



Cipriani Harrison Valves Corp.

Shut-off & Divert Valve 800 Series

Application

Shut-off and divert valves are used in process flow systems for stopping or diverting the flow of liquid. A variety of body configurations allows flexibility in designing process piping systems.

Working Principle

When compressed air is supplied to the pneumatic actuator, the valve opens or closes depending on whether the actuator has a normally closed (NC) or normally open (NO) function. The built in spring returns the valve plug to its original position once the air supply is stopped.

Standard Design

The self draining machined and polished valve bodies are made from acid resistance stainless steel. Their round shape offers minimum resistance to flow. The valve body, yoke, and pneumatic actuator are connected by clamps enabling easy and quick assembly and disassembly. The Open yoke design ensures easy cleaning of the valve plug. The configuration of valve can be changed from normally closed to normally open or vice-versa by just inverting the actuator. All Seats and Seals are made from FDA approved materials.

Actuators

Normally closed (NC) - Air to open and spring to close.
Normally open (NO) - Air to close and spring to open.
Air to air - Air to open and air to close.
Manual version - Can be opened or closed manually by rotating the handle.

Available Sizes

1", 1 1/2", 2", 2 1/2", 3", 4"

Options

Various types of actuators.
Larger actuator for 1 1/2", 2", 2 1/2" and 3" Valves.
Stronger springs for increased holding pressures.
Electrical control unit with micro switches or proximity switches and solenoid valve for remote operation.

End connections: Sanitary Clamp, Butt-Weld, or others on request.

*3A Approved.



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Shut-off & Divert Valve

800 Series

TECHNICAL SPECIFICATIONS :

Material :

Product wetted steel parts.....AISI 316L
Other steel parts.....AISI 304

FDA Seals :

Seat seal(s).....PTFE
Optional.....SILICONE
EPDM
VITON
BUNA

Lip seal & Seal ring.....EPDM
Optional.....VITON
SILICONE
BUNA

Others Seals.....EPDM

Nominal Pressure :

Maximum product pressure.....10 bar maximum (150 PSI)

* For seat holding pressure please refer page no 9 -13

Supply pressure for air actuator..70 - 115 PSI (Dry Air)

Temperature & Chemical Compatibility :

Please refer to the temperature and chemical compatibility charts located in the General Information section of the catalog. Temperature and chemical compatibility are limited by the seal material.

Surface Finish :

Surface in contact with product..Ra <= 25 μ in (Grit 220g)
Optional.....Ra <= 15 μ in (Grit 320g)
*Electropolishing available upon request

ConnectionsSanitary Clamp (ISO 2852 / BS 4825-3)
Butt Weld (ISO 2037 / BS 4825-1)
Other connections on request

Actuator Options

4AO - 4" Air to Open
4AC - 4" Air to Close
4AA - 4" Air to Air
5AO - 5" Air to Open
5AC - 5" Air to Close
5AA - 5" Air to Air
6AO - 6" Air to Open
6AC - 6" Air to Close
6AA - 6" Air to Air
4AOLS - 4" Air to Open, Long Stroke
4ACLS - 4" Air to Close, Long Stroke
5AOLS - 5" Air to Open, Long Stroke
5ACLS - 5" Air to Close, Long Stroke

H - Hand Operated
HLS - Hand Operated, Long Stroke

Stroke Length

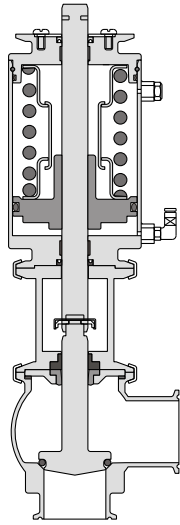
Valve Size Inch	810 Standard Stoke	820 Standard Stoke	810L Long Stroke	820 L Long Stroke
1.0	7/8	23/32	-	-
1.5	15/16	7/8	-	-
2.0	15/16	7/8	1 11/16	1 5/8
2.5	15/16	7/8	1 7/8	1 11/16
3.0	1 1/8	1 1/8	2 5/16	2 5/64
4.0	1 1/4	1 1/4	2 9/16	2 9/16

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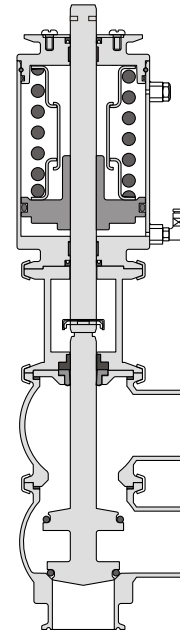
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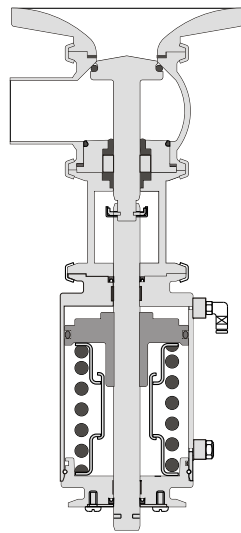
Shut-off & Divert Valve



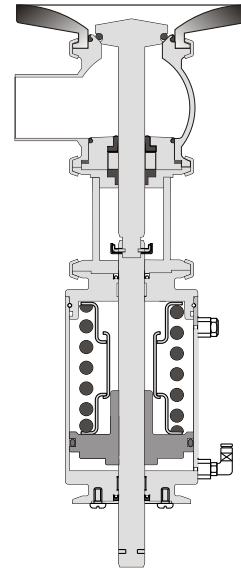
810 Series Shut-off Valve



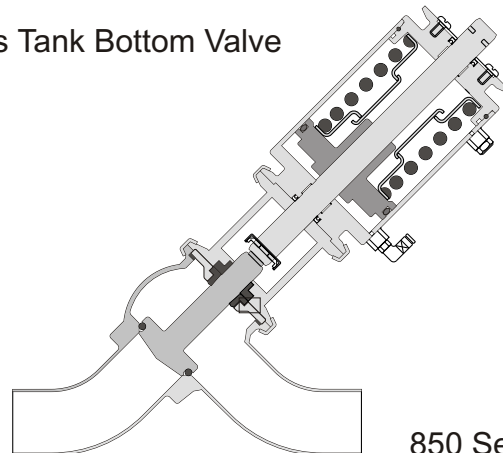
820 Series Divert Valve



830 Series Tank Bottom Valve



840 Series Tank Bottom Valve



850 Series Angle Valve

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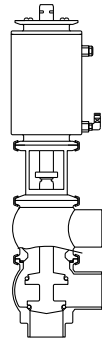
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Shut-off & Divert Valve

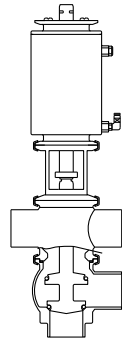
800 Series

Body Configurations

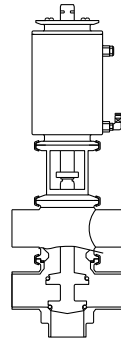
Divert valves



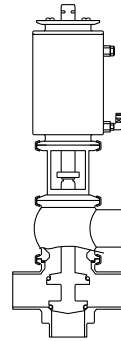
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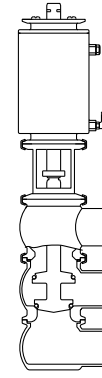
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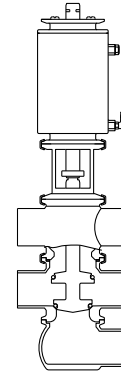
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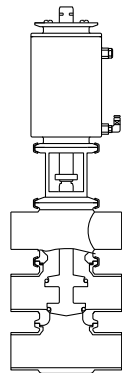
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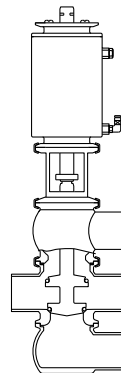
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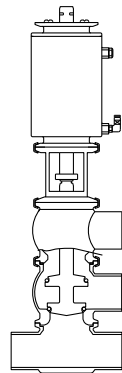
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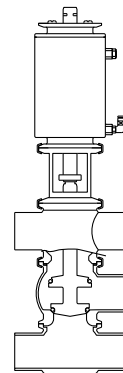
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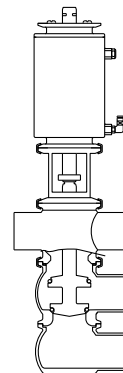
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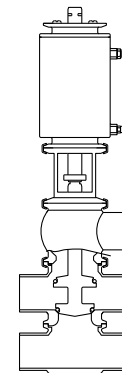
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CTD

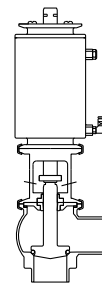


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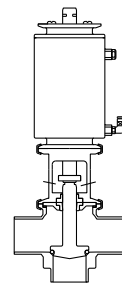


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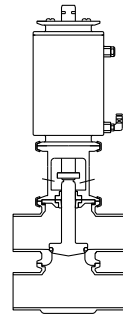
Shut-off valves



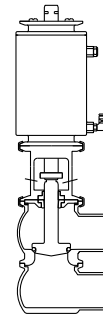
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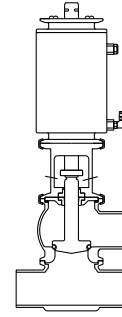
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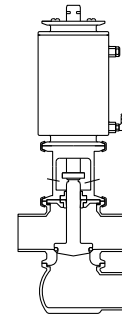
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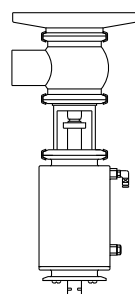
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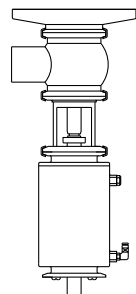
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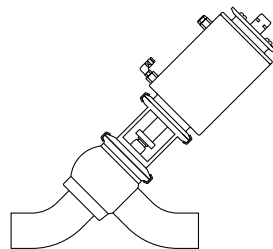
CS



TBD



TBU



AV

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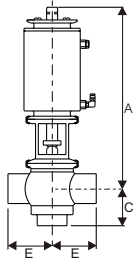
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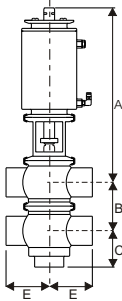
Shut-off & Divert Valve

800 Series

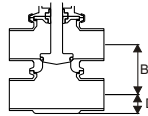
Valve Dimensions



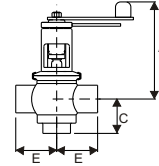
Shut-off Valve



Divert Valve



Manual Shut-off Valve

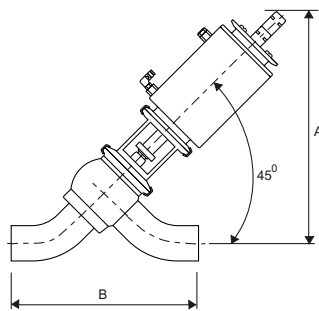


Manual Divert Valve

Valve Dimensions

Valve Size Inch	A Standard Stroke	A Long Stroke	A Manual	A Manual Long Stroke	B	C	D	E
1.0	13 13/64	-	6 3/4	-	2 1/4	1 5/8	3/4	2 1/4
1.5	13 11/16	-	7	-	2 7/8	1 27/32	1	2 43/64
2.0	14 11/64	14 59/64	7 11/32	8 5/32	3 35/64	2 41/64	1 1/4	3 9/64
2.5	14 13/32	15 11/32	7 43/64	8 43/64	4 11/64	2 63/64	1 1/2	3 35/64
3.0	18 1/16	19 1/4	7 3/4	9	4 27/32	3 9/64	1 3/4	3 55/64
4.0	18 1/4	20 3/4	8 15/32	10	5 1/2	4	2 1/4	4 1/2

* "A" Dimension is fully open position.



Angle Valve

	A	B
1	11 27/64	7 39/64
1.5	12 3/16	9 1/16
2	12 63/64	10 39/64
2.5	13 45/64	12 5/32
3	16 21/64	13 33/64
4	18 13/32	19 13/64

* "A" Dimension is fully open position.

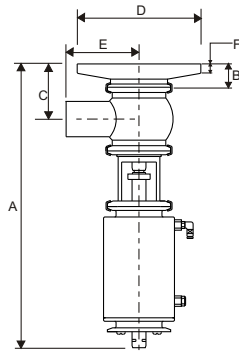
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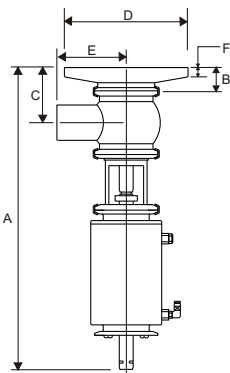
800 Series



Tank Bottom Valve
(Downward Lift)

	A	B	C	D	E	F
1	15 9/32	1 1/4	2 5/16	4 27/32	2 1/4	1/2
1.5	16 1/4	1 1/4	2 25/32	5 25/64	2 43/64	1/2
2	16 55/64	1 21/64	3 1/8	7	3 9/64	9/16
2.5	17 41/64	1 1/2	3 11/16	7 43/64	3 35/64	5/8
3	21 21/64	1 1/2	4	8 7/64	3 55/64	3/4

* "A" Dimension is fully open position.



Tank Bottom Valve
(Upward Lift)

	A	B	C	D	E	F
1	15 9/16	1 1/4	2 5/16	4 27/32	2 1/4	1/2
1.5	16 1/2	1 1/4	2 25/32	5 25/64	2 43/64	1/2
2	17 3/32	1 21/64	3 1/8	7	3 9/64	9/16
2.5	17 27/32	1 1/2	3 11/16	7 43/64	3 35/64	5/8
3	21 3/4	1 1/2	4	8 7/64	3 55/64	3/4

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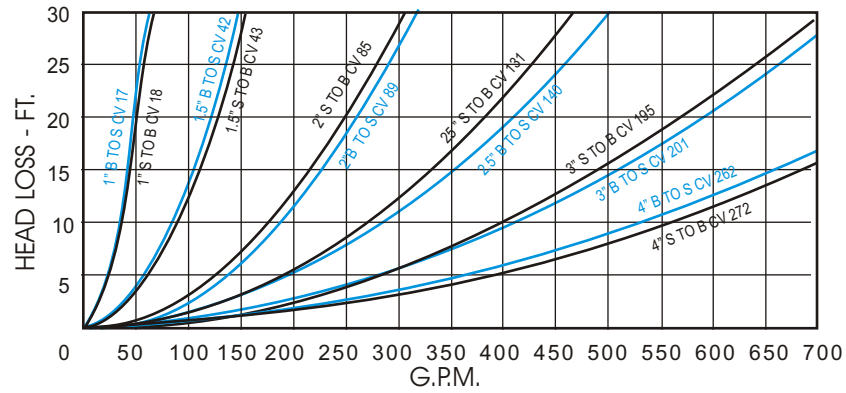
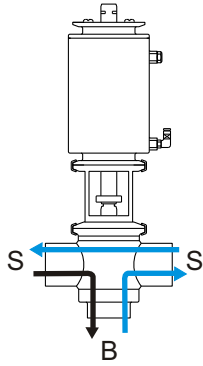
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Shut-off & Divert Valve

800 Series

Pressure Loss Curves

MODEL 810



Note : For 810 S to S curves see 820 T to T curves

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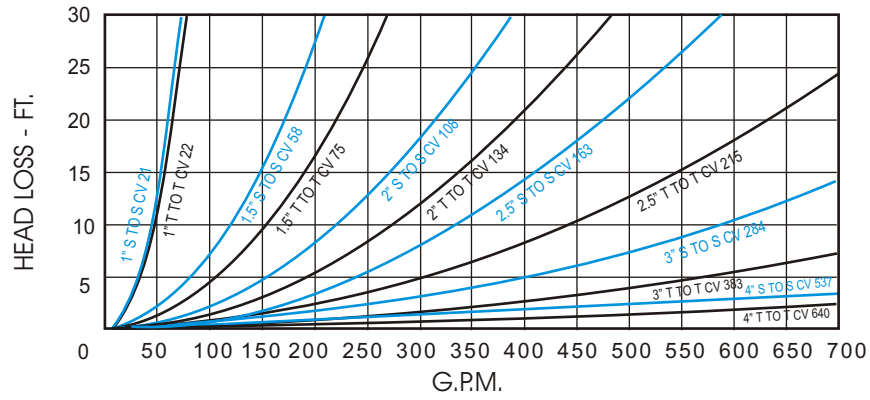
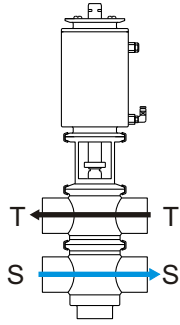
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Shut-off & Divert Valve

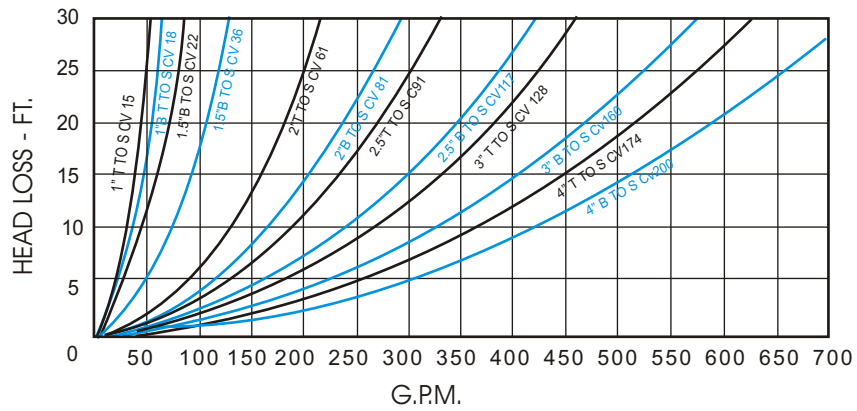
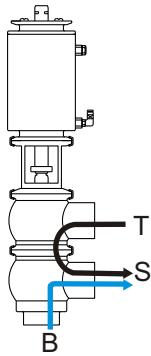
800 Series

Pressure Loss Curves

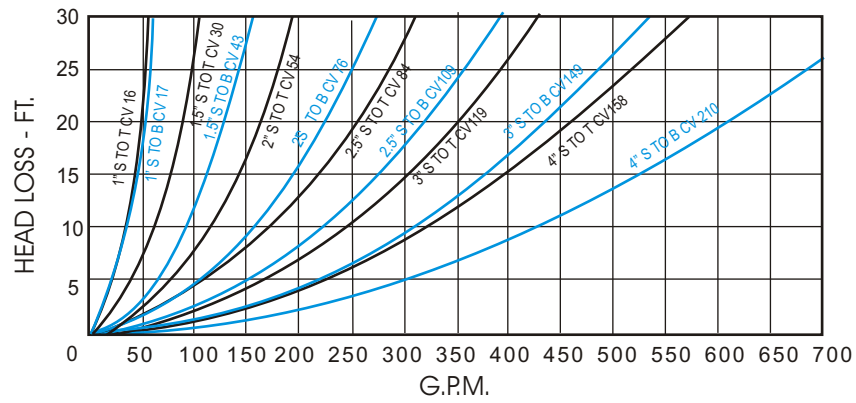
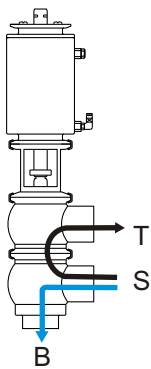
MODEL 820



MODEL 820



MODEL 820



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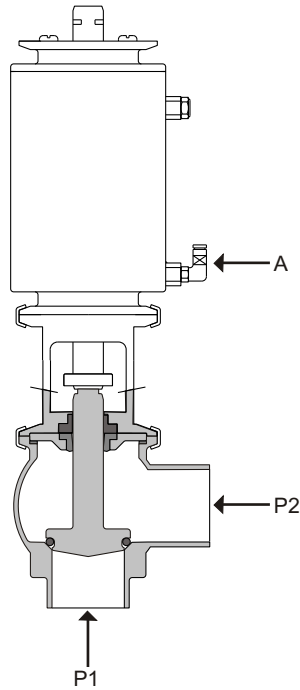
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Shut-off & Divert Valve

800 Series

810 Holding Pressure Charts



810 AO (air-to-open) - Standard Stroke

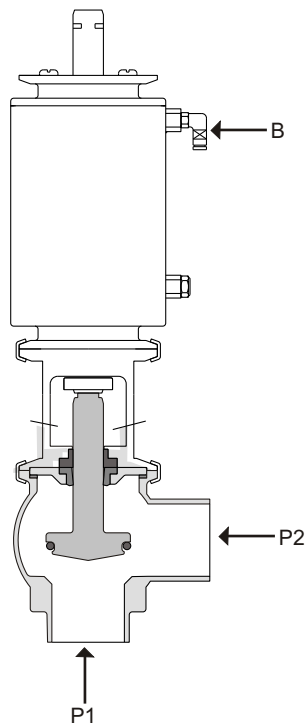
	Actuator Size (in)	Valve Size - Pressure in PSI						
		1"	1.5"	2"	2.5"	3"	4"	
Port P1, actuator spring holds closed against:	4AO	175	120	75	55	-	-	
	5AO	210	180	95	70	70	30	
	6AO	-	-	-	-	84	40	
Port P2, Air to port A, will open against :	60 PSI	4AO	250	225	140	85	-	-
	60 PSI	5AO	300	270	172	105	79	51
		6AO	-	-	-	-	104	60

810 AO (air-to-open)-Long Stroke

	Actuator Size (in)	Valve Size-Pressure in PSI			
		2"	2.5"	3"	
Port P1, actuator spring holds closed against:	4AOLS	70	50	-	
	5AOLS	88	63	70	
Port P2, Air to port A, will open against:	70 PSI	4AOLS	140	85	-
		5AOLS	172	105	79

810 AC (air-to-close) - Standard Stroke

	Actuator Size (in)	Valve Size - Pressure in PSI						
		1"	1.5"	2"	2.5"	3"	4"	
Port P2, actuator spring opens stem against:	4AC	250	220	160	90	-	-	
	5AC	278	250	190	120	88	55	
	6AC	-	-	-	-	106	60	
Port P1, Air to port B, will hold closed against :	70 PSI	4AC	125	90	55	45	-	-
	70 PSI	5AC	227	159	96	65	50	27
	70 PSI	6AC	-	-	-	-	64	33



810 AC (air-to -close) -Long Stroke

	Actuator Size (in)	Valve Size-Pressure in PSI			
		2"	2.5"	3"	
Port P2, actuator spring opens stem against:	4ACLS	90	62	-	
	5ACLS	108	74	55	
Port P1, Air to port B, will hold closed against:	70 PSI	4ACLS	55	42	-
	70 PSI	5ACLS	96	65	50

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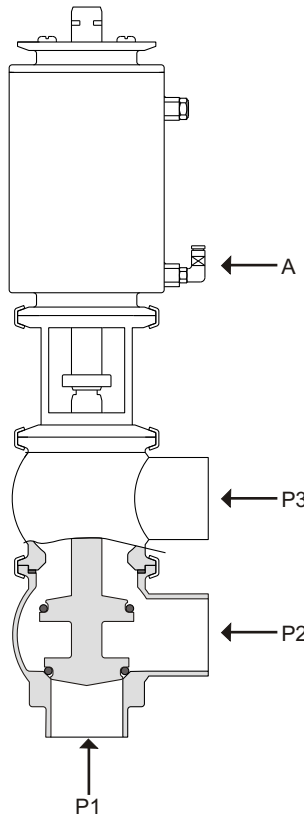
Shut-off & Divert Valve

800 Series

820 Holding Pressure Chrts

820 AO (air-to-open) - Standard Stroke

	Actuator Size (in)	Valve Size - Pressure in PSI					
		1"	1.5"	2"	2.5"	3"	4"
Port P1, actuator spring hold closed against:	4AO	175	120	75	55	-	-
	5AO	210	180	95	70	70	30
	6AO	-	-	-	-	84	40
Port P2, Air to actuator (with stem raised) spring will lower against :	4AO	238	205	130	80	-	-
	5AO	285	246	156	96	80	35
	6AO	-	-	-	-	96	42
Port P2, Air to port A, will raise stem (opens) against :	60 PSI 4AO	250	225	143	88	-	-
	60 PSI 5AO	300	270	172	105	79	51
	60 PSI 6AO	-	-	-	-	104	60
Port P3, Air to port A, (with stem raised) will hold against:	60 PSI 4AO	110	75	55	40	-	-
	60 PSI 5AO	126	89	52	36	40	30
	60 PSI 6AO	-	-	-	-	42	32



820 AO (air-to-open)-Long Stroke

	Actuator Size (in)	Valve Size Pressure in PSI		
		2"	2.5"	3"
Port P1, actuator spring holds closed against:	4AOLS	70	50	-
	5AOLS	88	63	70
Port P2, Air to actuator (with stem raised), spring will lower against;	4AOLS	130	80	-
	5AOLS	172	105	79
Port P2, Air to port A, will raise stem (opens) against;	4AOLS	148	90	-
	5AOLS	178	108	69
Port P3, Air to port A, w/stem raised will hold against;	4AOLS	88	55	-
	5AOLS	55	40	30

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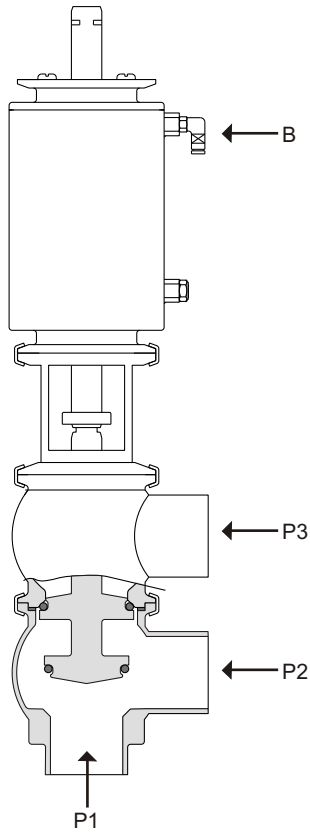
Shut-off & Divert Valve

800 Series

820 Holding Pressure Charts

820 AC (air-to-close)-Standard Stroke

		Actuator Size (in)	Valve Size - Pressure in PSI					
			1"	1.5"	2"	2.5"	3"	4"
Port P1, Air to port B, will hold against :	70 PSI	4AC	125	100	70	45	-	-
	70 PSI	5AC	227	159	86	65	50	27
	70 PSI	6AC	-	-	-	-	106	60
Port P2,(stem lowered), spring open stem against :		4AC	253	238	162	91	-	-
		5AC	278	250	190	120	80	50
		6AC	-	-	-	-	106	60
Port P2, Air to port B, (with stem raised), will closed stem against :	70 PSI	4AC	189	170	115	73	-	-
	70 PSI	5AC	226	204	138	86	65	30
	70 PSI	6AC	-	-	-	-	70	35
Port P3, (stem raised), actuator spring holds against :		4AC	184	164	89	52	-	-
		5AC	220	195	107	63	58	24
		6AC	-	-	-	-	72	30



820 AC (air-to-close)-Long Stroke

		Actuator Size (in)	Valve Size Pressure in PSI		
			2"	2.5"	3"
Port P1,air to port B, will holds against:	4ACLS	80	60	-	
	5ACLS	96	73	55	
Port P2, (stem lowered),spring opens stem against:	4ACLS	70	55	-	
	5ACLS	84	63	48	
Port P2, Air to port B, (with stem raised), will close stem against:	4ACLS	85	59	-	
	5ACLS	104	74	52	
Port P3,(stem raised) actuator spring holds against:	4ACLS	55	45	-	
	5ACLS	68	53	49	

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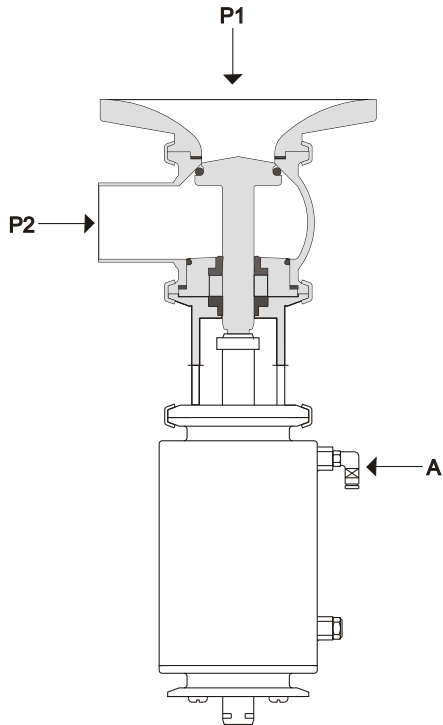
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Shut-off & Divert Valve

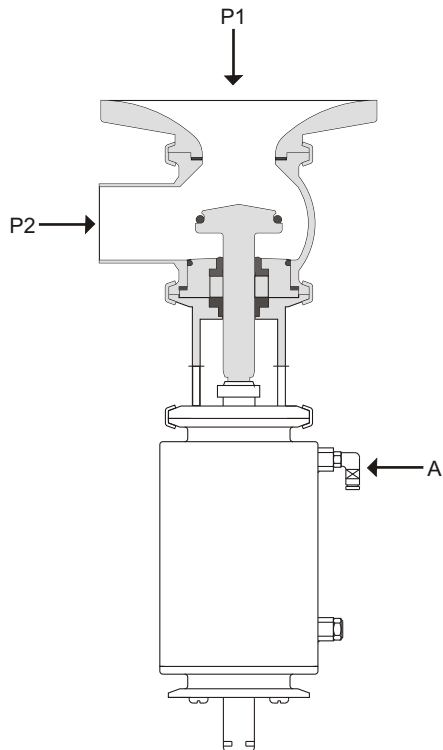
800 Series

830 Holding Pressure Charts



830 AO (air-to-open) - Standard Stroke

	Actuator Size (in)	Valve Size - Pressure in PSI				
		1"	1.5"	2"	2.5"	3"
Port P1, actuator spring holds closed against:	4AO	175	120	75	55	-
	5AO	210	180	95	70	70
Port P2, Air to port A, will open against :	60 PSI 4AO	250	225	140	85	-
	60 PSI 5AO	300	270	172	105	79



830 AC (air-to-close) - Standard Stroke

	Actuator Size (in)	Valve Size - Pressure in PSI				
		1"	1.5"	2"	2.5"	3"
Port P2, actuator spring opens stem against:	4AC	250	220	164	90	-
	5AC	278	250	190	120	88
Port P1, Air to port B, will hold closed against :	60 PSI 4AC	125	90	55	45	-
	60 PSI 5AC	227	159	96	65	47

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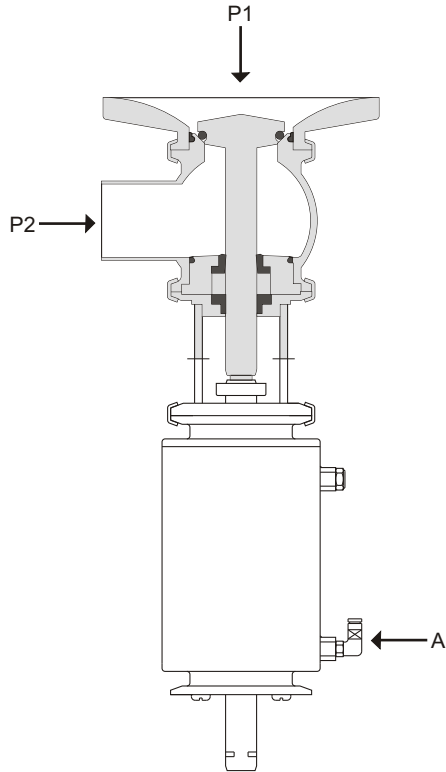
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Shut-off & Divert Valve

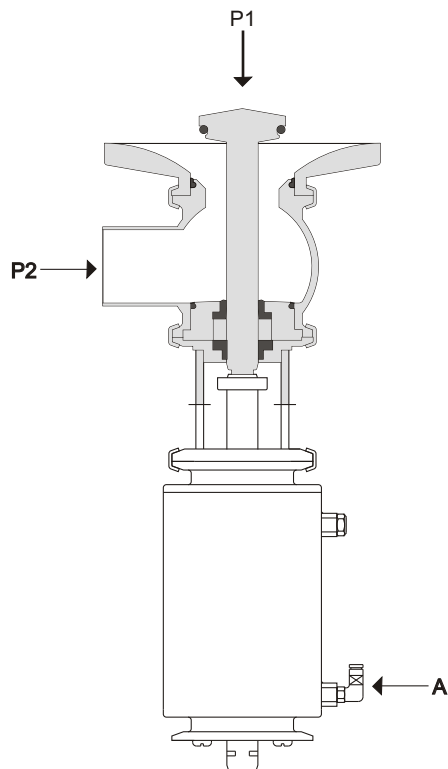
800 Series

840 Holding Pressure Charts



840 AO (air-to-open) - Standard Stroke

	Actuator Size (in)	Valve Size - Pressure in PSI				
		1"	1.5"	2"	2.5"	3"
Port P1, actuator spring holds closed against:	4AO	225	175	90	55	-
	5AO	235	190	102	73	70
Port P2, Air to port A, will open against :	60 PSI 4AO	250	225	140	85	-
	60 PSI 5AO	278	250	190	120	79



840 AC (air-to-close) - Standard Stroke

	Actuator Size (in)	Valve Size - Pressure in PSI				
		1"	1.5"	2"	2.5"	3"
Port P2, actuator spring opens stem against:	4AC	250	220	164	99	-
	5AC	278	250	190	120	88
Port P1, Air to port B, will hold closed against :	60 PSI 4AC	125	90	55	45	-
	60 PSI 5AC	150	108	68	53	47

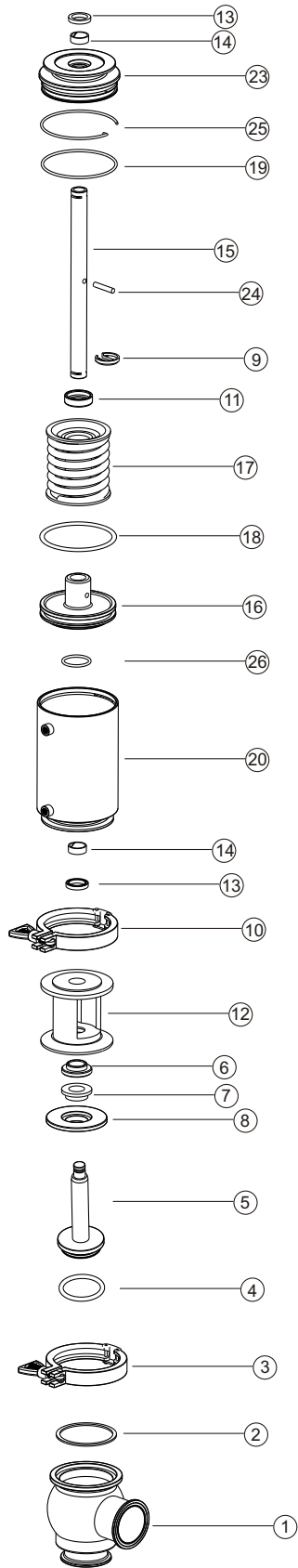
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Shut-off Valve

810 Series



Exploded view of standard 810 Shut-off Valve

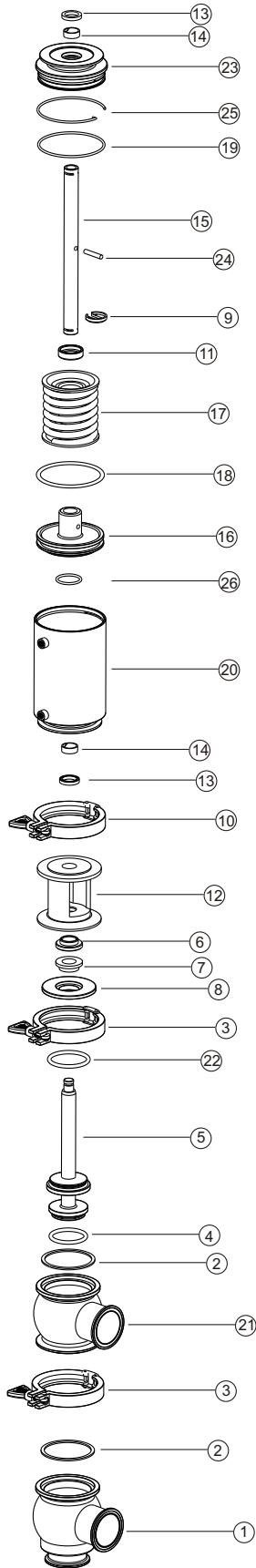
NO.	PART NO.	DESCRIPTION	MATERIAL
1	8001	LOWER VALVE BODY	AISI 316L
2	8002	SEAL RING	EPDM
3	8003	CLAMP	AISI 304
4	8004	LOWER SEAT SEAL	PTFE
5	8005	VALVE PLUG	AISI 316L
6	8006	GUIDE BUSHING	PTFE
7	8007	LIP SEAL	EPDM
8	8008	LIP SEAL HOUSING	AISI 316L
9	8009	CLIP	AISI 304
10	8010	CLAMP	AISI 304
11	8011	PVC CAP	PVC
12	8012	YOKE	AISI 304
13	8013	U SEAL	EPDM
14	8014	SPLIT RING	PTFE
15	8015	PISTON ROD	AISI 304
16	8016	PISTON	ALUMINIUM
17	8017	SPRING	SPRING STEEL
18	8018	O'RING	EPDM
19	8019	O'RING	EPDM
20	8020	ACTUATOR HOUSING	AISI 304
23	8023	COVER	AISI 304
24	8024	DOWEL	AISI 304
25	8025	CIRCLIP	AISI 304
26	8026	O'RING	EPDM

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Divert Valve

820 Series



Exploded view of standard 820 Divert Valve

NO.	PART No.	DESCRIPTION	MATERIAL
1	8101	LOWER VALVE BODY	AISI 316L
2	8102	SEAL RING	EPDM
3	8103	CLAMP	AISI 304
4	8104	LOWER SEAT SEAL	PTFE
5	8105	VALVE PLUG	AISI 316L
6	8106	GUIDE BUSHING	PTFE
7	8107	LIP SEAL	EPDM
8	8108	LIP SEAL HOUSING	AISI 316L
9	8109	CLIP	AISI 304
10	8110	CLAMP	AISI 304
11	8111	PVC CAP	PVC
12	8112	YOKE	AISI 304
13	8113	U SEAL	EPDM
14	8114	SPLIT RING	PTFE
15	8115	PISTON ROD	AISI 304
16	8116	PISTON	ALUMINIUM
17	8117	SPRING	SPRING STEEL
18	8118	O'RING	EPDM
19	8119	O'RING	EPDM
20	8120	ACTUATOR HOUSING	AISI 304
21	8121	UPPER VALVE BODY	AISI 316L
22	8122	UPPER VALVE SEAL	PTFE
23	8123	COVER	AISI 304
24	8124	DOWEL	AISI 304
25	8125	CIRCLIP	AISI 304
26	8126	O'RING	EPDM

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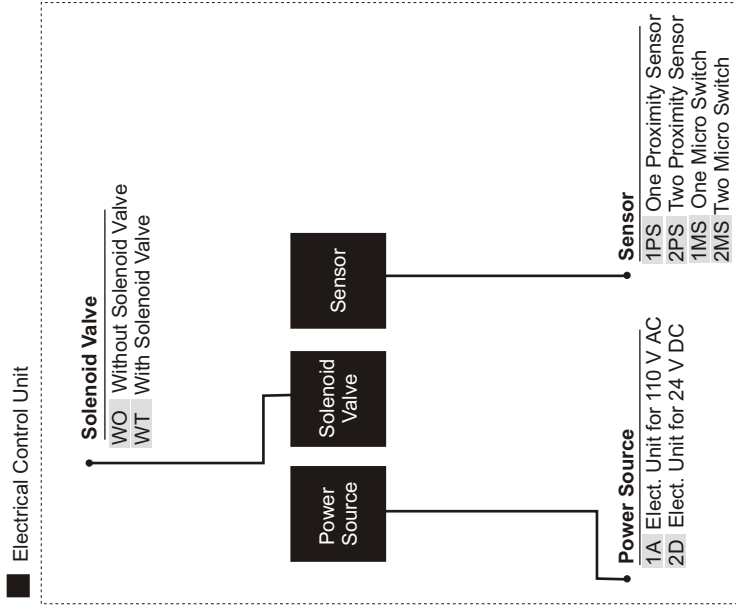
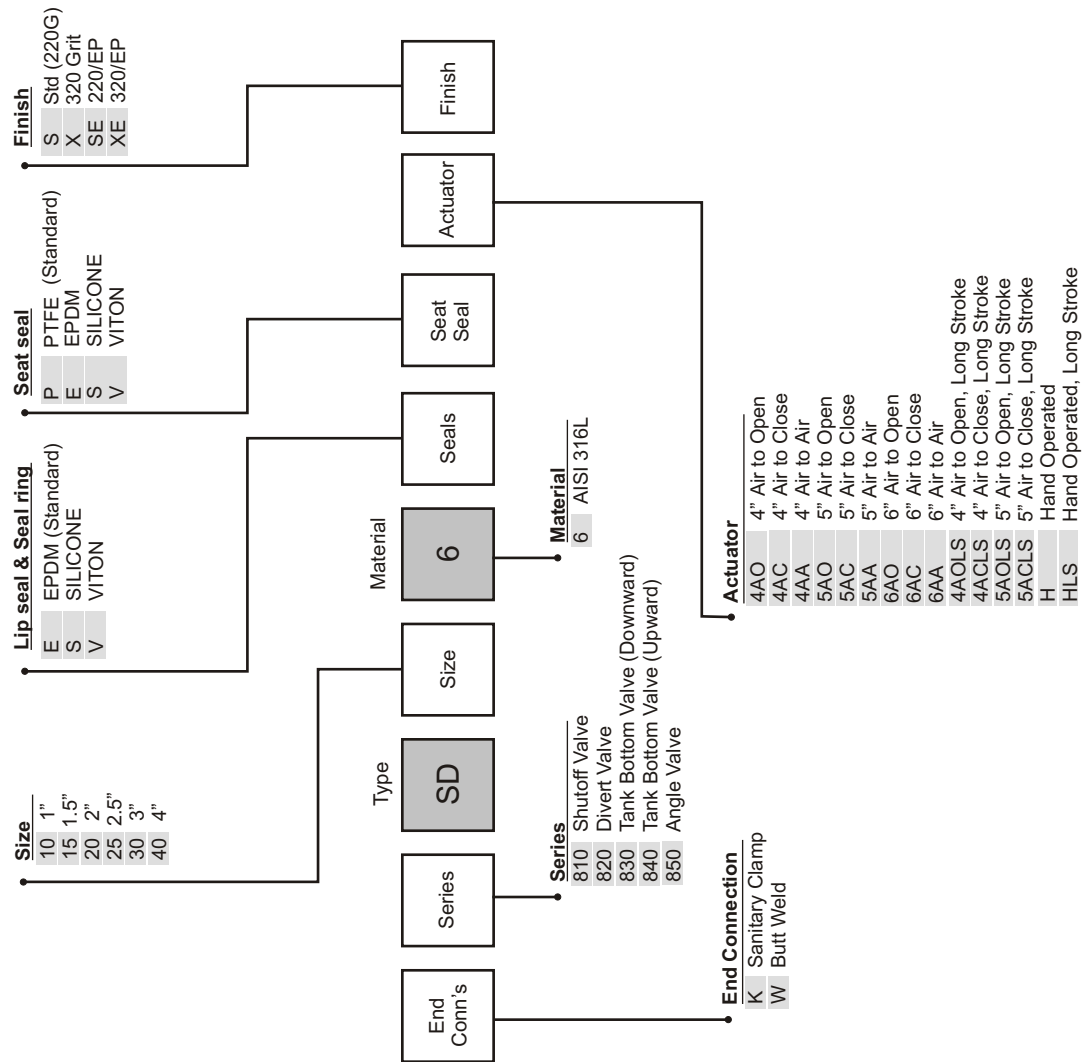
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Shut-off & Divert Valve

800 Series

800 Series Shut-off & Divert Valve Ordering System



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