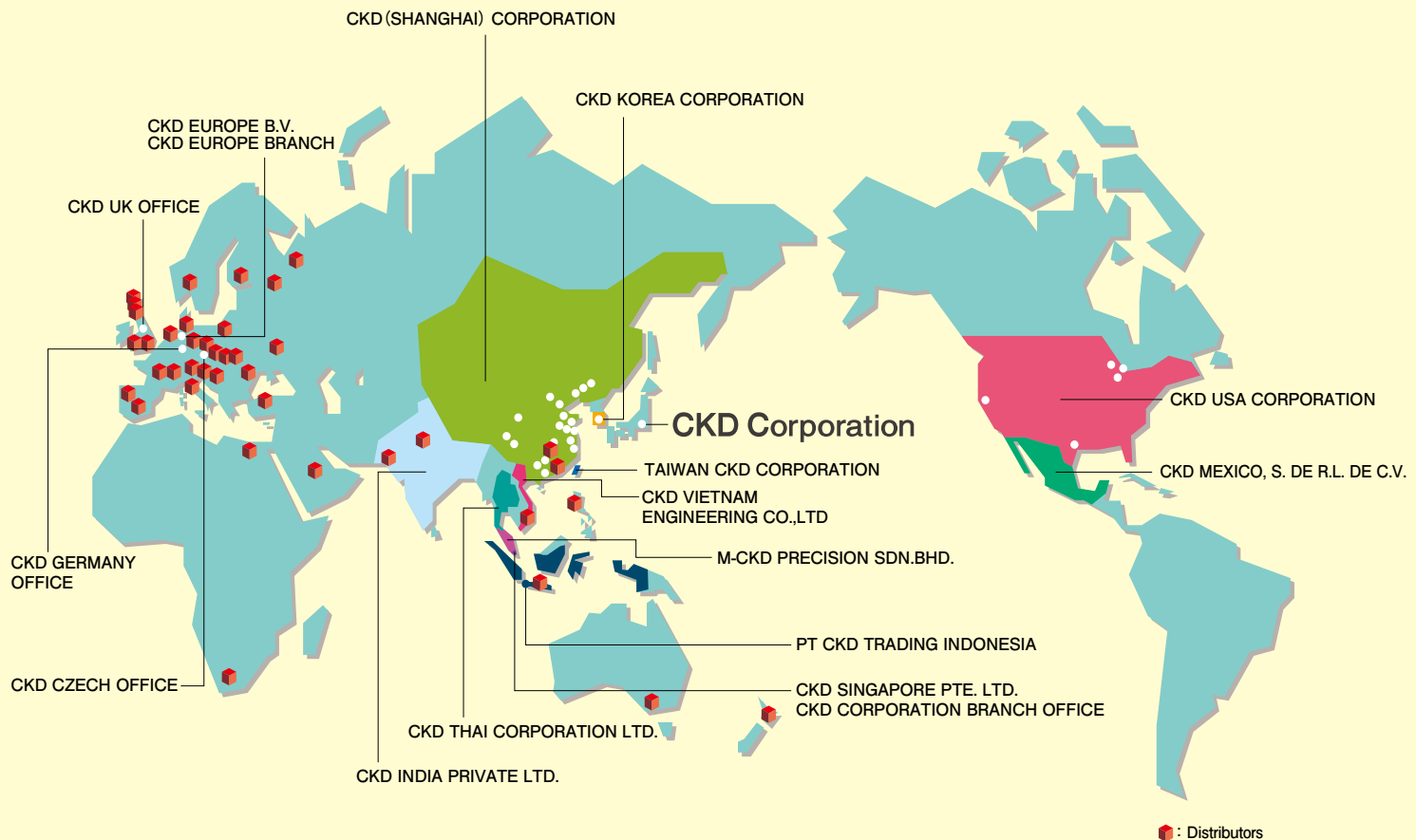
Control solenoid valve for water and pure water that employs high corrosion resistance stainless steel.

[Reduction of internal residue]

Minimizes contamination and alteration of fluid by reducing internal residues.

[Supports most advanced industries]

Can be used with deionized water and semiconductor cleaning agent.



● : Distributors

CKD Corporation

Website <https://www.ckd.co.jp/>

ASIA

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