

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

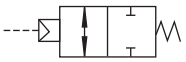
RoHS CAD

JIS symbol

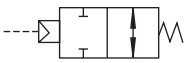
● CHBF (double acting)



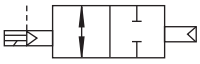
● CHBF-R1 (single acting-NC)



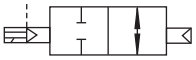
● CHBF-R2 (single acting-NO)



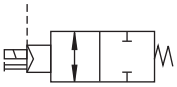
● CHBF-V1 (double acting-NC)



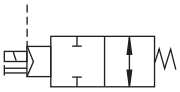
● CHBF-V2 (double acting-NO)



● CHBF-X1 (single acting-NC)



● CHBF-X2 (single acting-NO)



Common specifications

Descriptions		Double acting	Single acting
		CHBF/CHBF-V*	CHBF-R*/CHBF-X*
Actuation		Air operated, with solenoid valve	
Working fluid		Water/air/oil (500 mm²/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	
Rotary actuator: Lubrication		Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)	
Rotary actuator: Proof pressure (water)	MPa	1.5 (air operated), 1.05 (with solenoid valve)	
Rotary actuator: Working pressure	MPa	0.35 to 0.7	0.4 to 0.7
Rotary actuator: Fluid temp	°C	5 to 60	
Rotary actuator: 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

Descriptions / Model No.		Port size	Orifice size (mm)	Cv	Weight (kg) Air operated		Weight (kg) 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.

How to order

●Air operated

CHBF - R1 15 - E — H — FP2

●With solenoid valve

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

Code	Content	Air operated	With solenoid valve
Ⓐ 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)		●
Ⓑ Port size			
15	Rc1/2	●	●
20	Rc3/4	●	●
25	Rc1	●	●
32	Rc1 1/4	●	●
40	Rc1 1/2	●	●
Ⓒ Body material			
E	Stainless steel	●	●
N	Stainless steel/oil-prohibited specifications	●	●
Ⓓ 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-connector with lead wire		●
C2	C-connector with lead wire with surge suppressor and indicator lamp		●
D	D-connector with lead wire		●
D2	D-connector with lead wire with surge suppressor and indicator lamp		●
Ⓔ Limit switch *1 *2 *3			
Blank	Without switch	●	●
H	Detection at valve open	●	●
V	Detection at valve closed	●	●
W	With 2 switches	●	●
Ⓕ Other options			
Blank	No	●	●
S	Metering valve with silencer *4		●
Ⓖ 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		●
Ⓗ Series			
Blank	Standard	●	●
FP2	Series for food manufacturing processes	●	
P4	Series for components for rechargeable battery production	●	

1: CHBF-R-32/40 and CHBF-X*-32/40 with limit switch are made-to-order products.
*2: OMRON D4E-1G20N
*3: The limit switch option is not available for the FP2 and P4 Series.
*4: CKD SMW2-6A is attached with the product.

[Example of model No.]

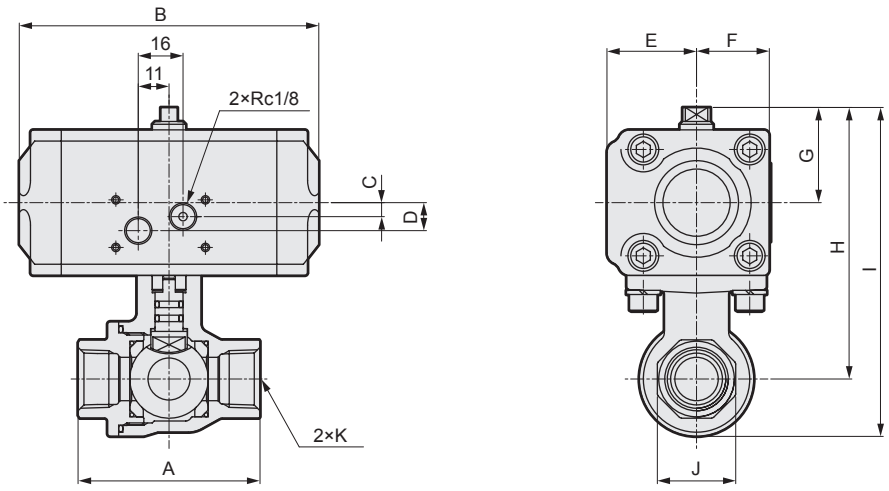
CHBF-R1-15-E-W

Model name: CHBF (Full bore)

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

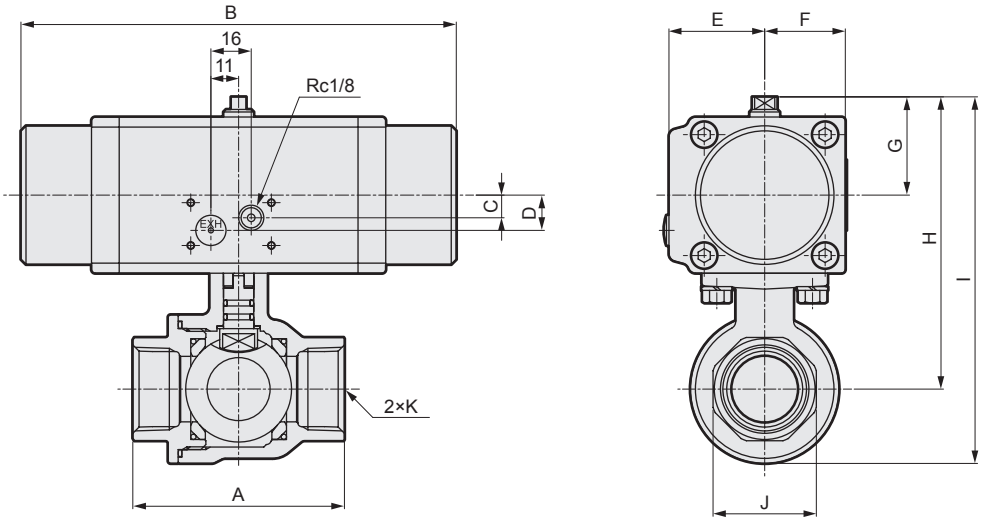
Dimensions: CHBF/CHBF-R* Series

●CHBF-15/20/25/32/40
CHBF-R*-15

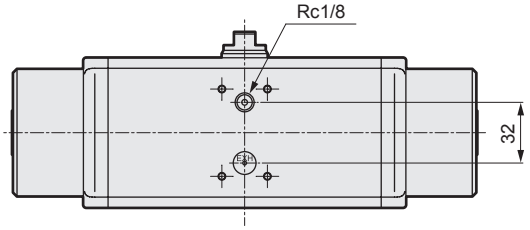


Model No.	A	B	C	D	E	F	G	H	I	J	K
CHBF-15	65	107	5	10	32	26	34	97	117.5	28	Rc1/2
CHBF-R*-15											
CHBF-20	71							100	124	34	Rc3/4
CHBF-25	84	125	9	14	38	32	39	116	144.5	41	Rc1
CHBF-32	95							122	156.5	50	Rc1 1/4
CHBF-40	107							131	171.5	57	Rc1 1/2

●CHBF-R*-20/25/32/40



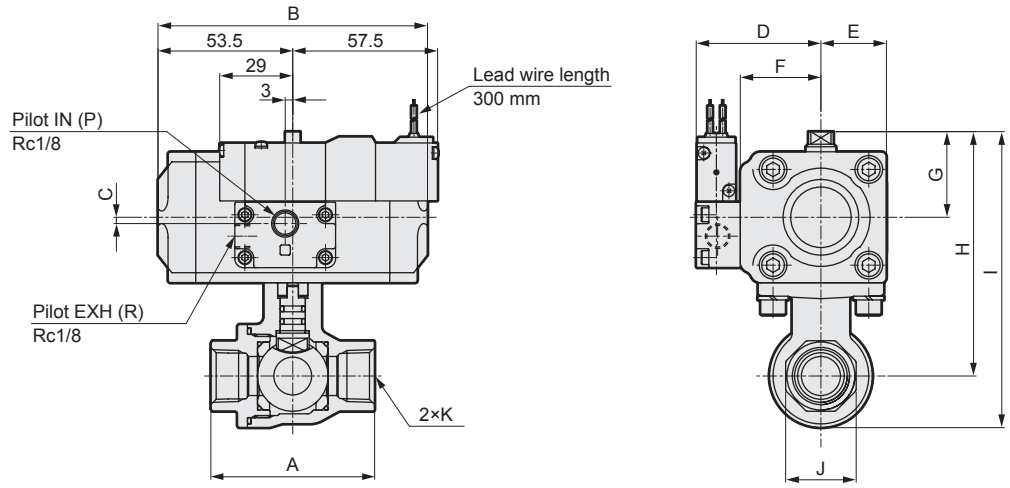
●CHBF-R*-32/40 Actuator



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

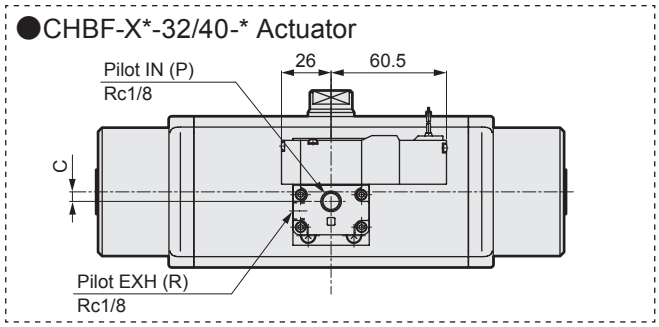
Dimensions: CHBF-V*/CHBF-X* Series

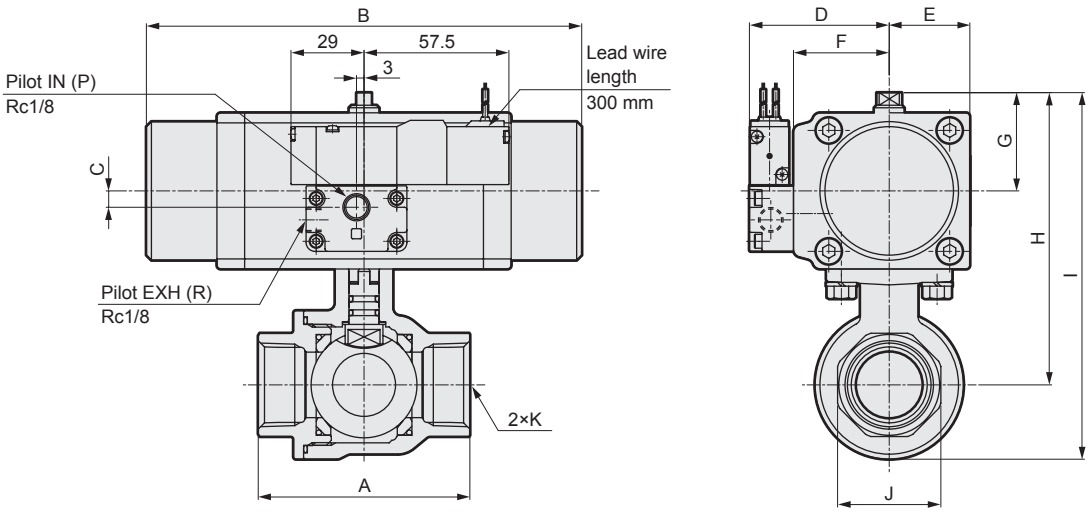
●CHBF-V*-15/20/25/32/40-*
CHBF-X*-15-*



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-*											
CHBF-V*-20-*	71							100	124	34	Rc3/4
CHBF-V*-25-*	84	125	6.5	55.5	32	38	39	116	144.5	41	Rc1
CHBF-V*-32-*	95							122	156.5	50	Rc1 $^{1}/_{4}$
CHBF-V*-40-*	107							131	171.5	57	Rc1 $^{1}/_{2}$

●CHBF-X*-20/25/32/40-*

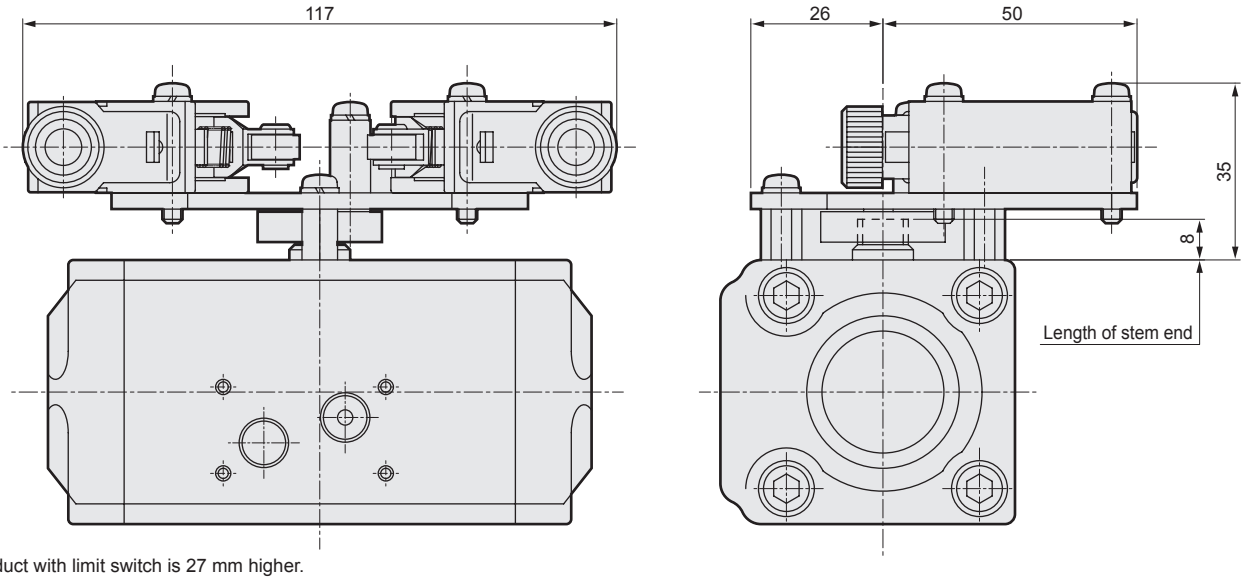




Model	A	B	C	D	E	F	G	H	I	J	K
CHBF-X*-20-*	71	173	6.5	55.5	32	38	39	110	134	34	Rc3/4
CHBF-X*-25-*	84							116	144.5	41	Rc1
CHBF-X*-32-*	95	244	5	70.5	38	43	53	156.5	191	50	Rc1 $^{1}/_{4}$
CHBF-X*-40-*	107							165.5	206	57	Rc1 $^{1}/_{2}$

Optional dimensions CAD

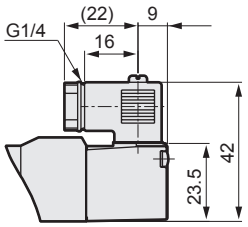
● Limit switch



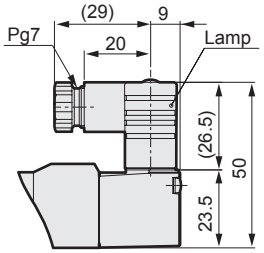
* Product with limit switch is 27 mm higher.

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

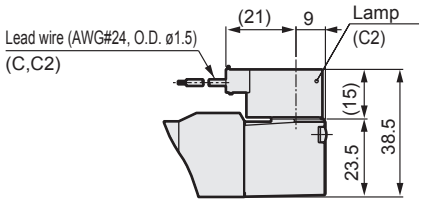
Without indicator lamp



With indicator lamp



● C-connector: (C/C2)



● D-connector: (D/D2)

