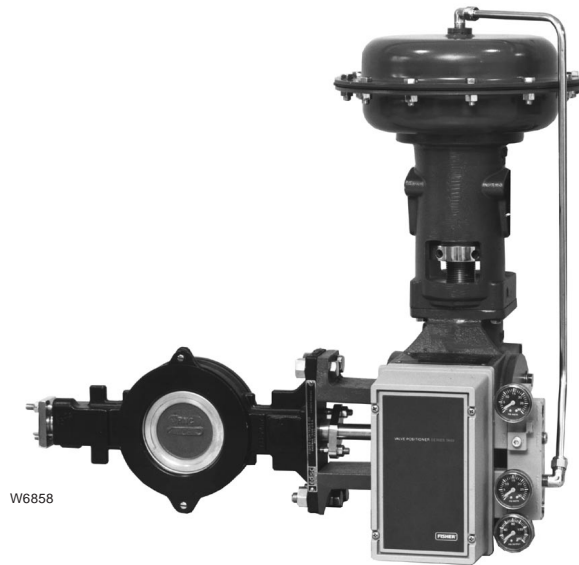


High-Performance Butterfly Valves



W6858

- High-performance butterfly valves featuring tight shutoff and excellent throttling performance
- DIN and ANSI designs
- DN 50 to DN 300 DIN and 2- to 36-inch ANSI sizes
- Choice of seal materials--soft, metal, or fire-tested™ metal-and-soft seal
- Temperatures to 538°C
- Pressures to DIN PN100 and ANSI Class 600
- ENVIRO-SEAL® packing systems to help ensure compliance with environmental emissions requirements
- FIELDVUE® digital valve controllers offer digital control and remote diagnostics. The proven line of Fisher Controls positioners, controllers, transmitters, and switches also is available.

disc, ENVIRO-SEAL, FIELDVUE, Fire-Tested, FloVue, Fisher, Fisher-Rosemount, Managing The Process Better, NOVEX, Phoenix III, POSI-SEAL, and ValveLink are marks owned by Fisher Controls International, Inc. or Fisher-Rosemount Systems, Inc. HART is mark owned by the HART Communications Foundation, Inc. All other marks are the property of their respective owners. These products may be covered by one or more of the following patents (5,129,625; 5,131,666; 5,056,757; 5,230,498; and 5,299,812) or under pending patent applications.



Product Flier PF51.6:8510B

High-Performance Valves for Excellent Flow Control and Shutoff

Accurate Flow Control...The valves have a splined-and-clamped connections to positioning actuators for accurate throttling or on-off control. The valves are capable of throttling through 90 degrees of disc rotation with an approximately linear or modified equal percentage (Type 8532) characteristic.

The splined-and-clamped valve-actuator connection reduces lost motion and deadband.

The valves and actuators can be reversed from push-down-to-close to push-down-to-open in the field without additional parts.

Excellent Shutoff...The soft and

metal seals are pressure assisted for excellent shutoff.

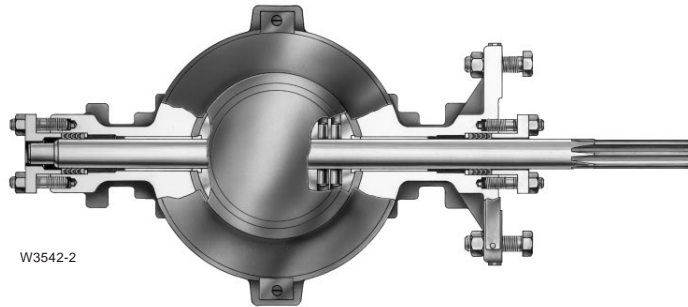
Type 8510B ēdisc® Valves ... for DIN or ANSI applications. The valves feature DIN dimensions and compatibility. The valve shaft is a through, balanced shaft. Also, the eccentric disc path reduces seating torque requirements and seat wear.

Type 8560 Valves...For ANSI applications. The Type 8560 valve is available with a Fire-Tested™ seal that can meet fire-safe standards.

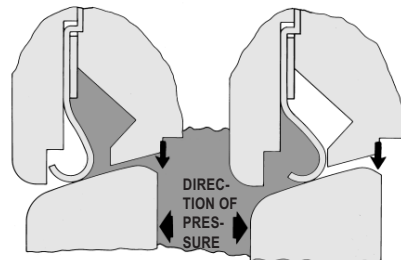
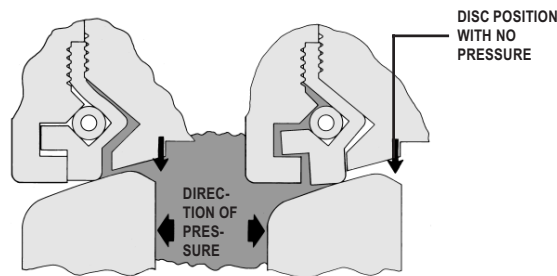
Type 8532 Valves...This valve

shares many features with the Type 8560 valve and is available in larger sizes.

Type 8510 ēdisc® Valves...The Type 8510 valve is an ANSI design version of the Type 8510B valve in 30- and 36-inch sizes. The 36-inch size is compatible with DIN flanges.



Typical Type 8510B and 8510 Construction



A6936

Pressure-Assisted Seals (Vertical Arrows Indicate Disc Position with no Pressure)

High-Performance Valves (Continued)

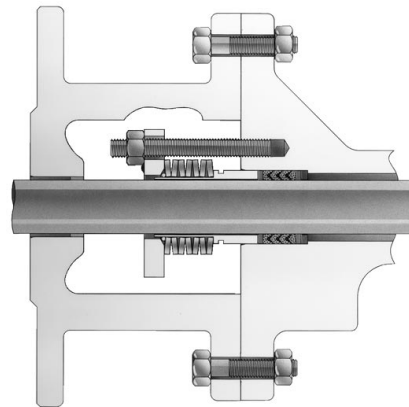
Protection Against Process Fluid Emissions...Optional ENVIRO-SEAL[®] packing systems provide a superior shaft seal to prevent the loss of valuable or hazardous process fluids. This live-loaded system provides longer packing life and reliability.

Materials for Sour Service...Fisher Controls offers materials and manufacturing procedures for compliance with NACE (National Association of Corrosion Engineers) standard MR0175.

Other Butterfly Valves

POSI-SEAL[™] Types A31A and A41...For less stringent throttling applications and for on-off applications requiring the same excellent shutoff capabilities as the Type 8560 and 8532. The Type A31A and A41 valves connect to a rack-and-pinion piston actuator, manual handwheel actuator, or handlever.

H.D. Baumann 21000 Series ...For applications that require an elastomer-lined valve in 2- through 6-inch sizes.



W5806-1

ENVIRO-SEAL[®] Packing System (Single PTFE V-Ring)



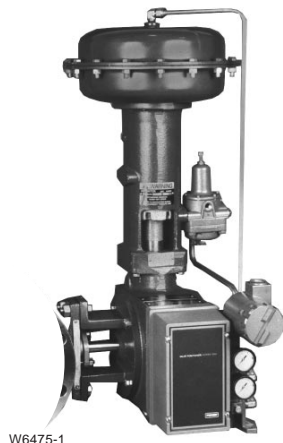
W6213/IL

Type 8560 Valve with Actuator

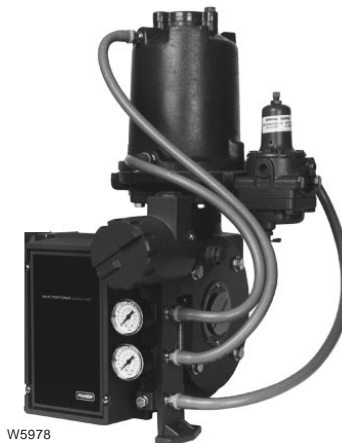
Product Flier PF51.6:8510B

The High-Performance Valve Family (Continued)

Actuators



Type 1052 Actuator



Type 1061 Actuator

Type 1051 and 1052 Pneumatic Diaphragm Actuators...Rugged, heavy-duty spring-return actuators. These actuators are available with a variety of instrument accessories, handwheels, adjustable travel stops, and a maintenance lock-out device.

Type 1061 Pneumatic Piston Actuator...Heavy-duty piston

actuator available with a variety of instrument accessories, handwheels and piston bypass valves, and a maintenance lockout device.

Type 1077 Manual Handwheel Actuator...Available for manual-only operation.

Actuator Accessories

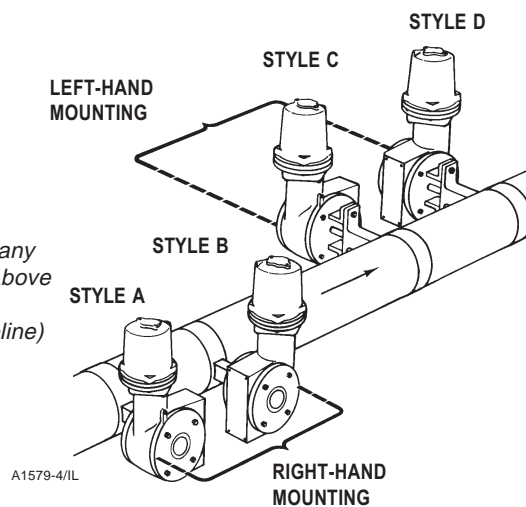
FIELDVUE® Digital Valve Controller...Available mounted on

Type 1051 and 1052 actuators.

Positioners and Transducers...Pneumatic positioners and electro-pneumatic positioners and transducers can be provided with these actuators.

Position Transmitters, Solenoid Valves, Volume Boosters, and Limit Switches...Also available.

The Actuators are Available in any of Four Styles and Positions (Above the Pipeline as Shown Here, Below, or Parallel with the Pipeline)



Actuators are Field-Reversible from Push-Down-to Close (PDTC) to Push-Down-to Open (PDTO)

MOUNT-ING	ACTION	STYLE
Right hand	PDTC	B
Right hand	PDTO	A
Left hand	PDTC	C
Left hand	PDTO	D

Selecting High-Performance Products

Only a few of the more commonly selected product materials, sizes, options, and accessories are covered in this flier.

Contact your nearest sales office or sales representative (refer to the back cover) for assistance in selecting and sizing these products. More detailed specifications are available on request.

Selecting Valve Components

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Product Flier PF51.6:8510B

Valve Type Selection

APPLICATION				SHUTOFF CLASSIFICATION PER IEC 534-4 AND FCI/ANSI 70-2-1991	SIZES, DN OR INCHES	RATINGS, DIN PN OR ANSI CLASS	VALVE TYPE NUMBER	NOTES				
Service	Valve Body	Temperature	Seal									
DIN to DN 300 & to PN100 rating	Wafer-style steel or stainless steel body	to 232°C	PTFE	See notes for standard; Class VI is optional	DN 50 DN 80 DN 100 DN 150 DN 200 DN 250 DN 300	10, 25, 40, 63, & 100 10, 25, 40, 63, & 100 10, 25, 40, 63, & 100 10, 25, 40, 63, & 100 10, 25, 40, 63, & 100 10 & 16 or 25 & 40 10 & 16 or 25 & 40	8510B	Standard shutoff for Type 8510B and 8510 with PTFE seal is 2mL/minute of air per inch of valve size at a pressure drop of 3.4 bar. Refer to pages 7 and 8 for more detailed information about materials and temperatures. The 30- and 36-inch sizes are compatible with DIN PN10 and PN 16 flanges.				
		to 538°C	S31600 (316 stainless steel)	1/10 of Class IV								
ANSI to 12-inch & to Class 600	Wafer-style steel, stainless steel, CN7M (alloy 20) or M35-1 (Monel) body	to 232°C	PTFE	See notes for standard; Class VI is optional	2 3 4 6 8 10 12	150/300/600 150/300/600 150/300/600 150/300/600 150/300/600 150 or 300 150 or 300	8560 (to 12-inch) or 8532 (greater than 12-inch)					
		to 538°C	S31600	1/10 of Class IV								
ANSI to 24-inch & to Class 300	Wafer-style or single-flange steel or stainless steel body	to 204°C	Soft	VI	3 4	150 or 300	8560 (to 12-inch) or 8532 (greater than 12-inch)					
		to 538°C	NOVEX seal	1/10 of Class IV is standard; Class V is optional	6 8 10							
		to 232°C	Phoenix III metal/soft	VI	12 14 16 18 20 24							
			Phoenix III Fire-Tested seal	VI								
			ANSI 30- & 36-inch & Class 150 rating	Wafer-style steel or stainless steel body	to 232°C			PTFE	See notes for standard; Class V is optional	30 36	150 (per MSS SP-44)	8510
					to 538°C			S31600	1/10 of IV			

J407T01

Valve Body Information

Sizes	Type	Valve Body Materials	Face-to-Face Dimensions	Mating Flange Compatibility
DIN or ANSI				
DN 50 through DN 300 & 2 through 12 inches	8510B	DIN 1.0619 steel (17245) DIN 1.4581 stainless steel, WCC steel, CF3M (316L stainless steel), M35-1 (Monel), & CN7M (alloy 20)	DIN: 3202 Part 3/K2 ANSI: API 609 for all Class 150 valves & for 3-through 6-inch Class 300	Raised-face flanges; all sizes compatible with with schedule 80 and lighter welding-neck and slip-on flanges
ANSI				
3 through 24 inches	8560 & 8532	Steel, CF8M (316 stainless steel), & CG8M (317 stainless steel)	API 609 & MSS SP68	Raised-face flanges; all Type 8560 sizes compatible with schedule 80 and lighter welding-neck and slip-on flanges
30 & 36 inches	8510	WCB steel, CF8M (316 stainless steel), & CN7M (alloy 20)	30-inch: 191 mm 36-inch: 222 mm	Class 150 raised-face flanges (MSS SP44); compatible with schedule 40 and lighter welding-neck and slip-on flanges

J407T02

Primary Valve Component Materials

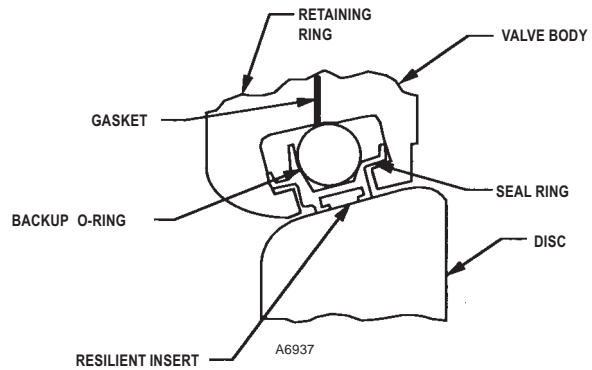
Part	DIN or ANSI (Type 8510B: DN 50 through DN 300)	ANSI (Type 8560: 3- through 12 inch)	ANSI (Type 8532: 14- through 24-inch)	ANSI (Type 8510: 30 & 36-inch)	Notes
Disc	<ul style="list-style-type: none"> ■ WCC steel, ■ CF3M (316L stainless steel, ■ 35-1 (Monel) or ■ CN7M (alloy 20) 	<ul style="list-style-type: none"> ■ CF3M or ■ CG8M (317 stainless steel) 	<ul style="list-style-type: none"> ■ Steel or ■ CF8M (316 stainless steel) 	<ul style="list-style-type: none"> ■ WCB steel, ■ CF3M (316 stainless steel), ■ M35-1 (Monel) or ■ CN7M (alloy 20) 	
Seal	<ul style="list-style-type: none"> ■ PTFE composition (filled PTFE for CF3M valves) or ■ S31600 (316 stainless steel) 	<ul style="list-style-type: none"> ■ PTFE or ■ UHMWPE with backup ring of: <ul style="list-style-type: none"> • nitrile • neoprene, •EPR, • fluoroelastomer, or • PTFE ■ NOVEX seal S31600 (standard for Class 150) or Nitronic 60 (standard for Class 300) ■ S31600/PTFE Phoenix III or Phoenix III fire-tested seal with backup ring of: <ul style="list-style-type: none"> • nitrile • neoprene, • EPR, or • PTFE 	<ul style="list-style-type: none"> ■ PTFE, ■ UHMWPE, ■ NOVEX seal S31600 (standard for Class 150) or Nitronic 60 (standard for Class 300), ■ Phoenix III metal/fluoroelastomer, or ■ Phoenix III metal/fluoroelastomer fire-tested seal 	<ul style="list-style-type: none"> ■ PTFE composition or ■ S31600 	<ul style="list-style-type: none"> • PEEK is poly-ether-ether ketone • UHMWPE is ultra high-molecular weight polyethylene • Contact your sales office or sales representative for more information on ENVIRO-SEAL packing
Bearings	<ul style="list-style-type: none"> ■ PTFE/Composition with S31603 jacket, ■ S44004 (440C stainless steel) ■ alloy 6 with or without silver plating, ■ Filled PTFE with N04400 (Monel) or N08020 (alloy 20) jacket 	<ul style="list-style-type: none"> ■ PEEK/PTFE lined or ■ metal (NOVEX or Phoenix II seals only) 	<ul style="list-style-type: none"> ■ PEEK, ■ S31600, ■ alloy 6, or ■ bronze 	<ul style="list-style-type: none"> ■ PTFE/Composition with S31603 jacket, ■ S44004, ■ alloy 6B with or without silver plating, or ■ Filled PTFE with N04400, or N08020 jacket 	
Valve shaft	<ul style="list-style-type: none"> ■ S17400 (17-4PH stainless steel), ■ S20910 (Nitronic 50 stainless steel), ■ N05500 (Monel), ■ N10276 (alloy 276), or ■ N08020 (alloy 20) 	<ul style="list-style-type: none"> ■ S17400 or ■ S20910 	<ul style="list-style-type: none"> ■ S17400 or ■ S20910 	<ul style="list-style-type: none"> ■ S17400, ■ S20910, ■ N05500, or ■ N08020 	
Packing	<ul style="list-style-type: none"> ■ PTFE V-ring, ■ PTFE-composition (both with one conductive ring), ■ graphite ribbon rings, or ■ ENVIRO-SEAL packing 	<ul style="list-style-type: none"> ■ PTFE V-ring, ■ graphite, or ■ ENVIRO-SEAL packing 	<ul style="list-style-type: none"> ■ PTFE V-ring, ■ graphite, or ■ ENVIRO-SEAL packing 	<ul style="list-style-type: none"> ■ PTFE V-ring, ■ PTFE-composition (both with one conductive ring), ■ graphite ribbon rings, or ■ ENVIRO-SEAL packing (30-inch size only) 	

J407T03



W6361

Single-Flange Valve



Phoenix III Seal

Product Flier PF51.6:8510B

Temperature Capabilities of Selected Combinations

Only selected combinations are shown here. Consult the previous table and your sales office or sales representative for other combinations. For simplicity, only general material names are given here; refer to the previous tables for more complete descriptions. For Type 8510 and 8510B valves with PTFE bearings, limit maximum temperature to 207°C with water or steam.

Valve Body	Disc	Shaft	Seal	Bearings	Packing	Temperature, °C	Note	
TYPE 8510B--DN 50 to DN 300 or 3- to 12 INCH & 8510-- 30- & 36-INCH								
Steel	Steel	S17400	PTFE S31600	PTFE-composition S44004	PTFE Graphite	-29 to 232 -29 to 427	For DIN valve bodies, the minimum temperature is normally limited to -10°C. Contact your sales office or sales representative if lower temperatures are required and for pressure and temperature limits with ENVIRO-SEAL packing..	
Stainless steel	Stainless steel	S17400 or N20910	PTFE	PTFE-composition	PTFE	-40 to 232		
	Chrome-plated stainless steel	S17400 N20910	S31600 S31600	Alloy 6 Alloy 6	Graphite Graphite	-40 to 232 -46 to 538		
TYPE 8510B--DN 50 to DN 300 or 3- to 12 INCH								
M35-1	M35-1	N05500	PTFE	PTFE-composition	PTFE Graphite	-40 to 232 -46 to 232		
CN7M	CN7M	N08020	PTFE	PTFE-composition	PTFE Graphite	-40 to 149 -46 to 149		
TYPE 8560--3- to 12-INCH								
Steel	Stainless steel	S17400 or N20910	PTFE NOVEX seal Phoenix III seal	PEEK/PTFE Metal PEEK/PTFE or metal	PTFE Graphite PTFE	-29 to 232 -29 to 427 -29 to 232		
			Stainless steel	Stainless steel	S17400	PTFE NOVEX seal Phoenix III seal		PEEK/PTFE Metal PEEK/PTFE
N20910	PTFE NOVEX seal Phoenix III seal	PEEK/PTFE Metal PEEK/PTFE			PTFE Graphite PTFE	-46 to 232 -29 to 538 -40 to 232		
TYPE 8532--14- to 24-INCH								
Steel	Steel or stainless steel	S17400 or N20910	PTFE with PTFE backup ring NOVEX seal Phoenix III with EPR backup ring	PEEK/PTFE S31600 PEEK/PTFE	PTFE Graphite PTFE	-29 to 204 -29 to 538 -29 to 204		
Stainless steel	Stainless steel	S17400 or N20910	PTFE with PTFE backup ring NOVEX seal	PEEK/PTFE S31600	PTFE Graphite	-29 to 232 -29 to 538		
		S17400 or N20910	Phoenix III with EPR backup ring	PEEK/PTFE	PTFE	-29 to 232		

J407T04

Inlet Pressure Ratings for M35-1 (Monel) Valve Bodies, Bar

Temperature, °C	150	300	600	Note
-29 to 38	15.8	41.3	82.7	M35-1 is not listed in ASME/ANSI B16.34. The designations 150, 300, and 600 indicate relative pressure-retaining capabilities and are not ANSI pressure-temperature rating classes.
93	13.8	36.5	72.7	
149	13.1	34.1	68.2	
204	12.7	33.1	65.8	
232	12.3	33.0	65.7	

J407T15

Type 1051 and 1052 Actuators

Type 1051 and 1052 pneumatic diaphragm rotary actuators are spring-return actuators that provide reliable operation for the valves in this flier.

The Type 1051 actuator is suitable for on-off operation or for throttling operation when equipped with a valve controller or positioner. The Type 1052 actuator is suitable for on-off or throttling with or without a controller or positioner.

These actuators feature single-joint linkage with splined-and-clamped levers for minimum lost motion and high control accuracy.

The actuator-valve linkage is completely enclosed for safety, yet the packing adjustment is accessible without removing any parts.



W3813-1

Typical Type 1052 Actuator

Specifications... Refer to the table below and the actuator selection tables.

Options... ■ Top-mounted handwheel, ■ Type 1078 declutchable handwheel actuator, ■ Adjustable up- and down-travel stops, ■ Actuator locking mechanism that keeps the actuator in a locked position during maintenance, and ■ Pipe-away vent for remote venting of the actuator housing.

Accessories... ■ Pneumatic and electro-pneumatic valve positioners, ■ FIELDVUE® digital valve controller, and ■ Limit and proximity switches.

ACTUATOR SIZE		NOMINAL OPERATING PRESSURE RANGES		MAXIMUM CASING PRESSURE, BAR		MAXIMUM VALVE BREAKOUT TORQUE, N•m		AMBIENT TEMPERATURES, °C	MATERIALS
Type 1051	Type 1052	Bar	Psig	Type 1051	Type 1052	Type 1051	Type 1052		
---	20	■ 0 to 1.2, ■ 0 to 2.3, and ■ 0 to 2.8	■ 0 to 11, ■ 0 to 33, and ■ 0 to 40	---	4.1	---	42	Nitrile: -40 to 82 Silicone: -50 to 149	Diaphragm: Nitrile (standard) or silicone elastomers O-rings (for optional handwheel): Nitrile or EPDM Housing: Cast iron (standard) or steel Other Major Metal Parts: Aluminum, steel, or cast iron
33	33	■ 0 to 1.2, ■ 0 to 2.3, ■ 0 to 2.8, and ■ 0 to 3.8	■ 0 to 18, ■ 0 to 33, ■ 0 to 40, and ■ 0 to 55	4.5		85	132		
40	40			5.2		322	730		
60	60	■ 0 to 1.2, ■ 0 to 2.3, and ■ 0 to 2.8	■ 0 to 11, ■ 0 to 33, and ■ 0 to 40	3.4		626	6460		
---	70	■ 0 to 2.3, ■ 0 to 2.8, and ■ 0 to 3.8	■ 0 to 33, ■ 0 to 40, and ■ 0 to 55	---	4.5	---	1370		

H419T40



W4742-1

Size 33 Actuator

Product Flier PF51.6:8510B

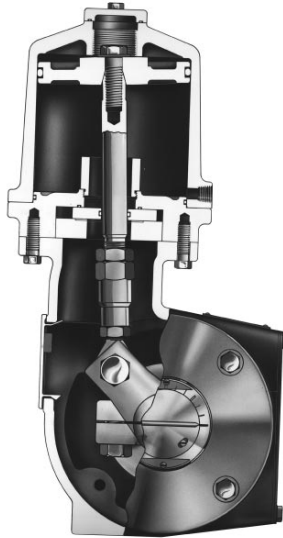
Type 1061 Actuators

Type 1061 pneumatic rotary actuators are double-acting piston actuators that provide reliable operation for the valves in this flier.

The Type 1061 can be used with a two-position control signal for on-off operation or with a valve controller or positioner for throttling operation.

These actuators feature single-joint linkage with splined-and-clamped levers for minimum lost motion and high control accuracy.

The actuator-valve linkage is completely enclosed for safety, yet the packing adjustment is accessible without removing any



W3827-1

parts.

Specifications... Refer to the table below and the actuator selection tables.

Options... ■ Type 1078 declutchable handwheel actuator with cylinder bypass valve, ■ Adjustable up- and down-travel stops, ■ Actuator locking mechanism that keeps the actuator in a locked position during maintenance, and ■ Pipe-away vent for remote venting of the actuator housing.

Accessories... ■ Pneumatic and electro-pneumatic valve positioners and ■ Limit and proximity switches.

ACTUATOR SIZE	CYLINDER OPERATING PRESSURE, BAR		MAXIMUM VALVE BREAKOUT TORQUE, N•m	AMBIENT TEMPERATURES, °C	MATERIALS
	Minimum Recommended	Maximum Allowable			
30	Without positioner: 1.4 With positioner: 0.35 bar above actuator requirement	6.9	282	-34 to 82 (to -50 with optional materials)	Cylinder and flange: Aluminum Piston: Aluminum or nylon-coated aluminum O-rings: Nitrile Mounting yoke bushing: PTFE and steel Sliding seal: Brass Other parts: Iron, aluminum, and stainless steel
40		10.3	847		
60		6.9	1130		
68		5.9	1540		
80		10.3	5080		
100		10.3	6290		

H419T41

Type DVC5020 Digital Valve Controller

FIELDVUE digital valve controllers are communicating, microprocessor-based controllers that convert a current signal to a pressure signal to operate the actuator. Through the HART® communications protocol, the controller gives easy access to actuator-valve information that is critical to process operation.

The Type DVC5020 controller is available to mount on Type 1051 and 1052 actuators.



W6161

Type DVC5020 Controller on a Valve and Actuator with Model 275 HART Communicator

ValveLink™ Software... ValveLink software allows easy access to the information available from the FloVue™ system. The software provides diagnostic information such as dynamic error band and step response on easy-to-interpret screens .

Access to diagnostics is through a Model 275 HART communicator or a personal computer using Windows™ software.

FIELDVUE Valve Controller Physical Specifications

SUPPLY PRESSURE, BAR		OUTPUT SIGNAL	STEADY-STATE AIR CONSUMPTION, Nm ³ /h	TEMPERATURE LIMITS	WEIGHT	HOUSING
Minimum and Recommended	Maximum					
As needed by actuator	6.5	Up to 95% of supply pressure	Less than 0.3 at 1.4 bar supply pressure	-40 to 80°C	2.7 kg	IP 65 per IEC 529 classification

H419T45

FIELDVUE Controller Electrical Specifications

ELECTRICAL INPUT						DIGITAL COMMUNICATION INPUT SIGNAL
Analog Input Signal	Voltage	Minimum Control Current	Minimum Current without Microprocessor Restart	Maximum Current	Polarity Protection	
■ 4 to 20, ■ 4 to 12 or ■ or 12 to 20 mA dc (user adjustable)	12 Vdc minimum and 30 Vdc maximum	4.0 mA	3.5 mA	100 mA	-30 Vdc minimum without damage	HART 1200 baud frequency shift keyed

H410T06

FIELDVUE Digital Controller Certifications

INTRINSIC SAFETY		INTRINSIC SAFETY OR NON-INCENDIVE	FLAMEPROOF		DIVISION 2		EXPLOSION-PROOF
LCIE	CSA ⁽¹⁾ or FM ⁽¹⁾	SAA	CENELEC	SAA	CSA	FM	CSA or FM
EEx ia IIC T5	Class I, Division 1, Groups ⁽¹⁾ A, B, C, D T5 (T _{amb} 80°C)	Ex n IIC T5, T6 Ex ia IIC T4, T5, T6	EEx d IIB + H ₂ T5 (T _{amb} 80°C)	EEx d IIB + H ₂ T6 (T _{amb} 80°C)	Class I Division 2, Groups A, B, C, D Class II, Division 2, Groups E, F, G	Class I Division 2, Groups A, B, C, D Class II, Division 2, Groups F, G	Class I Division 1, Groups B, C, D Class II, Division 1, Groups E, F, G

1. Contact your nearest sales office or sales representative for the appropriate FM entity ratings and CSA parametric ratings for each group.

H419T49

Product Flier PF51.6:8510B

3610J Series Valve Positioners

The 3610J Series pneumatic and 3620J Series electro-pneumatic valve positioners can be used with Type 1051, 1052, or 1061 actuators for accurate valve positioning in throttling applications. The positioners provide accurate, fast response and can withstand the vibrations in most plants. The positioners are easily reversible for direct or reverse



W4920-1*

action without additional parts. The 3610J positioners are single acting for Type 1051 and 1052 actuators, and the 3610JP positioners are double acting for Type 1061 actuators.

Options... ■ Supply pressure gauge, ■ Tire valves for clip-on gauges, and ■ Integrally mounted bypass valve for single-acting actuators

3610J and 3620J Positioner Specifications

Type	Input Signal	Supply Pressure	Operative Temperature	WEIGHT	Connections
3610J and 3610JP	<ul style="list-style-type: none"> ■ 0.2 to 1.0 or ■ 0.4 to 2.0 bar 	<ul style="list-style-type: none"> ■ 3 to 15 or ■ 6 to 30 psig 	0.3 bar above the actuator requirement up to 10.3 bar maximum	-40 to 80°C	2.5 kg
3620J and 3620JP	4 to 20 mA constant current with 30 Vdc maximum compliance voltage; equivalent circuit is 120 ohms shunted by three 5.6 V zener diodes	0.3 bar above the actuator requirement up to 10.3 bar maximum	-40 to 80°C	3.6 kg	Pressure and Vent Connections: 1/4-inch NPT Type 3620J and JP Conduit: 1/2 NPT

H419T42

3610J and 3620J Series Capacities and Housing

Type	SUPPLY PRESSURE, BAR	SUPPLY AIR DEMAND, Nm ³ /h	Air Consumption, Nm ³ /h	Housing (Types 3620J and 3620JP)
3610J and 3620J	1.4	13	Type 3610J: 0.40 at 1.4 bar supply Type 3620J: 0.49 at 1.4 bar supply	IP 54 per IEC 529 classification (weatherproof), NEMA 3; vent should be on the side or bottom for weatherproof applications
	2.4	17		
3610JP and 3620JP	5.2	37	Type 3610JP: 0.64 at 6.9 bar supply Type 3620JP: 0.93 at 6.9 bar supply	
	6.9	46		

H419T43

Type 3622 Electro-Pneumatic Converter Certifications

INTRINSIC SAFETY OR NON-INCENDIVE		INTRINSIC SAFETY OR NON-INCENDIVE	FLAMEPROOF		DIVISION 2		EXPLOSION-PROOF
PTB	CSA ⁽¹⁾ or FM ⁽¹⁾	SAA	LCIE	SAA	CSA	FM	CSA or FM
EEx ia IIC T6	Class I, Division 1, Groups ⁽¹⁾ A, B, C, D T5	Ex ia IIC T4 Ex n IIC T4	EEx d IIC T6	Ex d IIB T6	Class I Division 2, Groups A, B, C, D Class II, Division 2, Groups E, F, G	Class I Division 2, Groups A, B, C, D Class II, Division 2, Groups F, G	Class I, Division 1, Groups A, B, C, D Class II Division 1, Groups E, F, G

1. Contact your nearest sales office or sales representative for the appropriate FM entity ratings and CSA parametric ratings for each group.

H419T44

Other Accessories

Type 3065 Limit Switch Box

The limit switch box can be installed on the Type 3024S actuator to hold proximity or microswitches, which can turn on an alarm or display device when a pre-set limit is reached. Additional microswitches are available.

The device has separate cams for open and closed positions, and adjustment of one cam does not affect the other.



W6682B

Certifications...CE Mark to EMC directive ■ EN 50081 and ■ EN 50082

Self-Adjusting...Complicated adjustments are not required.

Standardized Installation...Covered by IEC 534-6 (NAMUR). The box can be supplied with a mounting kit.

Type 67AFR Filter-Regulator...The Type 67AFR provides constantly controlled supply pressure to actuator accessories system. This regulator features an internal filter and limited-capacity internal relief, allowing partial reduction of downstream pressure.

Type 67AFR Filter-Regulator Specifications

OUTLET PRESSURE SETTINGS		MAXIMUM INLET PRESSURE (BODY RATING), BAR	MAXIMUM DIAPHRAGM PRESSURE, BAR	TEMPERATURE CAPABILITIES	CONNECTIONS	MAXIMUM FLOW COEFFICIENT, C _v	WEIGHT, kg
Bar	Psig						
0.2 to 1.2	3 to 20	17.2	3.4 over outlet setting or 7.6, whichever is greater	Nitrile diaphragm and plug: -29 to 82°C Fluoroelastomer diaphragm and plug: -18 to 149°C	Inlet and Outlet: 1/4-inch NPT female Vent: ■ 6.4 mm hole or ■ 1/4-inch NPT female	0.28	0.7
0.3 to 2.1	5 to 35						
2.1 to 3.4	30 to 60						
2.4 to 5.5	35 to 100						

H410T13

Type 646 or 846 Electro-Pneumatic Transducers...These transducers convert a standard 4 to 20 mA dc signal to a proportional pneumatic signal. Certifications are ■ CE Mark to EMC directive (electromagnetic compatibility); ■ Contact your nearest sales office or sales representative for intrinsic safe and flameproof ratings.

Type 2626 Volume Booster...The volume booster can be used in

conjunction with a positioner to increase actuator stroking speed.

Others...■ High-pressure supply pressure regulators, ■ proximity switches, ■ microswitches, ■ solenoid valves, and ■ signal volume boosters.

Contact your nearest sales office or sales representative for more information.



W5075

Product Flier PF51.6:8510B

Selected Flow Coefficients

VALVE SIZE		Valve Rotation, Degrees (Line Size Equals Valve Size)											
		10	30	60	90	10	30	60	90	10	30	60	90
DIN	Inches	C				F				X			
DIN or ANSI (Type 8510B Normal Flow--Seal Retainer Upstream)													
DN 50	2	2.25	19.9	58.9	80.2	---	.77	.76	.71	.289	.315	.497	.442
DN 80	3	6.29	48.2	137	247	---	.81	.69	.57	.446	.413	.322	.230
DN 100	4	11.9	82.5	222	434	---	.79	.71	.56	.325	.375	.366	.250
DN 150	6	32.2	221	543	921	---	.71	.62	.54	.416	.394	.289	.214
DN 200	8	86.4	382	889	1800	---	.70	.66	.54	.375	.316	.284	.209
DN 250	10	92.1	471	1510	3570	---	.76	.69	.49	.466	.432	.348	.156
DN 300	12	151	732	2260	4880	---	.69	.69	.50	.429	.452	.339	.166
ANSI (Type 8532 Seal Side of Valve Facing Downstream)													
Class 150													
---	14	95	995	3980	6320								
---	16	129	946	5420	8600								
---	18	166	1220	6960	11 050	---	.81	.69	.52	.51	.55	.40	.23
---	20	208	1520	8730	13 850								
---	24	322	2370	13 540	21 500								
Class 300													
---	14	102	747	3060	6790								
---	16	136	995	4070	9050								
---	18	173	1270	5180	11 500	---	.81	.69	.52	.51	.55	.33	.23
---	20	214	1570	6410	14 250								
---	24	329	2420	9880	21950								
ANSI (Type 8510 Normal Flow--Seal Retainer Upstream)													
---	30	1050	4550	15 400	35 000	---	.75	.69	.49	.284	.413	.255	.160
---	36	1500	6510	22 000	50 000					.284	.416	.258	.160

J407T05

Conversions for Other Sizing Equations

Following are conversions for use with other common sizing equations.

$$K_v = (0.865) C_v$$

$$C_1 = 39.76(\sqrt{X_T})$$

$$C_g = C_v C_1$$

$$K_m = F_L^2$$

$$C_s = 1/20 (C_g). C_s \text{ is only applicable for inlet pressures up to 70 bar(a).}$$

Line-to-Valve Size Ratios Greater than 1-to-1

Contact your nearest sales office or sales representative for information on determining the F_p , the piping geometry factor.

Typical Actuator-Valve Size Combinations

VALVE TYPE	VALVE SIZE		DIAPHRAGM TYPE 1051 & 1052 SIZE	PISTON TYPE 1061 SIZE
	DIN	Inches		
8510B	DN 50	2	20, 33, 40	30
	DN 80	3	33, 40	30
	DN 100	4	33, 40, 60	30, 40, 60, 68
	DN 150	6	40, 60	30, 40, 60, 68
	DN 200, 250	8, 10	40, 60, 70	30, 40, 60, 68
	DN 300	12	60, 70	40, 60, 68
Class 150 8560	---	3	20, 33, 40	30
	---	4	33, 40	30
	---	6	33, 40, 60	30, 40, 60, 68
	---	8	40, 60	30, 40, 60, 68
	---	10	40, 60, 70	30, 40, 60, 68
	---	12	60, 70	40, 60, 68
Class 300 8560	---	3	33, 40	30
	---	4	33, 40, 60	30, 40, 60, 68
	---	6	40, 60	30, 40, 60, 68
	---	8	40, 60, 70	30, 40, 60, 68
	---	10	60, 70	40, 60, 60
	---	12	60, 70	80
Class 150 8532	---	14, 16	40, 60, 70	40, 60, 68
	---	18	60, 70	40, 60, 68
	---	20	60, 70	40, 60, 68, 80
	---	24	---	40, 60, 68, 80
Class 300 8532	---	14	60, 70	68, 80
	---	16	60, 70	68, 80
	---	18	---	68, 80
8510	---	30, 36	---	80, 100

J407T08

Actuator Size Selection (Shutoff Pressure Drops)

Shown are actuator size selections for two common valves. The tables illustrate the factors that must be considered when determining the pressure drop and actuator size for your application:

Valve size
 Inlet pressure and valve rating
 Valve component capabilities
 Fluid temperature
 Flow direction
 Supply pressure available
 Desired action (air open or air to close)

J407T14

Note

It is not implied that the selection shown is best for your application.

For pressure drops lower than those shown, a lower actuator pressure or smaller actuator might be satisfactory.

For pressure drops higher than those shown, a higher operating pressure or larger actuator will be required.

Contact your sales office or sales representative for other sizes and operating pressures.

With rotary valves, the highest pressure drop occurs when the valve is shut off. When the valve is open, pressure drop is normally much lower. However, pressure drop capabilities of a rotary valve also are lower when the valve is open. The allowable flowing pressure drop across a valve depends on the valve construction, valve position, the type of flowing fluid (liquid or gas), and on the vapor pressure and critical pressure ratio of liquids.

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Actuator Size Selection (Shutoff Pressure Drops) (Continued)

Only allowable shutoff pressure drops are shown here. To determine the allowable flowing pressure drop, provide your sales office or sales representative with the application information shown on page 19.

Do not exceed any other limits presented in this flier. Following is a brief reminder of some of those limits:

Maximum Inlet Pressure and Temperature... Do not exceed the maximum rating of the valve (refer to the valve type selection table).

Materials Temperature Limits... Refer to the tables showing temperature capabilities for valve materials, actuators, and accessories.

Type 8510B DIN or ANSI Valve (Steel) with PTFE Seal and PTFE Bearings (Forward Flow)

VALVE SIZE	Actuator Size	Shutoff Pressure Drop, Bar		Pressure to Actuator		Notes	
		At 38°C	At 232°C	Bar	Psig		
Type 1052 Push-Down-to-Close (Air Closes)							
DN 50	2	20	56.3	3.4	0 - 2.8	0 - 40	For higher pressure drops, larger actuators are available. For lower pressure drops, lower operating pressures can be used Pressure drop at 232°C is based on the capabilities of the valve.
DN 80	3	33	64.5	3.4	0 - 2.3	0 - 33	
DN 100	4	33	53.8	3.4	0 - 2.8	0 - 40	
DN 150	6	40	57.9	3.4	0 - 3.8	0 - 55	
DN 200	8	40	30.2	3.4	0 - 3.8	0 - 55	
DN 250	10	40	15.7	3.4	0 - 3.8	0 - 55	
DN 300	12	60	23.3	3.4	0 - 2.8	0 - 40	
Type 1061 Push-Down-to-Close or Open							
DN 50	2	30	56.2	3.4	6.9	100	
DN 80	3	30	64.5	3.4	6.9	100	
DN 100	4	30	53.8	3.4	6.9	100	
DN 150	6	30	49.0	3.4	6.9	100	
DN 200	8	30	20.9	3.4	6.9	100	
DN 250	10	30	10.1	3.4	6.9	100	
DN 300	12	40	21.1	3.4	6.9	120	

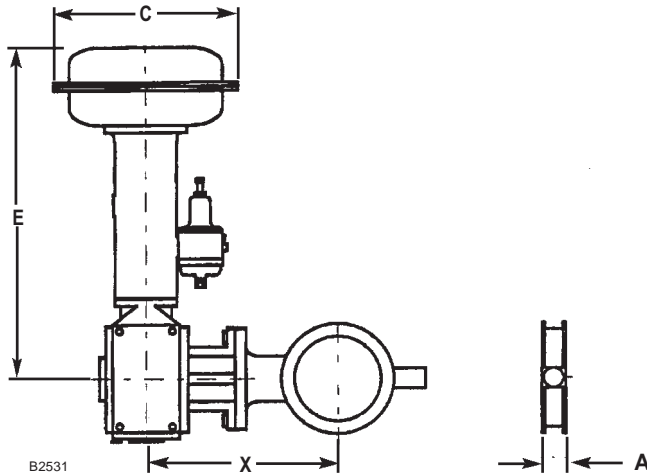
J407T06

Type 8510B DIN or ANSI Valve (Steel) with S31600 Seal and PTFE Bearings (Forward Flow)

VALVE SIZE	Actuator Size	Shutoff Pressure Drop, Bar		Pressure to Actuator		Notes	
		At 38°C	At 232°C	Bar	Psig		
Type 1052 Push-Down-to-Close (Air Closes)							
DN 50	2	20	21.9	21.9	0 - 2.8	0 - 40	For higher pressure drops, larger actuators are available. For lower pressure drops, lower operating pressures can be used Pressure drop at 232°C, if lower than the pressure drop at 38°C, is based on the capabilities of the valve.
DN 80	3	33	49.2	49.2	0 - 2.3	0 - 33	
DN 100	4	33	17.0	17.0	0 - 2.8	0 - 40	
DN 150	6	40	49.0	49.0	0 - 3.8	0 - 55	
DN 200	8	60	57.9	31.0	0 - 2.3	0 - 33	
DN 250	10	60	21.0	17.2	0 - 2.3	0 - 33	
DN 300	12	70	15.5	17.2	0 - 2.3	0 - 33	
Type 1061 Push-Down-to-Close or Open							
DN 50	2	30	51.0	51.0	4.1	60	
DN 80	3	30	51.0	51.0	4.1	60	
DN 100	4	30	51.0	51.0	4.1	60	
DN 150	6	30	41.6	41.6	4.1	60	
DN 200	8	40	31.0	31.0	6.9	100	
DN 250	10	60	17.2	17.2	4.1	60	
DN 300	12	40	14.4	14.4	5.5	80	

J407T07

Dimensions



B2531

Dimensions C and E (mm)

Actuator Type	Actuator Size	C	E
1051	33	289	338
	40	333	505
	60	473	749
1052	20	251	256
	33	289	338
	40	333	607
	60	473	876
1061	70	536	849
	30	171	378
	40	206	425
	60	267	406
	68	324	483
1061	80	324	714
	100	381	714

H419T24

Dimensions A and X (mm)

TYPE 8510B & 8560 DIMENSION A					
Valve Size		DIN Type 8510B	ANSI Type 8510B	ANSI Type 8560	
DIN	ANSI, Inches			Class 150	Class 300
DN 50	2	43	45	---	---
DN 80	3	49	48	48	48
DN 100	4	56	56	54	54
DN 150	6	70	57	57	59
DN 200	8	71	64	84	73
DN 250	10	76	71	71	83
DN 300	12	83	83	81	92

J407T09

TYPE 8510B & 8560 DIMENSION X				
Valve Size		DIN or ANSI Type 8510B	ANSI Type 8560	
DIN	ANSI, Inches		Class 150	Class 300
DN 50	2	239	---	---
DN 80	3	256	258	274
DN 100	4	178	280	302
DN 150	6	362	332	357
DN 200	8	392	360	395
DN 250	10	405	402	416
DN 300	12	445	427	456

J407T16

TYPE 8510 & 8510 DIMENSION A			
Type	Valve Size, Inches	Class 150	Class 300
8532	14	92	118
	16	102	133
	18	115	149
	20	127	159
	24	154	181
8510	30	191	---
	36	222	---

J407T12

TYPE 8510 & 8532 DIMENSION X			
Type	Valve Size, Inches	Class 150	Class 300
8532	14	475	650
	16	520	683
	18	548	705
	20	718	---
	24	778	---
	30	---	819
8532	36	---	903

J407T17

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Typical Weights

Weights are in kilograms and are for valve and actuator combined. Not all possible valve and actuator size combinations are shown.

Typical Weight--Wafer-Style Type 8510B and 8560 Valves

Valve Size		DIN or ANSI TYPE 8510B				ANSI Type 8560							
DIN	ANSI, Inches	Type 1052 Actuator		Type 1061 Actuator		Class 150				Class 300			
		Size	Weight	Size	Weight	Type 1052 Actuator		Type 1061 Actuator		Type 1052 Actuator		Type 1061 Actuator	
						Size	Weight	Size	Weight	Size	Weight	Size	Weight
DN 50	2	20	18.3	30	26.3	---	---	---	---	---	---	---	---
DN 80	3	33	26.9	30	27.9	20	14	30	32	33	34	30	35
DN 100	4	33	30.1	30	31.1	33	40	30	41	33	44	30	45
DN 150	6	40	64.0	30	41.0	33	50	30	51	40	77	30	55
DN 200	8	40	76.0	30	53.0	40	92	30	69	40	98	30	75
DN 250	10	40	91.0	30	68.0	40	120	30	97	60	188	40	125
DN 300	12	60	164	40	101	60	199	40	136	60	233	80	263

J407T10

Typical Weight--Wafer-Style Type 8532 and 8510 Valves

Valve Size, Inches	ANSI TYPE 8532							
	Class 150				Class 300			
	Type 1052 Actuator		Type 1061 Actuator		Type 1052 Actuator		Type 1061 Actuator	
	Size	Weight	Size	Weight	Size	Weight	Size	Weight
14	40	117	40	101	60	213	68	177
16	40	139	40	123	60	366	68	239
18	60	231	40	168	---	---	68	283
20	60	259	40	196	---	---	---	---
24	---	---	40	284	---	---	---	---

J407T11

Typical Weight--Type 8510 Valves

ANSI TYPE 8510		
Valve Size, Inches	Type 1061 Actuator	
	Size	Weight
30	80	938
36	80	1143

J407T18

Ordering Information

When ordering, please specify...

Application		
Type of Application	Throttling or on-off	
	Reducing or relief	
Controlled Fluid	Include chemical analysis of fluid if possible	
	Specific gravity	
Fluid Temperature		
Inlet Pressures	Minimum	
	Normal	
	Maximum	
Pressure Drops	Minimum flowing	
	Normal flowing	
	Maximum flowing	
	Maximum at shutoff	
Flow	Minimum controlled	
	Normal	
	Maximum	
Maximum Permissible Noise Level, if Critical		
Shutoff Classification Required		
Line Size, Schedule, and End connection Type		
Valve, Actuator, and Accessories		
<p>From this or other product flier, select your choice where ever a choice is offered. If you cannot find the selection you need, contact your nearest sales office or sales representative.</p>		

H410T11

Product Flier PF51.6:8510B

For Further Information, Contact...

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