

Pneumatic butterfly valve for cement

# POWDER BUTTERFLY VALVES

Selection of manual

VFS V1FS V2FS



Jiangsu Huagong Automatic Control Valve Co.,Ltd



## About **HGZK** VALVE

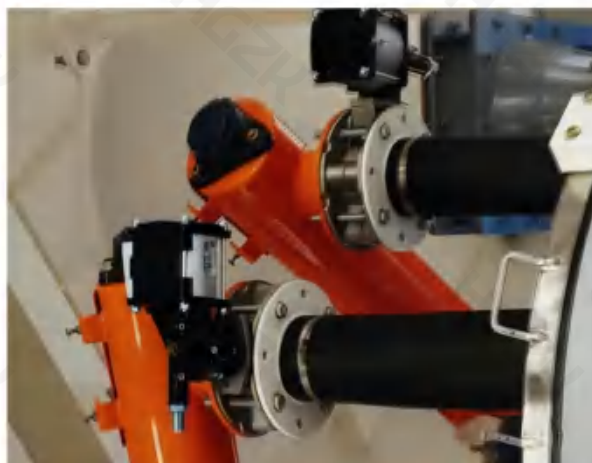
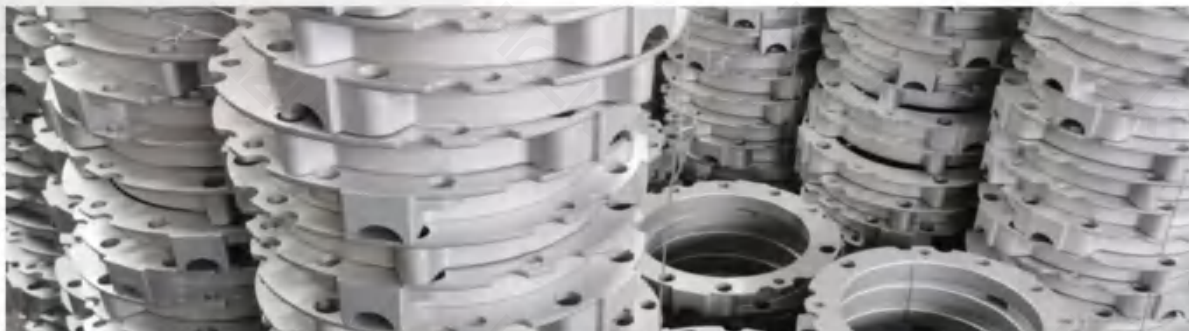
HGZK VALVE is a specialist manufacturer in the industrial valve industry, focusing on the design and production of pneumatic/electric valves and actuators. Our in-house R&D and manufacturing capabilities allow us to provide customized, cost-effective solutions and expert system configuration advice. Ultimately, we are dedicated to crafting your unique valve solution.

### Pneumatic Powder Butterfly Valve

The pneumatic dust butterfly valve is an innovative product developed by our company, integrating a specially designed side-thrust cylinder with an aluminum alloy butterfly valve. This unique design holds multiple national patents in China.

The valve body consists of a high-pressure aluminum alloy structure, a deformable wear-resistant rubber ring, and a high-polymer composite butterfly disc. It serves as an ideal solution for sealing feed bins, hoppers, and silos containing powdered or granular materials.

Widely applied in fields such as cement dust transfer in concrete batching plants and dust collection in steel plants, this valve remains a highly cost-effective and efficient choice due to its specialized construction and engineering materials.





Stainless Steel Plate  
 Wear-resistant  
 Temperature-resistant  
 Corrosion-resistant  
 DN100-DN600

White

Polyurethane Plate  
 The most wear-resistant  
 Not temperature-resistant  
 DN100-DN300

Polyurethane Plate  
 The most wear-resistant  
 Not temperature-resistant  
 DN100-DN300

Ductile Iron Plate  
 Wear-resistant  
 High temperature resistant  
 DN100-DN400

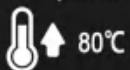
Aluminum Alloy Plate  
 Not wear-resistant  
 Temperature-resistant  
 DN100-DN300



Water-Line Seated Rubber Lined  
 Butterfly Valve

### RUBBER SEAL

Composite rubber



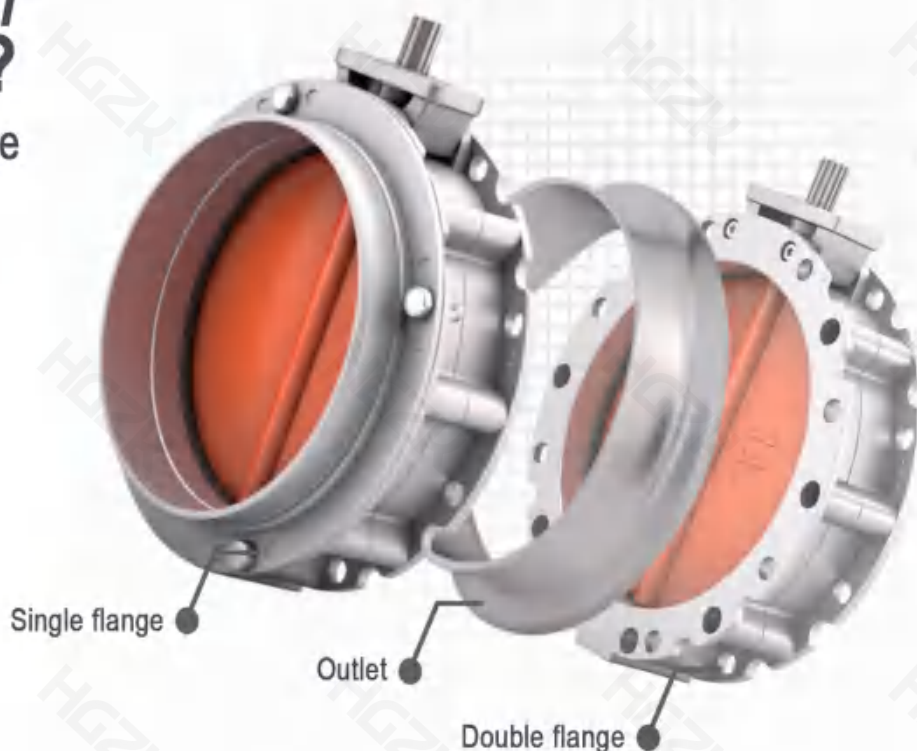
### SILICONE SEAL

Special customization required



# What is a Double flange/ Single flange?

Simply put, a single flange is essentially a double flange with an outlet added.



## Main Features

**Lightweight & Durable:** Over 80% of components, including the precision body, are made of aluminum alloy for a light yet robust design.

**Rapid Operation:** The integrated cylinder ensures quick opening and closing to control material flow in hoppers and silos.

**Reliable Cylinder:** Features a combined Y-ring and O-ring seal for an extended service life.

**Strong Body Construction:** The valve body consists of two high-pressure die-cast aluminum alloy halves.

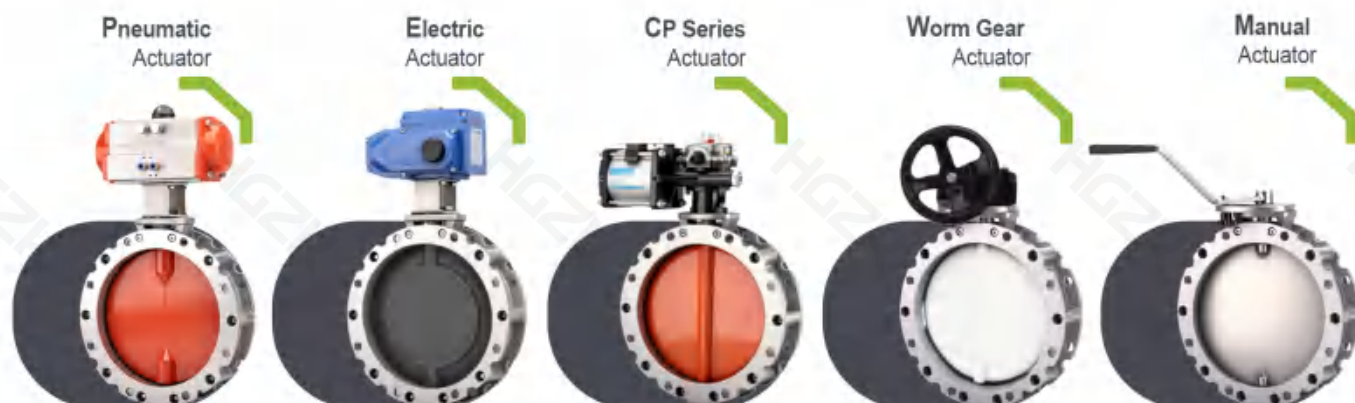
**Effective Seal:** The U-shaped wear-resistant polymer seat provides excellent sealing with automatic wear compensation, ensuring high efficiency and zero leakage.

**Integrated Disc:** The aluminum alloy butterfly disc and shaft are cast as one piece for easy installation.

**Easy Connection:** Equipped with a top flange for simple and convenient connection to flexible pipes or other equipment.

**Versatile Application:** Typically installed beneath hoppers, silos, screw conveyors, or pneumatic conveying lines.

**Multiple Actuation Options:** Can be fitted with pneumatic, electric, hydraulic, or manual gear actuators to suit various operational needs.



Multiple control methods are available



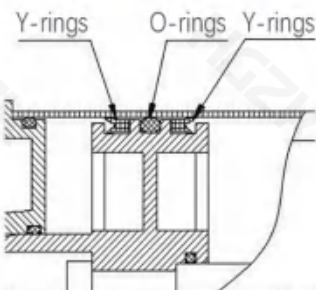
## Technical parameter

Model	VFS V1FS V2FS (DN100-DN400)
Working pressure	0.4-0.7MPa MAX1.0MPa
Drive mode	Pneumatic,electric,manual,worm gear drive
Temperature	-20°C~+80°C
Medium	Cement,material powder medium
Body	Die-casting aluminium
Butterfly	Resistant composite material
Stem	45#
Seat	Abrasive rubber

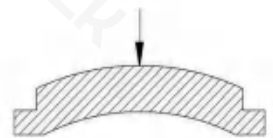


## Unique structure

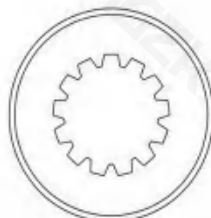
The cylinder is made of Y rings and O rings used in combination, greatly improving the service life of the cylinder.



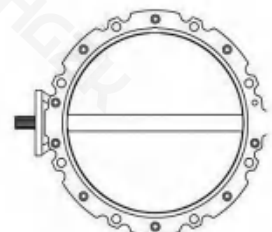
Seat with arch design, to ensure the reliability of sealing, wear resistance, and with automatic compensation.



The connection with the spline connection, sturdy and durable, convenient adjustment.



Aluminum alloy body with one type of die casting, so that the overall more portable products.



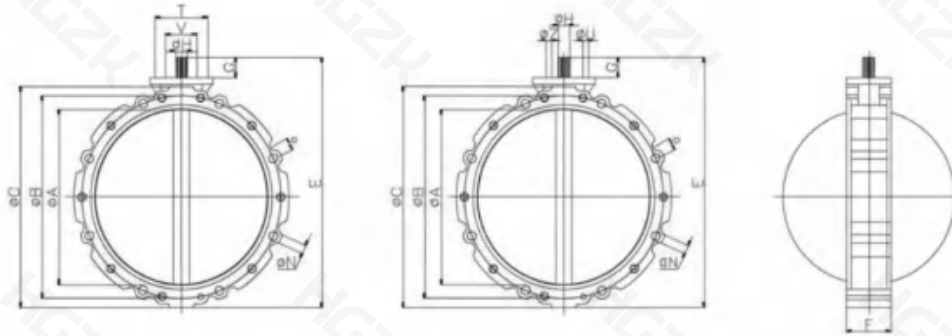
# Excellent Performance

High degree of freedom in selection



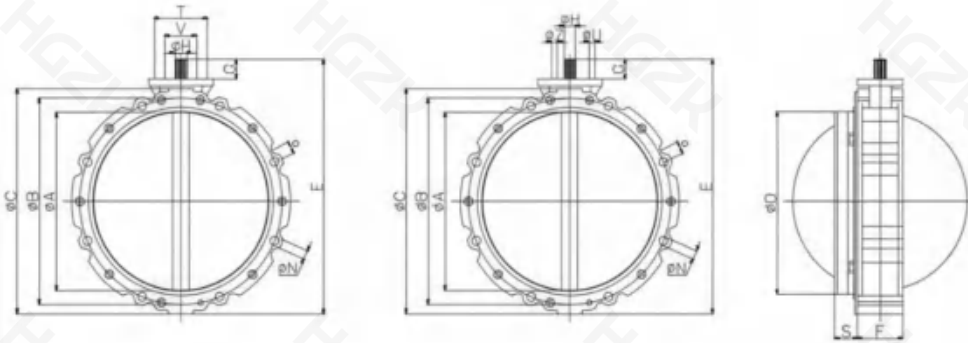
Pneumatic powder butterfly valve is a special design of side by the company to push the cylinder and aluminum alloy butterfly valve. Butterfly valve body by a high pressure aluminum alloy body, deformation wear aprons, polymer composite butterfly valve. It is an ideal product for closing hopper hopper and a powdery or granular material silo, is widely used in cement concrete mixing station transmission steel gravity dust etc.. Because of the special structure of the valve and the use of engineering materials, it is always a very economical and efficient selection.

## Connecting Flange Size



### V2FS Double flanged butterfly valve

MODEL	ΦA	ΦB	ΦC	E	F	V	T	ΦH	G	ΦZ	ΦU	ΦN
V2FS100	95	180	220	250	77	50	80	22	35	M10	M12	4-14
V2FS150	150	200	228	290	77	50	80	22	35	M10	M12	4-14
V2FS200	200	250	278	340	77	50	80	22	35	M10	M12	4-14
V2FS250	250	300	378	390	77	50	80	22	35	M10	M12	8-14
V2FS300	300	350	378	440	77	50	80	22	35	M10	M12	8-14
V2FS350	350	400	440	530	85	50	80	28	35	M10	M12	8-14
V2FS400	400	470	530	580	85	50	80	28	35	M10	M12	8-14



### V1FS Single flanged butterfly valve

MODEL	ΦA	ΦB	ΦC	E	F+S	V	T	ΦH	G	ΦZ	ΦU	ΦN
V1FS100	95	180	220	250	115	50	80	22	35	M10	M12	4-14
V1FS150	150	200	228	290	115	50	80	22	35	M10	M12	4-14
V1FS200	200	250	278	340	115	50	80	22	35	M10	M12	4-14
V1FS250	250	300	378	390	115	50	80	22	35	M10	M12	8-14
V1FS300	300	350	378	440	115	50	80	22	35	M10	M12	8-14
V1FS350	350	400	440	530	123	50	80	28	35	M10	M12	8-14
V1FS400	400	470	530	580	123	50	80	28	35	M10	M12	8-14

# Position Signal Display Device

## MIC23 Miniature Signal Switch Box

The MIC23 miniature signal switch box is suitable for CP type actuators and AE type actuators for feedback of open and close output signals.

### Performance - Features

High-strength PC housing, switch position clearly identifiable by indicator.

Protection Rating: IP67/NEMA4&4X (Standard), IP68 (Optional)

Cam: Adjustable cam position for positioning and signal transmission

Contacts: 250VAC/16A/400VAC/10A

Wire Interface: (Standard), PG9

Terminal Blocks: 5 points (0.08-2.5mm<sup>2</sup>)

Mechanical Switch: 2 SPDT switch

### Electromagnetic Pneumatic Actuator

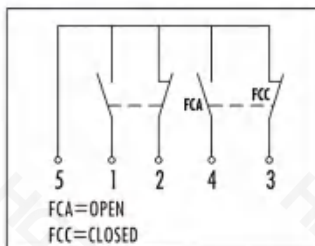
#### MIC23

IP67

0-10A 400V

0-16A 250V

For CP/AE

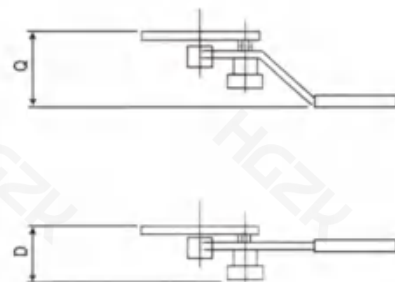
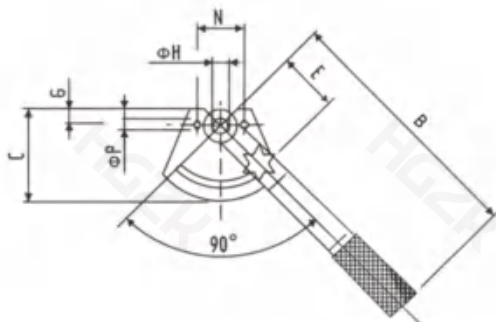


# Manual Actuator

## CM Drive Handle

CM type handle actuator is suitable for controlling the opening and closing of VFS type butterfly valves, VSS type ball valves, and DVA type bidirectional diverter valves.

### CM



TYPE	B	C	D	E	G	H DIN 5482	N	P	Q	Kg
CM4	300	104		72	14	22×19	50	10.5	115	1.3
CM2	300	104	60	72	14	22×19	50	10.5		1.3
CM3B	500	107	60	72	17	28×25	80	10.5		2.0

# Valve Actuators

## CP Series Pneumatic Actuators

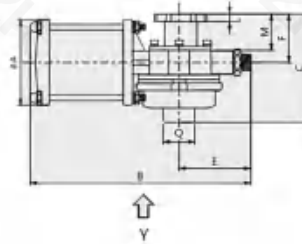
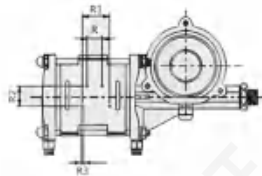
The CP type piston-type electromagnetic pneumatic actuator is suitable for controlling the opening and closing of VFS type butterfly valves, VSS type ball valves, and VA type bidirectional diverter valves.

### Performance - Features

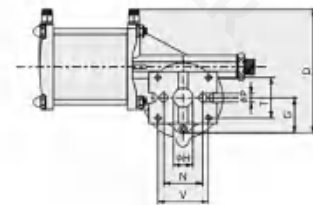
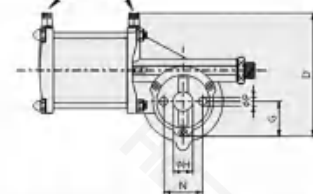
Operating Pressure: 2-8 bar (29-116 PSI)

The splined shaft and bushing connection on the CP type actuator conforms to DIN 5482 standard.

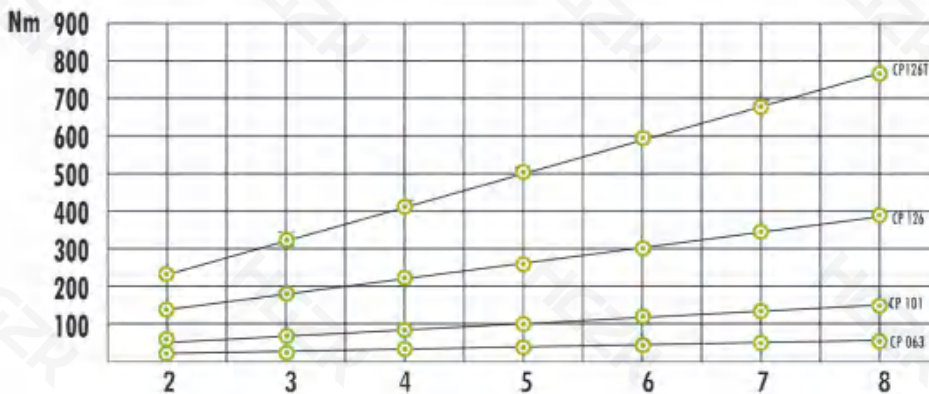
and is interchangeable with other types of actuators manufactured by WAM.



Pneumatic connector (see table)



Powder Butterfly Valve  
Dedicated Actuator



### Options & Accessories

- Position Signal Display Device: MIC23
- 5/2 Solenoid Valve: V5V80-V5V40
- Solenoid Coil: 24-48-110-220V DC & 50HZ AC

Pressure(2-8bar)

TYPE	ΦA	B	C	D	E	F	G	ΦH DIN 5482	L	M	N	ΦP	ΦQ	R	R1	R2	R3	T	V	ΦThread	ΦHcse	Air Consumption	Stroke Time(s)	Kg
CP063	70	265	130	140	92	68	33	22×19	10	47	50	11	40	18/20	36	26	M4			1/8"	8×6	2.0(×2)	0.8	2.8
CP101	106	285	137	150	92	68	33	22×19	10	47	50	11	40	18/20	36	26	M4			1/8"	8×6	4.4(×2)	0.8	3.3
ACP101	106	285	137	150	92	68	33	22×19	10	47	50	11	40	18/20	36	26	M4	53	65	1/8"	8×6	4.4(×2)	0.8	3.3
CP101T	106	360	137	150	92	68	33	22×19	10	47	50	11	40	18/20	36	26	M4			1/8"	8×6	4.4(×2)	0.8	3.3
CP126	125	450	180	215	170	80	65	28×25	16	52	80	13	40	22	60	40	M4			1/4"	8×6	6.3(×2)	0.5	9.5
CP126T	125	600	180	215	170	80	65	28×25	16	52	80	13	40	22	60	40	M4			1/4"	8×6	6.3(×2)	0.5	9.5

## Common Actuator Options

### Pneumatic Drive Adapter Actuator

Butterfly valve nominal diameter	V*FS100	V*FS150	V*FS200	V*FS250	V*FS300	V*FS350	V*FS400
Light load adapter	CP101	CP101	CP101	CP101	CP101	CP101	CP101
Heavy load adapter	CP101	CP101	CP101	CP126	CP126	CP126T	CP126T

\*Representative installation method: 1-Single flange 2-Double flange None-Split single flange (i.e., double flange + lower port)\*

### Handle-driven Actuator

Butterfly valve diameter	V*FS100	V*FS150	V*FS200	V*FS250	V*FS300	V*FS350	V*FS400
Actuator	CM4	CM4	CM4	CM4	CM4	CM3B	CM3B

\*Represents installation method: 1-Single flange 2-Double flange None-Split single flange (i.e., double flange + discharge port)

Note: Actuator selection depends on material type and application. For handling lumpy, granular, or fibrous materials, cast iron valve discs or AIS1304 valve discs are recommended.

### Installation maintenance

\*The valve is factory has equipped and passed the test.

\*Because of this valve is the aluminum alloy body so the transportation,storage don't put weight on the valve.

\*Normal working temperature less than80°Cthe material density is less than1.3T/m3.

\*Before installing please seal flange with a thin layer of liquid.

\*When installed, should be fixed in the valve(screw pump the conveyor belt into the hopper vibration or similar device), please use the studs is long enough the valve connecting flange connecting the upper and lower connecting flange itself,not the internal valve bolt force,otherwise it may cause a split, damage to the valve body two.

\*Electrical connection line and maintenance of the valve must be completed by the specialized technical personnel.

\*Safety precautions:valve during the work,not to extend a hand valve! In the equipment installation safety grilles, lest cause injury!

\*Maintenance:check once a week, material conveying is smooth,whether the deposition.When necessary to thoroughly clean the contact part!

\*In the disassembly maintenance,please confirm the source,power disconnect all!

\*If there is any unclear issues,please contact us in time,so as to avoid unnecessary losses.

One:The valve can not open or has been turned	
1.1 Materials condense into clumps	Removed from the valve clean and reinstall
1.2 Valve plate is exposed to the excessive weight	Mitigate matter weight in the hopper
1.3 Pneumatic actuator operating pressure is too low	Check the compressed air piping,equipment leaks
1.4 Solenoid valve is damaged	The coil is burned out,replace the coil.Or replace solenoid
Two:Valve leakage is not closed tightly	
2.1 The valve can not be completely closed	The limit bolt loose 1 circle,or circl
2.2 The valve seat seal wear	Replace seals
2.3 Actuator life exhaustion	Replace seal or actuator
Three:The valve position signal	
3.1 The valve position without signal	Check the feedback device is adjusted in place
3.2 The valve position signal,the opposite	Change the order of connection
3.3 The feedback device damage	The replacement of feedback device



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