



AVENT
Valves and Actuators

Globe Control Valve



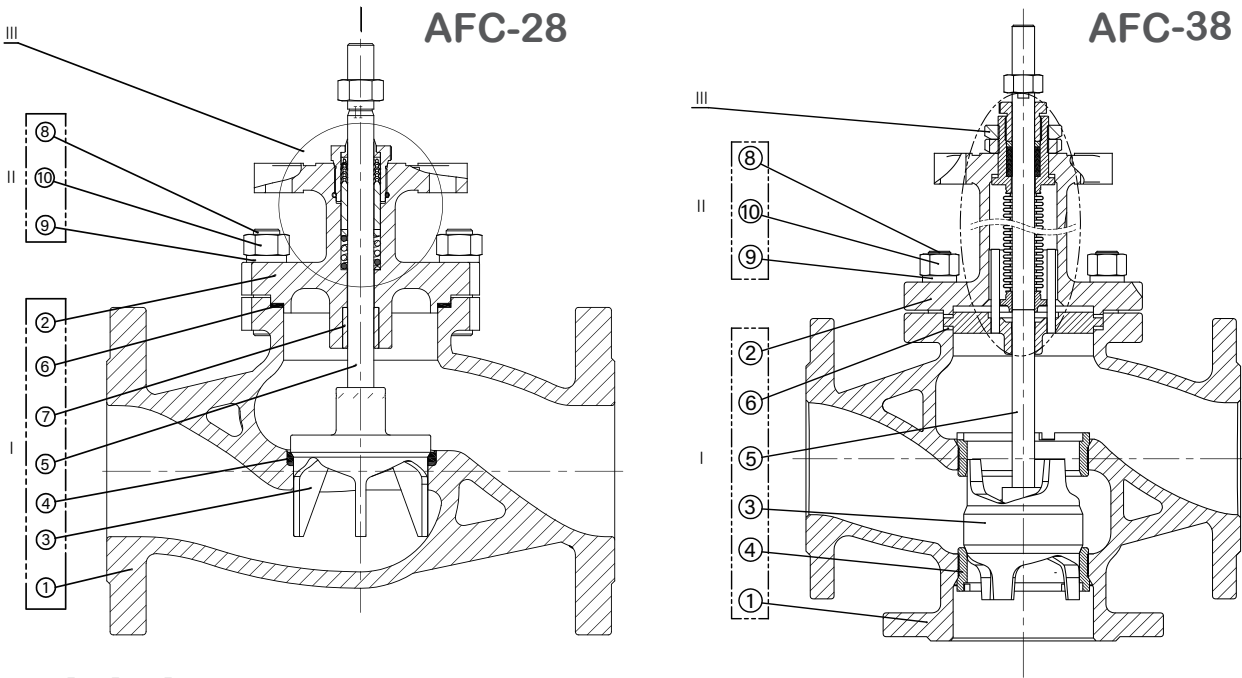
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Design and Acceptance Standard

Item	Design Standard	Flange Standard	Structure Dimension	Hydrostatic Test
According to	ASME 16.34	GB/T 9113 ASME 16.5 DIN 2533	GB/T 12221 ASME B16.10	GB/T 13927 API 598

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Structure and Technical Data



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Technical Data

Control Valve		Type		AFC-28					AFC-38	
		Nominal Pressure		PN10-100 / ANSI 150-600Lb					PN10-16	
		Nominal Size		DN15-250 / IN 1/2"-10"					DN25-100	
Item	Section	Item	Part	Material					Material	
I	Body	1	Body	CF8M	CF8	WCB	WC6	WC9	GJS400-18	
		2	Bonnet	CF8M	CF8	WCB	WC6	WC9	GJS400-18	
		3	Plug	CF8M/SS316 (with harden alloy)		CF8 / SS304 (with harden alloy)			CF8/SS304	
		4	Seat	With harden alloy	With harden alloy				SS304	
		5	Stem	SS316	SS431				SS431	
		6	Gasket	Non-Asbestos Fibra / Pure Graphite Material / Spiral Wound Gasket						
		7	Guide	40Cr						
II	Bonnet	8	Stud	SS304						
		9	Washer	SS304						
		10	Nut	SS304						
III	Stem packing			It is an option, according to gland design, see table of Packing						

Note: Other material will be provided by requested.

Two-way or Three-way Control Valve

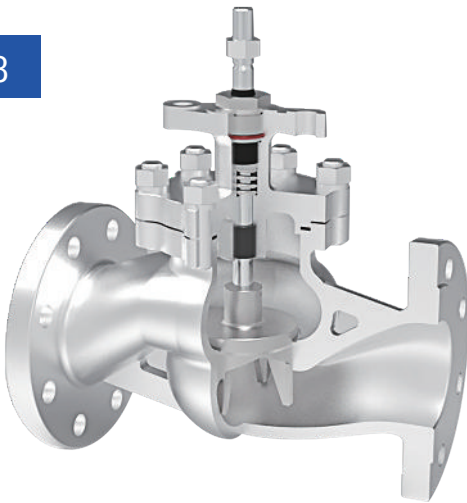
■ Product Description

Two-way or Three-way control valve are equipped with pneumatic actuator or electric actuator. The actuator receives a control signal to modulate the valve to open or close. By changing the flow area of the valve, it maintains control of the process parameters such as pressure, flow rate, temperature.

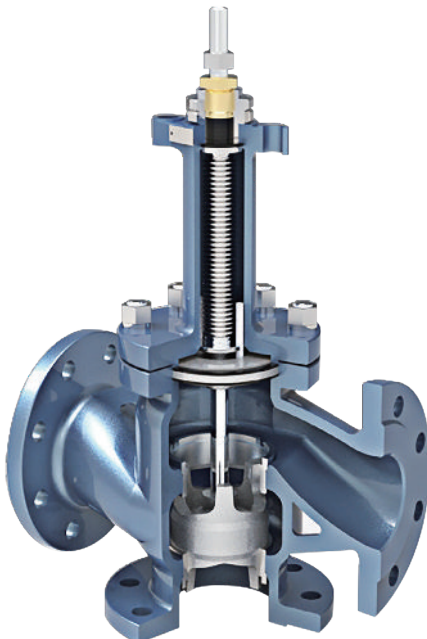
■ Application

The product is suitable for controlling water, steam, hot oil and etc. in industries such as fibric plastic, palm oil, food & beverages, dye processing, oil & chemical, power plant, pulp & paper, medicine etc.

AFC-28



AFC-38



■ Main Feature

01

Body

Body is modified with high flowrate design, large passage provides high volume and reduce flow resistance.

02

Plug

Parabolic plug, V-port plug, balance plug and special design types are available. Also, the multi-holes cage for noise reduction is option. The soft seat plug is designed for working condition that have high sealing requirements with zeno leakage.

03

Metal to Metal Seat

The seat surface is welding with harden alloy. The harden metal surface reduces corrosion or cavitation damage. The leakage performance reaches ANSI FCI 70-2 standard class VI. It is reliable with long service life.

04

Stem

The material is SS431 or SS316 with nitriding and grinding treatment, great mechanical properties with high strength, harden surface for long service life.

05

Packing

The packing is available with choices of PTFE v-rings with spring loaded, pure graphite or metal bellow seal. Excellent performance for different working conditions.

06

Actuator

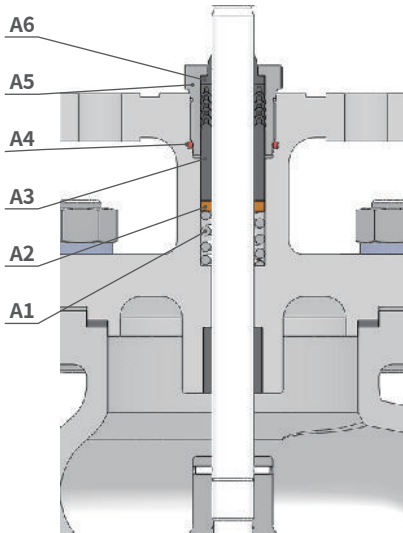
The pneumatic or electric actuator are provided for various sizes of valve. Modulating mode or On-off mode is available.

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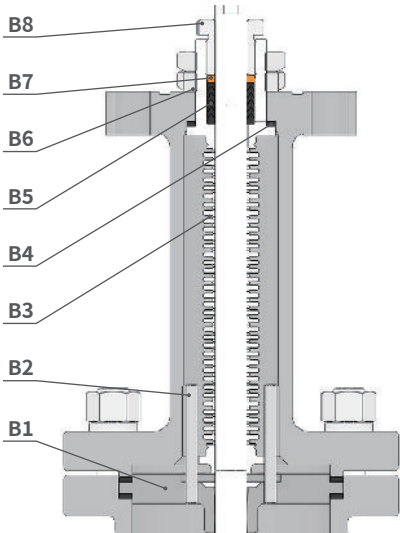
Installation Dimension

All dimensions are according to international standard.

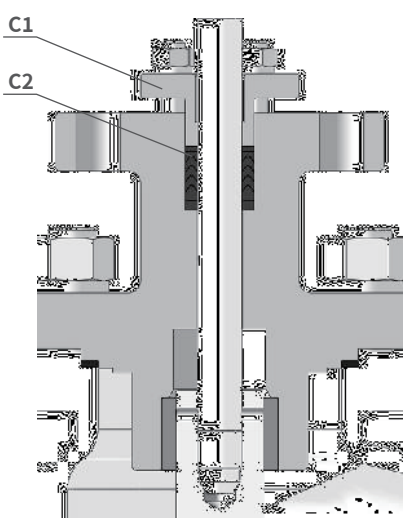
Packing



PTFE V-Ring



Metal Bellow Seal

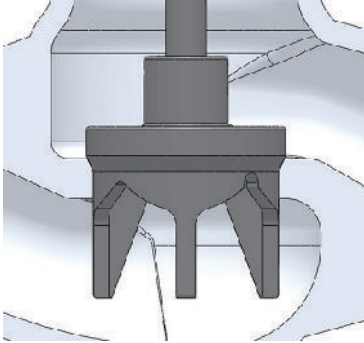


Pure Graphite

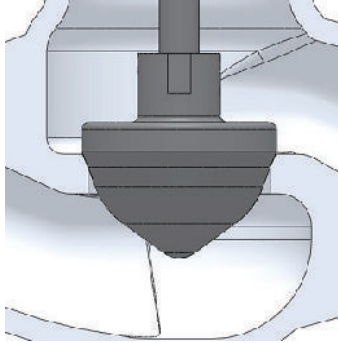
Packing Material

Packing Design	Item	Part	Material	Nominal Pressure	Nominal Size	Temperture	Media
PTFE V-Ring	A1	Spring	SS304	PN10-63	DN15-250	-29-250 C	Water, Steam, oil etc non-corresive media
	A2	Washer	Brass				
	A3	Packing-ring	PTFE				
	A4	O-ring	Silicone Rubber				
	A5	Packing-Gland	CF8				
	A6	Dust Ring	PTFE				
Metal Bellow Seal	B1	Guide Ring	40Cr	PN10-16	DN15-125	-29-600 C	Corrosive or hazardous Liquid, Explosive media etc. Using on safety environmental
	B2	Guide Rod	SS304				
	B3	Bellow	SS316Ti				
	B4	Gasket	Graphite				
	B5	Packing	Graphite				
	B6	Bolt	SS304				
	B7	Washer	Brass				
	B8	Packing Gland	Brass				
Pure Graphite	C1	Packing Gland	SS304	PN10-63	DN15-250	-29-600 C	High pressure liquid or steam etc
	C2	Packing	Graphite				

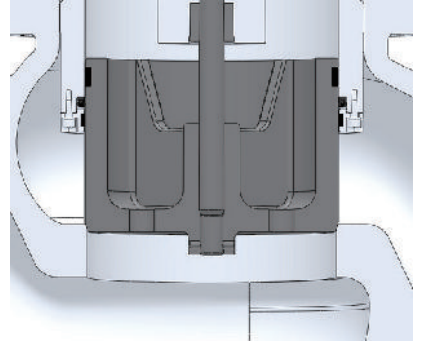
■ Plug Design



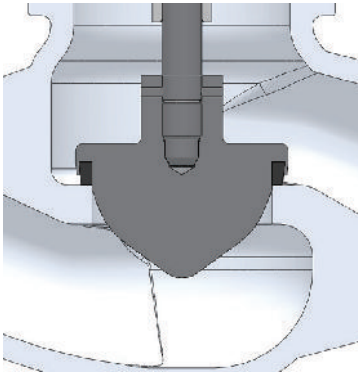
① **V-Port plug:** For precision flowrate control .



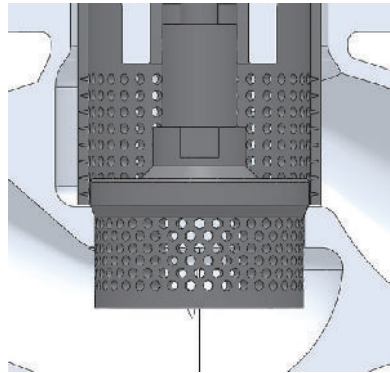
② **Parabolic plug:** For quick opening.



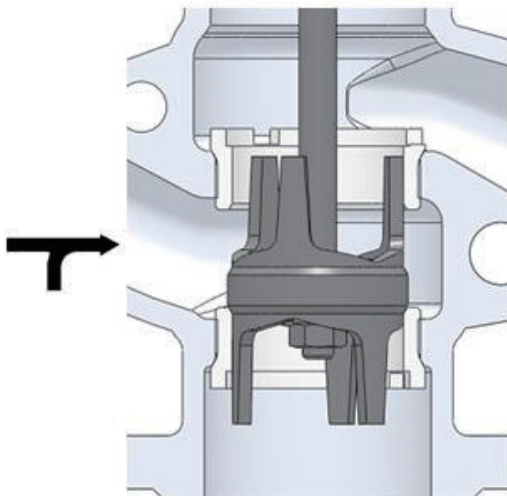
③ **Balance plug:** For high pressure, large valve size, with low thrust requested.



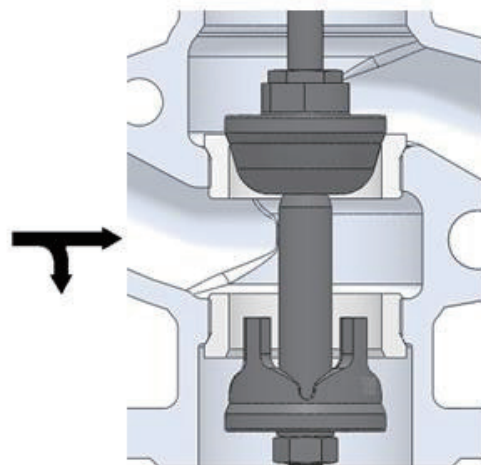
④ **Soft seat design, metal plug with non-metal ring, fulfill special requirement.**



⑤ **Multi-holes cage design, use on high pressure and temperature valve, noise reduction.**



⑥ **Three-way mixing design, two passages mix fluid onto one passage.**



⑦ **Three-way diverting design, separate fluid onto two passages.**

■

Flow Characteristic

Flow Characteristic																					
Nominal Size	DN15	DN20	DN25	DN32	DN40		DN50		DN65		DN80		DN100		DN125		DN150			DN200	DN250
Plug Type	②	②	②	②	①	②	①	②	①	②	①	②	①	②	①	②	①	②	③	③	③
Stroke (mm)	15	15	15	20	20		20		25		25		30		35		40		50	65	75
Flow Rate (Cv value)	2.8	5.3	7.8	17.5	30	35	51	57	90	102	112	120	170	180	240	245	350	360	378	555	700
Flow Characteristic	II	II	II	II	I	II	I	II	I	II	I	II	I	II	I	II	I	II	III	III	III

(Note: Plug Type is according to the plug design on previous page)

Sizing calculation is according to IEC 60534 standard. The calculation is done by professional calculation program. The following is main parameters for sizing calculation.

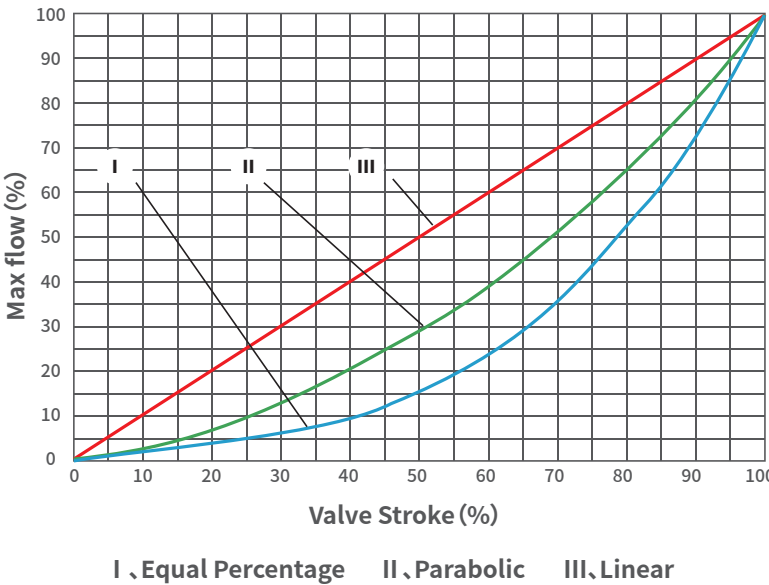
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Sizing Calculation

01	Media of Flow
02	t1 Temperature/ °C
03	Q Flow Rate (Mass / Volume)
04	P1 Input Pressure / bar
05	P2 Output Pressure / bar
06	ρ Density
07	Viscosity
08	Flow Characteristic
09	Pipe Size

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Flow Characteristic Curve



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Option Item

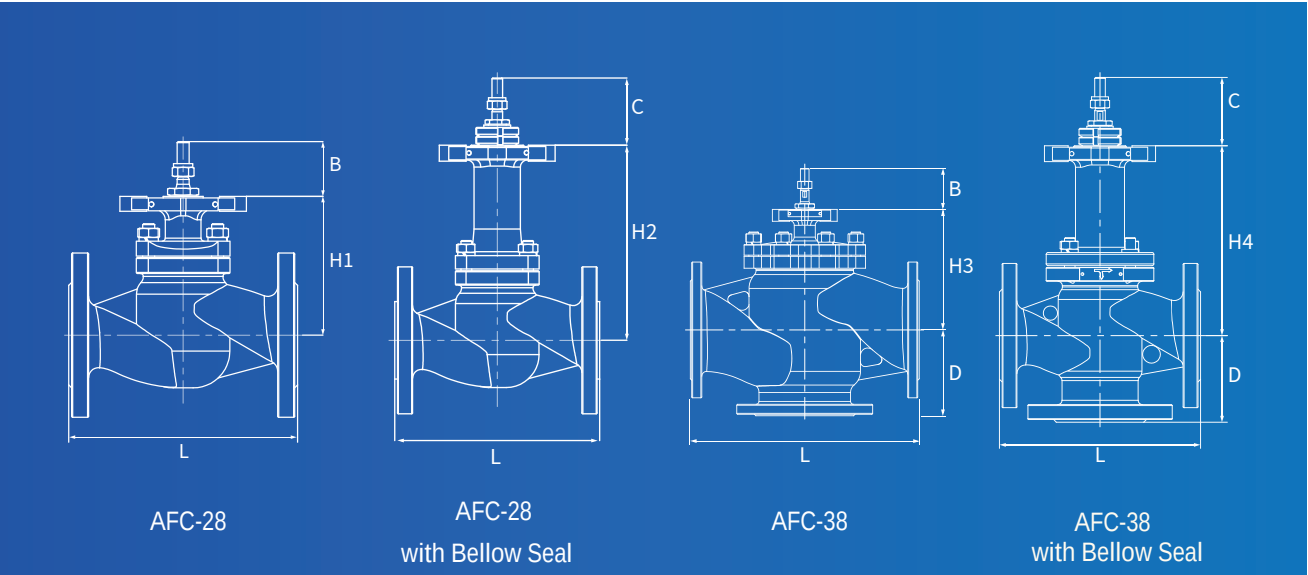
E/P or P/P Positioner

Air Regulator

Limit Switch

Solenoid Valve

■ Dimensions



Dimension	Nominal size	DN15	DN20	DN25	DN32	DN40	DN50	DN65	DN80	DN100	DN125	DN150	DN200	DN250
L	PN10-40	130	150	160	180	200	230	290	310	350	400	480	600	730
	PN63	165	190	216	229	241	292	330	356	406	-	495	-	-
	PN100									432	-	-	-	-
	CL150	-	-	127	140	165	203	216	241	292	-	406	495	622
	CL300	-	-	203	216	229	267	292	318	356	-	444	559	622
	CL600	-	-	216	229	241	292	330	356	432	-	-	-	-
H1	PN10-16	94	107	107	116	126	140	155	188	217	220	235	350	405
	PN25-PN40 CL150											295		
	PN63-100 CL300 CL600	132	132	147	150	169	184	200	205	220	-	270		
H2	PN10-16	206	212	247	186	222	256	280	300	355	528	-	-	-
	PN63	-	-	334	-	-	-	-	-	-	-	-	-	-
H3	PN10-16	-	-	104	123	125	140	160	186	220	220	255	-	-
H4	PN10-16	-	-	149	194	210	217	280	298	350	528	-	-	-
B	PN10-16	55	52	50	48	54	55	64	73	73	76	70	100	115
	PN25-PN40 CL150											110		
	PN63-100 CL300 CL600	57	54	76	80	65	72	75	84	80	-	83		
C	PN10-16	115	120	120	81	78	78	78	90	90	100	-	-	-
	PN63	-	-	120	-	-	-	-	-	-	-	-	-	-
D	PN10-16	-	-	85	100	100	100	120	130	286	296	300	-	-

Note: item with “-” product is not available, or by special request.