SPXFLOW

WILLIAMS WC CARVER CO.

W60/W80 Series

SHUT OFF AND DIVERT VALVES

ISO 9001 CERTIFIED

Waukesha Cherry-Burrell®

Engineering excellence, allied to stringent quality control, ensures that SPX FLOW's unrivalled range of WCB products complies with the highest international standards for hygiene. In the light of growing pressure worldwide to deliver safe, high quality food, all SPX FLOW products are designed for easy cleanability, while minimizing the use of valuable resources, such as energy.

The WCB product portfolio includes a wide range of pumps, valves, heat exchangers, mixers and homogenizers designed for use in the food, dairy and brewing industries, as well as in chemical, healthcare, pharmaceutical processing and heavy industries.

SPX FLOW, Inc. (NYSE:FLOW) is a leading manufacturer of innovative flow technologies, many of which help define the industry standard in the market segments they serve. From its headquarters in Charlotte, North Carolina, it operates a sales and support network, centers of manufacturing excellence, and advanced engineering facilities, throughout the world. Its cutting-edge flow components and process equipment portfolio includes a wide range of pumps, valves, heat exchangers, mixers, homogenizers, separators, filters, UHT, and drying technology that meet many application needs. Its expert engineering capability also makes it a premium supplier of customized solutions and complete, turn-key packages to meet the most exacting of installation demands.

Incorporating many leading brands, SPX FLOW has a long history of serving the food and beverage and industrial market sectors. Its designs and engineered solutions help customers drive efficiency and productivity, increase quality and reliability, and meet the latest regulatory demands. In-depth understanding of applications and processes, state-of-the-art Innovation Centers, and advanced pilot/testing technology further assist in optimizing processes and reducing timescales to reliably meet production targets.

To learn more about SPX FLOW capabilities, its latest technology innovations and complete service offerings, please visit www.spxflow.com.

W60/W80 Series
Shut Off & Divert Valves

APPLICATION

When stopping or diverting flow in a process system, the W60 single seat valve line provides both a flexible and reliable solution. These valves are pneumatically or manually operated, and offered in a wide variety of body configurations.

Available in 1" to 6" (25mm – 152mm) OD sizes.

Adapters: Refer to page 27 for descriptions of W80 options.

MATERIALS

Product Wetted:	ASTM 316L (UNS-S31603); (DIN-1.4404)
Non-Product:	ASTM 304 (UNS-S30400); (DIN-1.4301)
Seat Material:	Tef Flow™ (Std) See Page 3 for other available seat options.
Elastomers:	FKM (Std) EPDM (Opt) FFKM (Opt)
Finish:	≤ 32Ra (≤0.8 µm) Other finishes available upon request

PRESSURE RATINGS

STANDARD ADAPTER					
SIZE	MAXIUM PRESSURE AT 70°F/21°C	MAXIUM PRESSURE AT 160°F/71°C	MAXIUM PRESSURE AT 180°F/82°C	MAXIUM PRESSURE AT 250°F/121°C	
1.0" 25mm	**500** 34	**375** 26	**375** 26	**250** 17	**PSI** Bar
1.5" 38mm	**500** 34	**375** 26	**375** 26	**250** 17	**PSI** Bar
2.0" 50mm	**450** 31	**350** 24	**350** 24	**250** 17	**PSI** Bar
2.5" 63mm	**400** 28	**300** 21	**300** 21	**200** 14	**PSI** Bar
3.0" 76mm	**350** 24	**250** 17	**250** 17	**150** 10	**PSI** Bar
4.0" 101mm	**200** 14	**150** 10	**150** 10	**125** 9	**PSI** Bar
6.0" 152mm	**150** 10	**100** 7	**100** 7	**75** 5	**PSI** Bar

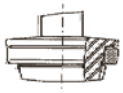
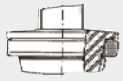
Note:
*6" valves available in W61 Shutoff and W65 Divert only.

PRESSURE RATINGS

HIGH PRESSURE ADAPTER AND CLAMPS				
SIZE	MAXIMUM PRESSURE AT 70°F/21°C	MAXIMUM PRESSURE AT 180°F/82°C	MAXIMUM PRESSURE AT 250°F/121°C	
1.0" 25mm	**1220** 84	**1160** 80	**1100** 76	**PSI** Bar
1.5" 38mm	**1220** 84	**1160** 80	**1100** 76	**PSI** Bar
2.0" 50mm	**900** 62	**855** 59	**830** 57	**PSI** Bar
2.5" 63mm	**720** 50	**690** 48	**660** 46	**PSI** Bar
3.0" 76mm	**600** 41	**575** 40	**550** 38	**PSI** Bar
4.0" 101mm	**570** 39	**546** 37	**525** 36	**PSI** Bar

Note:
3, 4 or 6 inch high pressure clamp not available.
For other valve types contact factory. For all valve options see Valve Key Datasheet (DS-1204).

OPTIONS AND ACCESSORIES

SEAT TYPE		MAXIMUM TEMPERATURE °F /°C *	APPLICATION	SERIES
	TEF-FLOW™ (TF)	180/82	Standard seat of choice. General Purpose, >90% of applications	W60
	TEF-FLOW™ "P" (TFP)	280/137	High Temp High Pressure Pressure Relief	W60 W80
	Tri Ring (TR) EPDM, FKM	Oper. 280/137EPDM Steril. 275/135EPDM Oper. 350/176 FKM Steril. Consult Factory FKM	High Pressure Large Particulate	W60 W80
	Metal (M)	375/190	High Pressure High Flow Large Particulate	W60 W80

Note:
For higher temperature applications than those listed, please consult the factory.
*Operating conditions such as flow rate and pressure must be considered when operating near max temperature rating.

Typical Product Applications

Beverage

Beer
Cider
Fruit Drinks
Liquid Sugar and Glucose
Soft Drinks
Wine
Wort

Food

Animal Oils
Flavorings
Pet Food
Soups and Sauces
Vegetable Juices
Vegetable Oils
Vinegars

Dairy

Cream
Milk
Milk Concentrate
Raw Milk
Skimmed Milk
Whey
Whey Concentrate

Pharmaceutical and Toiletries

Emulsions
Extracts
Lotions
Perfumes
WFI (Water for Injection)
High Purity Water
Pure Water

Chemical

Additives
Adhesives
Coatings
Contaminated Liquids
Detergents
Emulsions
Paint

Control Tops

WAUKESHA CHERRY-BURRELL CONTROL TOP

FEATURES AND BENEFITS

- Transparent Control Top keeps all electrical components visible.
- Maintainable, designed with the user in mind, making assembly and troubleshooting worry free and easy.
- Waukesha Cherry-Burrell uses the industry's most widely recognized electrical components, so access to off the shelf replacement parts is easy, ensuring quick delivery and less down time.
- NEMA 4x (IP64)
- Stainless Steel Control Top Option

CONNECTOR OPTIONS

- S/O Cord Grip for hard wire (std)
- Quick Disconnect Pin Connectors

INTERFACE OPTIONS

- AS-i Field Bus Card
- Device Net Field Bus Network Card

POSITION INDICATION

- Set & Forget Switch
- Inductive Proximity Switches 20-140V AC/DC, 2-Wire (Std)
- Microswitches 24V DC, 110V AC
- Intrinsically safe options 5-24V DC

SOLENOID VALVES

- 24VDC or 110V AC
- Select from 0 to 3 Solenoids

CU4 & CU4plus CONTROL TOP

FEATURES AND BENEFITS

- Automated control and position monitoring for reliable processing
- Reduces compressed air and electrical connections
- Helps reduce external solenoid valve cabinets
- Accelerates valve response time
- Innovative seat lift detection is fully integrated without need for external sensor wiring to provide additional position monitoring
- Reliability and long service life - robust clamp connection, reinforced stainless steel air coupling threads to avoid air leakages, and water tight seals
- Ease of operation - contains manual override solenoids and adjustment screw to throttle air flow to actuator to ensure optimal opening and closing
- Clarity - clear and bright indication of valve position - 5 diodes in LED panel and convenient location
- Standardization - same control top used on various SPX FLOW valve lines, offers common look and controls interface
- NEMA 6 (IP67) washdown rating

CONNECTOR OPTIONS

- S/O Cord Grip for hard wire (standard)
- M12 4-pin connector (optional)

INTERFACE OPTIONS

- 24V DC Direct Connect
- AS-i Field Bus Card

POSITION INDICATION OPTIONS

- CU4: 2 internal feedback sensors for valve open/valve closed position detection
- CU4plus: Automatic teaching of all positions with press of single button

SOLENOID VALVES

- 24V DC or 110V AC
- Select 1 solenoid or solenoid with NOT element (air/air or air assist)

8681 CONTROL TOP

8681 Control Tops

FEATURES AND BENEFITS

- Contact free position sensor including (3) programmable feedback signals
- Positions easily taught via intuitive push buttons or Autotune feature to ensure quick & easy set-up
- Ultra-bright 360° visual LED position indication with adjustable red, yellow, & green color assignments provide clarity from all points of view and avoid confusion
- Manual override and air throttle adjustable solenoids to assist start-up, maintenance, and troubleshooting
- Up to IP69K washdown rating available (IP65/67 as standard) for high washdown environments
- Built-in microcontroller tracks cycles and alerts operator when preventive maintenance is required
- Simple and robust stainless steel adapter & chemically resistant polycarbonate head
- Supplied by industry leading Burkert Fluid Controls

CONNECTOR OPTIONS

- Quick Disconnect Pin Connector

POSITION INDICATION

- (3) programmable position sensors in control top

INTERFACE OPTIONS

- AS-i Field Bus Card
- DeviceNet™ Field Bus Network Card
- Available on request CANOpen, IO-Link

SOLENOID VALVES

- 24V DC
- Manual override and air throttle adjustment
- Up to (3) available in control top

Actuator Options

STROKE LENGTH

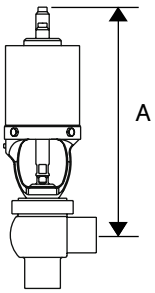
VALVE SIZE	W61/W63 W81/W83 STANDARD STROKE	W62/W65 W82/W85 STANDARD STROKE	W61/W63 W81/W83 LONG STROKE	W62/W65 W82/W85 LONG STROKE	W61 Y-BODY EXTRA LONG STROKE
1.0"	**0.625**	**0.625**	--	--	--
25mm	16	16	--	--	--
1.5"	**0.813**	**0.688**	--	--	--
38mm	21	17	--	--	--
2.0"	**0.813**	**0.688**	--	--	--
50mm	21	17	--	--	--
2.5"	**0.813**	**0.688**	**1.870**	**1.690**	**4.200**
63mm	21	17	47	43	107
3.0"	**0.813**	**0.688**	**2.310**	**2.090**	**4.200**
76mm	21	17	59	53	107
4.0"	**0.813**	**0.688**	**3.220**	**2.940**	**5.200**
101mm	21	17	82	75	132
6.0"	--	--	**3.220**	**3.020**	--
152mm	--	--	82	77	--

Air Volume Required

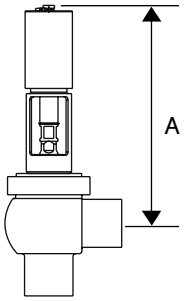
- 4" AR = 12.7 in^3/81 cm^3
- 4" AL = 14 in^3/90 cm^3
- 5" AR = 21.5 in^3/138 cm^3
- 5" AL = 27.1 in^3/174 cm^3
- 6" AR = 36.1 in^3/223 cm^3
- 6" AL = 33.1 in^3/213 cm^3

Note: Normal air supply requirement: 50 PSI for 4, 5, and 6 inch, A, B and C size actuators and long stroke actuators; 75 PSI for 4, 5, and 6 inch heavy duty spring actuators. These estimates may vary depending on other factors such as air pressure, pipe line pressure and air routing through solenoid. Standard stroke length is the same for maintainable and maintenance-free actuators.

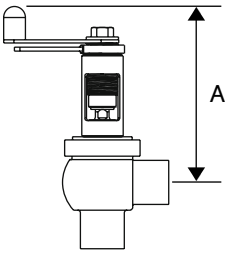
"A" - DIMENSIONS



4AR-4" Air to Raise Maintainable



M - Micrometer



H - Hand Lock
HLG -Hand Lock, long stroke
6YLG - Hand Lock

VALVE SIZE	4 AR 4 AL 4 AA	5 AR 5 AL 5 AA	6 AR 6 AL 6 AA	4* RHAR	5* RHAR	6* RHAR	4* RHAL	5* RHAL	6* RHAL	6 ARLG ALLG
1.0"	**12.58**	**13.89**	**15.65**	--	--	--	--	--	--	--
25mm	320	353	398	--	--	--	--	--	--	--
1.5"	**12.58**	**13.89**	**15.65**	**15.89**	**17.27**	**19.14**	--	--	--	--
38mm	320	353	398	404	439	486	--	--	--	--
2.0"	**12.83**	**14.14**	**15.90**	**16.14**	**17.62**	**19.38**	**16.42**	**17.74**	**18.72**	--
50mm	326	359	404	410	448	492	417	451	475	--
2.5"	**13.08**	**14.39**	**16.15**	**16.39**	**17.77**	**19.64**	**16.67**	**17.99**	**18.97**	**25.30**
63mm	332	366	410	416	451	499	423	457	482	643
3.0"	**13.33**	**14.64**	**16.40**	**16.64**	**18.02**	**19.89**	**16.92**	**18.24**	**19.22**	**25.50**
76mm	339	372	417	423	458	505	430	463	488	648
4.0"	**13.81**	**15.12**	**16.88**	**17.13**	**18.50**	**20.37**	**17.41**	**18.73**	**19.70**	**26.00**
101mm	351	384	429	435	470	517	442	476	500	660
6.0"	--	--	--	--	--	--	--	--	--	**27.20**
152mm	--	--	--	--	--	--	--	--	--	691

VALVE SIZE	HLG	H	M	4AL3	4AR3	4 ALLG ARLG	6 AALG	6 ARY ALY	A1 A2 A3 **	B1 B2 B3 **	C1 C2 C3 **
1.0"	--	**8.65**	**8.80**	**14.66**	**16.07**	--	--	--	**14.51**	**15.73**	**17.50**
25mm	--	220	224	372	408	--	--	--	369	399	444
1.5"	--	**8.65**	**8.80**	**14.68**	**16.07**	--	--	--	**14.51**	**15.73**	**17.50**
38mm	--	220	224	373	408	--	--	--	369	399	444
2.0"	--	**8.90**	**9.10**	**14.93**	**16.32**	--	--	--	**14.76**	**15.98**	**17.75**
50mm	--	226	231	379	415	--	--	--	375	406	451
2.5"	**11.60**	**9.15**	**9.30**	**15.10**	**16.57**	**23.10**	**19.70**	**36.90**	**15.01**	**16.23**	**18.00**
63mm	295	232	236	384	421	587	500	937	381	412	457
3.0"	**11.80**	**9.40**	**9.60**	**15.30**	**16.82**	**23.40**	**20.40**	**36.80**	**15.26**	**16.48**	**18.25**
76mm	300	239	244	389	427	594	518	935	388	418	463
4.0"	**12.30**	**9.88**	**10.00**	**15.80**	**17.30**	**23.90**	**21.80**	**38.10**	**15.75**	**16.96**	**18.73**
101mm	312	251	254	401	439	607	554	968	400	431	476
6.0"	**12.40**	--	--	--	--	--	**22.80**	--	--	--	--
152mm	315	--	--	--	--	--	579	--	--	--	--

All "A" Dimension are in fully extended (open) position.

*For sizing Over-Pressure valves, select a Heavy-Duty spring actuator with a holding pressure greater than the desired relief pressure. Designate with the "R" the valve model (i.e. WR61) and actuator size (i.e. 5RHAR). Refer to DS-1224 for more details on Over-Pressure Valves.

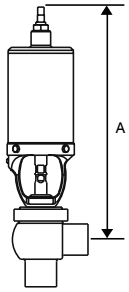
CONTROL TOP DIMENSIONAL ADDER

CONTROL TOP	ACTUATOR		
	MAINTAINABLE		MAINTENANCE-FREE
	4" & 5"	6"	
WCB	4.12"	4.45"	3.75"
WCB-LONG STROKE	6.02"		N/A
CU4	3.60"		3.75"
8681	7.70"		7.20"

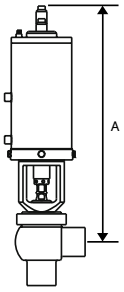
Note: Add control top dimension above to "A" dimension of selected valve and actuator size

Actuators

- 4AR - 4" (101mm) Air to Raise
- 4HAR[3] - 4" (101mm) Air to Raise, Heavy Duty Spring
- 4RHAR[4] - 4" (101mm) Air to Raise, Spring Adjustable, Heavy Duty Spring
- 4ARLG - 4" (101mm) Air to Raise, Long Stroke
- 4AL - 4" (101mm) Air to Lower
- 4HAL[3] - 4" (101mm) Air to Lower, Heavy Duty Spring
- 4RHAL[4] - 4" (101mm) Air to Lower, Spring Adjustable, Heavy Duty Spring
- 4ALLG - 4" (101mm) Air to Lower, Long Stroke
- 4AA - 4" (101mm) Air to Air



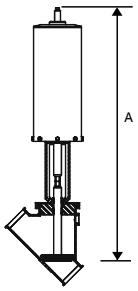
4AL3 - 4" Air to Lower, 3 position



4AR3 - 4" Air to Raise, 3 position

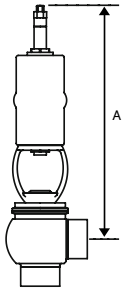
- 5AR - 5" (127mm) Air to Raise
- 5HAR[3] - 5" (127mm) Air to Raise, Heavy Duty Spring
- 5RHAR[4] - 5" (127mm) Air to Raise, Spring Adjustable, Heavy Duty Spring
- 5AL - 5" (127mm) Air to Lower
- 5HAL[3] - 5" (127mm) Air to Lower, Heavy Duty Spring
- 5RHAL[4] - 5" (127mm) Air to Lower, Spring Adjustable, Heavy Duty Spring
- 5AA - 5" (127mm) Air to Air

- 6AR - 6" (152mm) Air to Raise
- 6HAR[3] - 6" (152mm) Air to Raise, Heavy Duty Spring
- 6RHAR[4] - 6" (152mm) Air to Raise, Spring Adjustable, Heavy Duty Spring
- 6ARLG - 6" (152.mm) Air to Raise, Long Stroke
- 6AL - 6" (152mm) Air to Lower
- 6HAL[3] - 6" (152mm) Air to Lower, Heavy Duty Spring
- 6RHAL[4] - 6" (152mm) Air to Lower, Spring Adjustable, Heavy Duty Spring
- 6ALLG - 6" (152mm) Air to Lower, Long Stroke
- 6AA - 6" (152mm) Air to Air
- 6ARY[2] - 6" (152mm) Air to Raise, Extra Long Stroke
- 6ALY[2] - 6" (152mm) Air to Lower, Extra Long Stroke



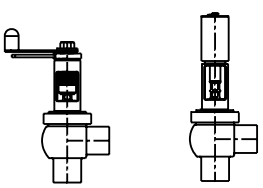
6ARY - 6" Air to Raise, extra long stroke

- A1 - 3" (74mm) Air to Raise
- A2 - 3" (74mm) Air to Lower
- A3 - 3" (74mm) Air to Air
- B1 - 4.5" (110mm) Air to Raise
- B2 - 4.5" (110mm) Air to Lower
- B3 - 4.5" (110mm) Air to Air
- C1 - 6.5" (165mm) Air to Raise
- C2 - 6.5" (165mm) Air to Lower
- C3 - 6.5" (165mm) Air to Air

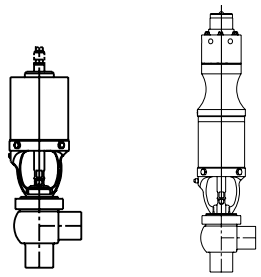


A1-3" (74mm) Air to Raise, Maintainance Free

H Hand Lock
M Micrometer



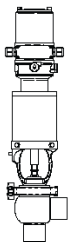
[2] Used with Y-Body valves. Consult with application engineering for use with 6" (152 mm) OD size valves.
[3] Use TFP metal or TR seats for heavy spring actuators.
[4] Used with over-pressure valves, use TFP or metal seats.



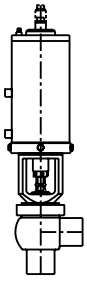
4ARP 4" (101 mm) Air to Raise w/positioner
4ALP 4" (101 mm) Air to Lower w/positioner

5ARP 5" (127 mm) Air to Raise w/positioner
5ALP 5" (127 mm) Air to Lower w/positioner

6ARP 6" (152 mm) Air to Raise w/positioner
6ALP 6" (152 mm) Air to Lower w/positioner

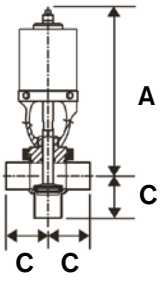


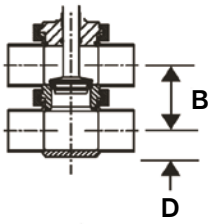
4ALEP 4" (102 mm) Air to Lower, Electropneumatic Positioner
5ALEP 5" (127 mm) Air to Lower, Electropneumatic Positioner
6ALEP 6" (152 mm) Air to Lower, Electropneumatic Positioner
4AREP 4" (102 mm) Air to Raise, Electropneumatic Positioner
5AREP 5" (127 mm) Air to Raise, Electropneumatic Positioner
6AREP 6" (152 mm) Air to Raise, Electropneumatic Positioner

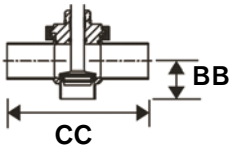


4AR3 4" (101 mm) Air to Raise, 3 position
4AL3 4" (101 mm) Air to Lower, 3 position

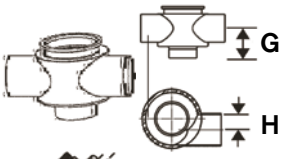
BODY CONFIGURATIONS (1 OF 2)

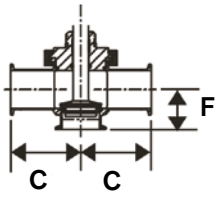




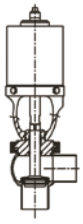


TM and CM Bodies





W61 Shut-off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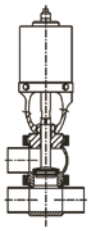
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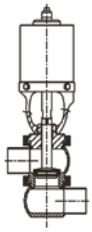
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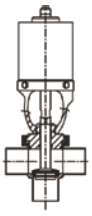
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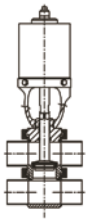
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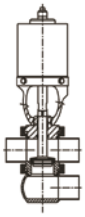
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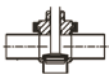
Y


L


TM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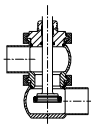
TOP R


TOP L


COP

W63/W83 Shut-off (W68R/W88R Throttling)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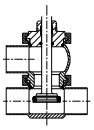
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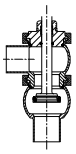
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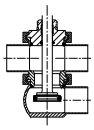
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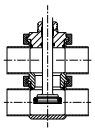
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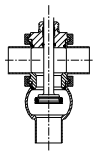
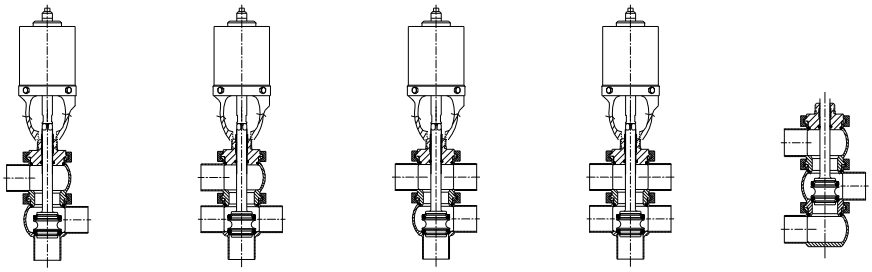

CB

VALVE DIMENSIONS

VALVE SIZE	A	B	BB	C BUTTWELD	C S-LINE	CC	D	F S-LINE	G BUTTWELD	G S-LINE	H	I BUTTWELD	I S-LINE
1.0" 25mm	SEE PAGE 6 FOR ACTUATOR OPTIONS	**2.63** 67	**1.98** 50	**2.00** 51	**3.12** 79	**8.00** 203	**0.69** 18	**1.83** 46	**2.00** 51	**2.50** 64	**0.85** 21	**4.76** 121	**6.23** 158
1.5" 38mm		**2.63** 67	**1.84** 47	**2.25** 57	**2.75** 70	**8.00** 203	**0.94** 24	**1.69** 43	**2.00** 51	**2.50** 64	**0.60** 15	**4.76** 121	**5.85** 149
2.0" 50mm		**3.13** 80	**2.14** 54	**3.00** 76	**3.50** 89	**8.00** 203	**1.19** 30	**1.99** 51	**2.13** 54	**2.63** 67	**0.68** 17	**6.23** 158	**7.33** 186
2.5" 63mm		**3.63** 92	**2.38** 60	**3.00** 76	**3.50** 89	**8.00** 203	**1.44** 37	**2.27** 58	**2.38** 60	**2.88** 73	**0.81** 20	**7.69** 195	**8.79** 223
3.0" 76mm		**4.13** 105	**2.64** 67	**3.25** 83	**3.75** 95	**8.00** 203	**1.69** 43	**2.55** 65	**2.75** 70	**3.25** 83	**0.93** 23	**9.15** 232	**10.25** 260
4.0" 101mm		**5.11** 130	**3.11** 79	**3.88** 99	**4.50** 114	**12.00** 305	**2.32** 59	**3.15** 80	**3.25** 83	**3.88** 99	**1.09** 28	**11.95** 304	**13.29** 338
6.0" 152mm		**7.04** 179	-- --	**6.00** 152	**6.88** 175	-- --	**4.03** 102	-- --	**4.00** 102	**4.88** 124	**1.44** 37	-- --	-- --

BODY CONFIGURATIONS (2 OF 2)

W62/W82 Divert

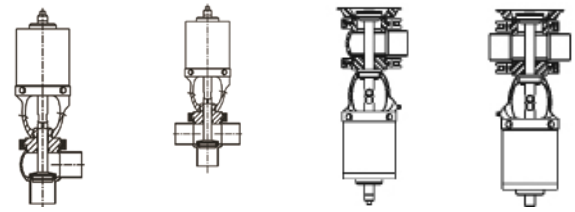


TT TC CT CC TTS

W65/W85 Divert (W685/W885 Throttling)

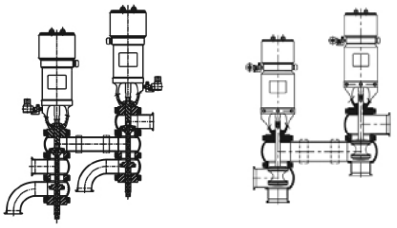
TTT CTC CTT CCT TCC CCC TTC TCT

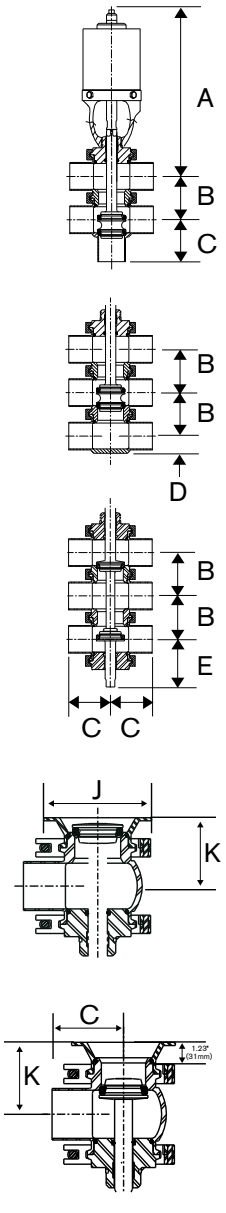
W64/W84 Tank Outlet (NOTE: Tank Flanges sold separately)



T (W64R) **C** (W64R) **T** (W64) **C** (W64)

W265/W285 FDV W262/W282 FDV





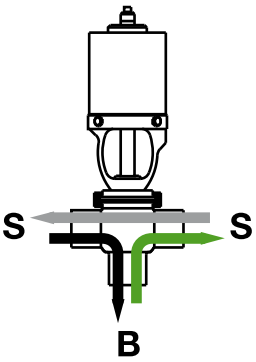
VALVE DIMENSIONS

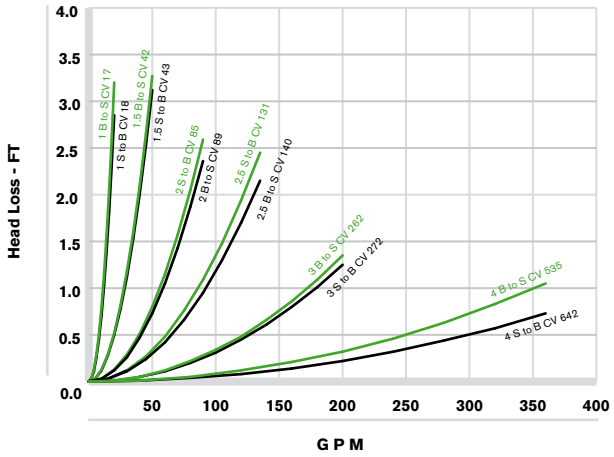
VALVE SIZE	A	B	C BUTTWELD	C S-LINE	D	E	J	K
1.0" 25mm	SEE PAGE 6 FOR ACTUATOR OPTIONS	**2.63** 67	**2.00** 51	**3.12** 79	**0.69** 18	**3.91** 99	**5.00** 127	**2.54** 65
1.5" 38mm		**2.63** 67	**2.25** 57	**2.75** 70	**0.94** 24	**3.97** 101	**5.00** 127	**2.54** 65
2.0" 50mm		**3.13** 80	**3.00** 76	**3.50** 89	**1.19** 30	**4.22** 107	**5.00** 127	**2.79** 71
2.5" 63mm		**3.63** 92	**3.00** 76	**3.50** 89	**1.44** 37	**4.55** 116	**5.50** 140	**3.04** 77
3.0" 76mm		**4.13** 105	**3.25** 83	**3.75** 95	**1.69** 43	**4.73** 120	**6.00** 152	**3.29** 84
4.0" 101mm		**5.11** 130	**3.88** 99	**4.50** 114	**2.32** 59	**5.06** 129	**6.00** 152	**3.79** 96
6.0" 152mm		**7.04** 179	**6.00** 152	**6.88** 175	**4.03** 102	**6.20** 157	-- --	-- --

Pressure Loss Curves

W80 valves are charted below under corresponding W60 header.
Curves are based on water 70°F (21°C).

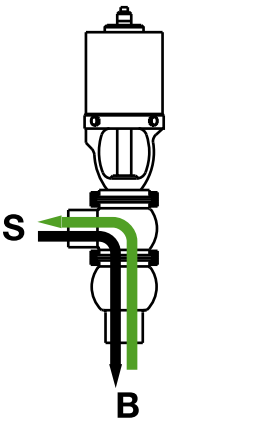
MODEL W61 & W64R

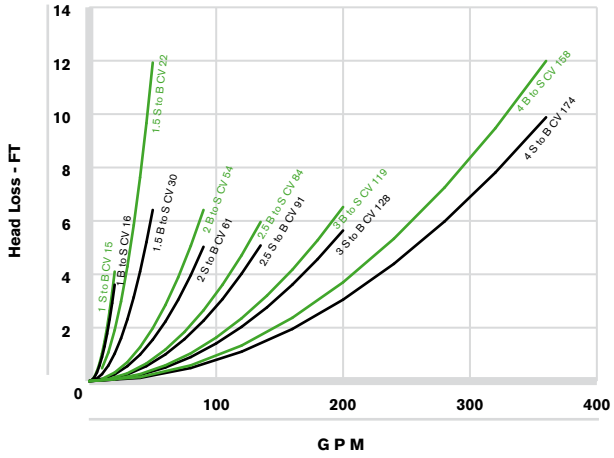




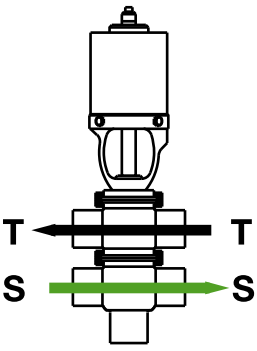
***Note:** For W61 S to S curves see W62 T to T curves.

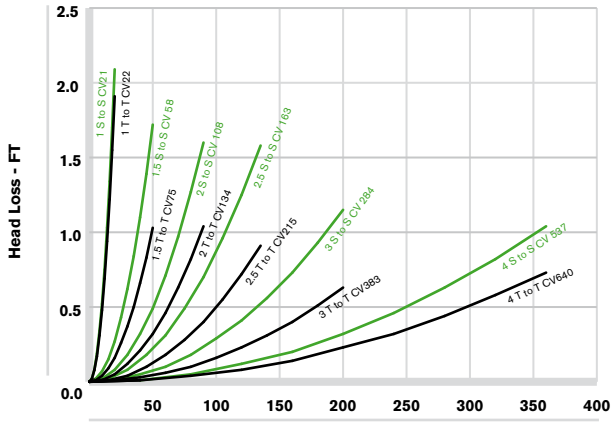
MODEL W63 & W64





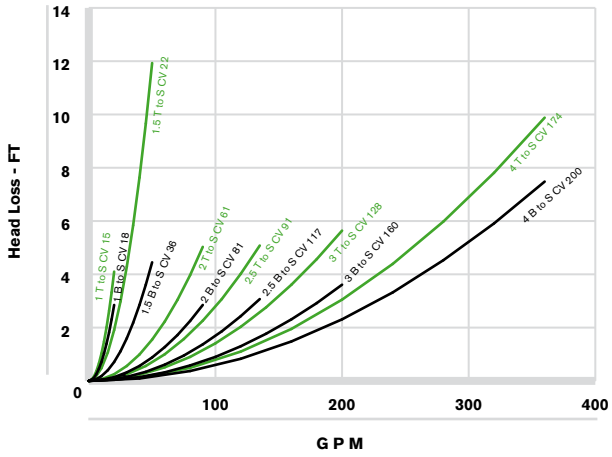
MODEL W62

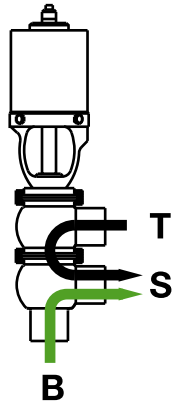




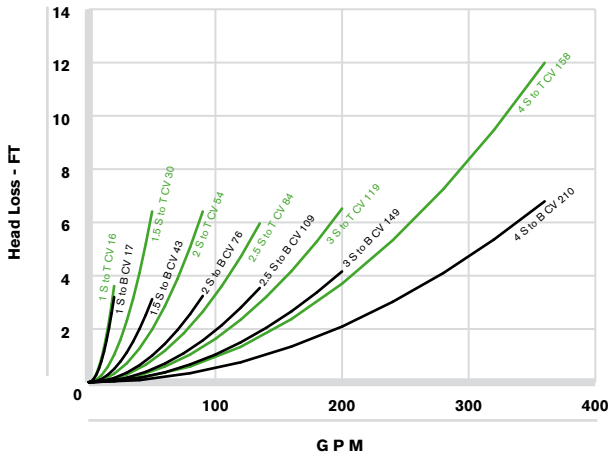
NOTE: Pressure drop curves shown are for estimation purposes only. Contact application engineering for specific pressure drop details.

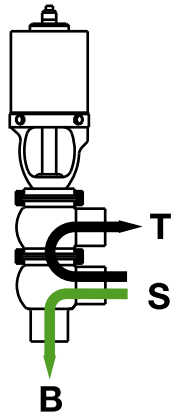
MODEL W62



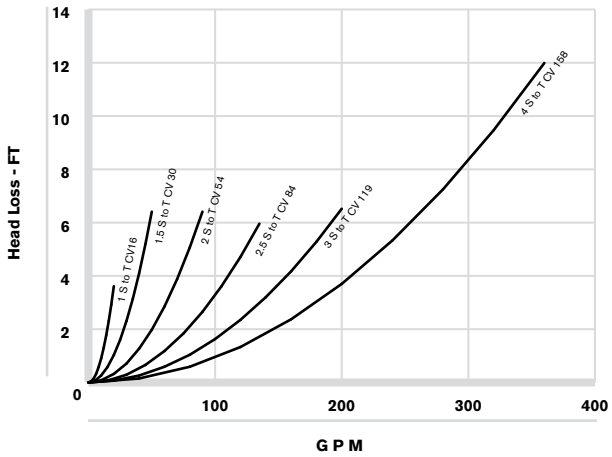


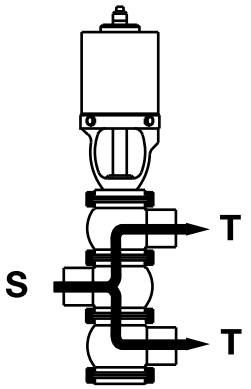
MODEL W62





MODEL W65



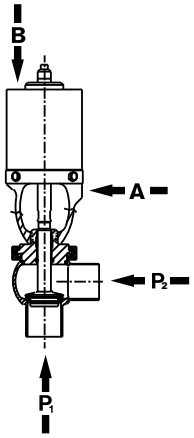


NOTE: Pressure drop curves shown are for estimation purposes only. Contact application engineering for specific pressure drop details.

W61 & W64R Holding Pressure Charts

W80 Holding Pressures are charted under the corresponding W60 header.

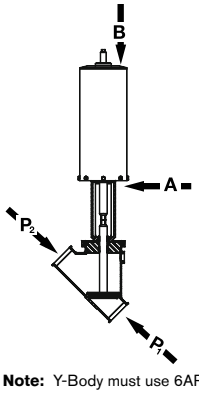
- If pressure rating is higher than documented in tables consult factory before exceeding.
- Minimum air supply requirements: 50 PSI for 4, 5 and 6 inch standard spring actuators; 75 PSI for 4, 5 and 6 inch heavy spring and 4 and 6 inch long stroke actuators; 87 PSI for A, B and C size actuators.
- For sizing Over-Pressure valves, select a Heavy-Duty spring actuator with a holding pressure greater than the desired relief pressure. Designate with the "R" valve model (i.e. WR61) and actuator size (i.e. 5RHAR).
- Please contact the factory for holding pressure values not listed.



VALVE SIZE	ACTUATOR SIZE									
	BOTTOM PORT (P_1), ACTUATOR SPRING HOLDS CLOSED AGAINST:									
	4AR	4HAR	5AR	5HAR	6AR	6HAR	A1	B1	C1	
1.0"	**160**	**213**	**251**	--	**347**	--	--	--	--	**PSI**
25mm	11	15	17	--	24	--	--	--	--	Bar
1.5"	**125**	**177**	**220**	**378**	**317**	--	**96**	**273**	--	**PSI**
38mm	9	12	15	26	22	--	7	19	--	Bar
2.0"	**70**	**99**	**124**	**212**	**178**	**338**	**54**	**153**	**370**	**PSI**
50mm	5	7	9	15	12	23	4	11	26	Bar
2.5"	**45**	**64**	**79**	**136**	**114**	**216**	**34**	**98**	**236**	**PSI**
63mm	3	4	5	9	8	15	2	7	16	Bar
3.0"	**31**	**44**	**55**	**94**	**79**	**150**	**24**	**68**	**164**	**PSI**
76mm	2	3	4	6	5	10	2	5	11	Bar
4.0"	**18**	**25**	**31**	**54**	**45**	**87**	**13**	**38**	**92**	**PSI**
101mm	1	2	2	4	3	6	1	3	6	Bar

VALVE SIZE	ACTUATOR SIZE									
	SIDE PORT (P2), AIR TO PORT A, WILL OPEN AGAINST:									
	4AR 50PSI/ 3BAR	4HAR 75PSI/ 5BAR	5AR 50PSI/ 3BAR	5HAR 75PSI/ 5BAR	6AR 50PSI/ 3BAR	6HAR 75PSI/ 5BAR	A1 50PSI/ 3BAR	B1 50PSI/ 3BAR	C1 50PSI/ 3BAR	
1.0"	**223**	**371**	**356**	--	--	--	**67**	**127**	--	**PSI**
25mm	15	26	25	--	--	--	5	9	--	Bar
1.5"	**270**	**419**	**398**	--	--	--	**67**	**127**	--	**PSI**
38mm	19	29	27	--	--	--	5	9	--	Bar
2.0"	**132**	**205**	**195**	**261**	**278**	**334**	**33**	**62**	**123**	**PSI**
50mm	9	14	13	18	19	23	2	4	8	Bar
2.5"	**80**	**124**	**118**	**158**	**168**	**202**	**20**	**38**	**74**	**PSI**
63mm	6	9	8	11	12	14	1	3	5	Bar
3.0"	**54**	**84**	**79**	**106**	**113**	**136**	**13**	**25**	**50**	**PSI**
76mm	4	6	5	7	8	9	1	2	3	Bar
4.0"	**29**	**45**	**43**	**57**	**61**	**72**	**7**	**14**	**27**	**PSI**
101mm	2	3	3	4	4	5	0	1	2	Bar

W61Y-BODY (AIR-TO-RAISE) - EXTRA LONG STROKE



Note: Y-Body must use 6ARY/AL Actuator

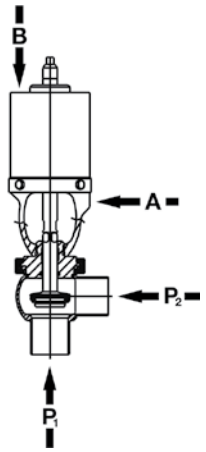
VALVE SIZE	ACTUATOR SIZE		
	PORT (P_1), ACTUATOR SPRING HOLDS CLOSED AGAINST:	PORT (P2), AIR TO PORT A, WILL OPEN AGAINST:	
	6ARY	6ARY 50PSI/3BAR	
2.5"	**44**	**52**	**PSI**
63mm	3	3	Bar
3.0"	**34**	**35**	**PSI**
76mm	2	2	Bar
4.0"	**16**	**16**	**PSI**
101mm	1	1	Bar

W61 AR (AIR-TO-RAISE) - LONG STROKE

VALVE SIZE	ACTUATOR SIZE						
	BOTTOM PORT (P_1), ACTUATOR SPRING HOLDS CLOSED AGAINST:			SIDE PORT (P2), AIR TO PORT A, WILL OPEN AGAINST:			
	4ARLG	6ARLG	6ARY	4ARLG 50PSI/ 3BAR	6ARLG 50PSI/ 3BAR	6ARY 50PSI/ 3BAR	
2.5"	**33**	**112**	--	**93**	**170**	--	**PSI**
63mm	2	8	--	6	12	--	Bar
3.0"	**23**	**80**	--	**63**	**112**	--	**PSI**
76mm	2	6	--	4	8	--	Bar
4.0"	**13**	**44**	--	**34**	**62**	--	**PSI**
101mm	1	3	--	2	4	--	Bar
6"	--	**21**	**15**	--	**30**	**29**	**PSI**
152mm	--	2	1	--	2	2	Bar

W61 AL/HAL (AIR-TO-LOWER) - STANDARD STROKE

VALVE SIZE	ACTUATOR SIZE									
	BOTTOM PORT (P1), AIR TO PORT B1, WILL HOLD AGAINST:									
	4AL 50PSI/ 3BAR	4HAL 75PSI/ 5BAR	5AL 50PSI/ 3BAR	5HAL 75PSI/ 5BAR	6AL 50PSI/ 3BAR	6HAL 75PSI/ 5BAR	A2 50PSI/ 3BAR	B2 50PSI/ 3BAR	C2 50PSI/ 3BAR	
1.0"	**111**	**221**	**218**	**245**	**383**	**328**	--	--	--	**PSI**
25mm	8	15	15	17	26	23	--	--	--	Bar
1.5"	**76**	**185**	**187**	**184**	**353**	**213**	**31**	**43**	--	**PSI**
38mm	5	13	13	13	24	15	2	3	--	Bar
2.0"	**43**	**104**	**105**	**104**	**198**	**120**	**18**	**24**	**46**	**PSI**
50mm	3	7	7	7	14	8	1.2	2	3	Bar
2.5"	**27**	**66**	**67**	**66**	**127**	**77**	**11**	**16**	**30**	**PSI**
63mm	2	5	5	5	9	5	0.8	1.1	2	Bar
3.0"	**19**	**46**	**47**	**46**	**88**	**53**	**8**	**11**	**21**	**PSI**
76mm	1	3	3	3	6	4	0.5	0.8	1.4	Bar
4.0"	**11**	**27**	**27**	**27**	**50**	**32**	**4**	**6**	**12**	**PSI**
101mm	1	2	2	2	3	2	0.3	0.4	1	Bar

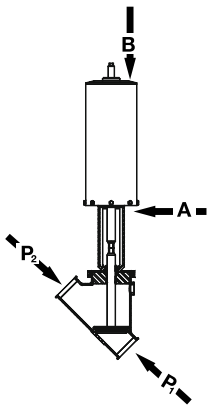


VALVE SIZE	ACTUATOR SIZE									
	SIDE PORT (P2), (STEM LOWERED) ACTUATOR SPRING OPENS STEM AGAINST:									
	4AL	4HAL	5AL	5HAL	6AL	6HAL	A2	B2	C2	
1.0"	**288**	**361**	--	--	--	--	--	--	--	**PSI**
25mm	20	25	--	--	--	--	--	--	--	Bar
1.5"	**300**	**409**	--	--	--	--	**154**	**430**	**--**	**PSI**
38mm	21	28	--	--	--	--	11	30	--	Bar
2.0"	**164**	**200**	**216**	**388**	**260**	--	**76**	**211**	**502**	**PSI**
50mm	11	14	15	27	18	--	5	15	35	Bar
2.5"	**99**	**121**	**131**	**234**	**157**	**361**	**46**	**127**	**303**	**PSI**
63mm	7	8	9	16	11	25	3	9	21	Bar
3.0"	**67**	**81**	**88**	**158**	**106**	**243**	**31**	**86**	**204**	**PSI**
76mm	5	6	6	11	7	17	2	6	14	Bar
4.0"	**36**	**44**	**47**	**85**	**57**	**131**	**17**	**47**	**112**	**PSI**
101mm	2	3	3	6	4	9	1	3	8	Bar

W61 AL (AIR-TO-LOWER) - LONG STROKE

VALVE SIZE	ACTUATOR SIZE						
	SIDEPORT (P_2), ACTUATOR SPRING OPENS STEM AGAINST:			PORT (P1), AIR TO PORT B, WILL HOLD CLOSED AGAINST:			
	4ALLG	6ALLG	6ALY	4ALLG 50PSI/ 3BAR	6ALLG 50PSI/ 3BAR	6ALY 50PSI/ 3BAR	
2.5"	**53**	**147**	--	**69**	**136**	--	**PSI**
63mm	4	10	--	5	9	--	Bar
3.0"	**39**	**104**	--	**45**	**90**	--	**PSI**
76mm	3	7	--	3	6	--	Bar
4.0"	**24**	**60**	--	**23**	**47**	--	**PSI**
101mm	2	4	--	2	3	--	Bar
6.0"	--	**29**	**29**	--	**23**	**17**	**PSI**
152mm	--	2	2	--	2	1	Bar

W61Y-BODY (AIR-TO-LOWER) - EXTRA LONG STROKE



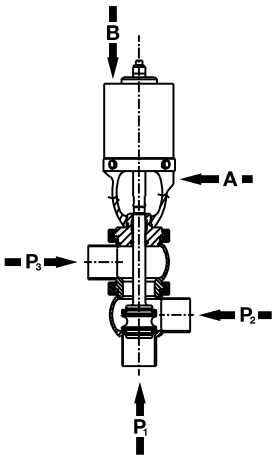
VALVE SIZE	ACTUATOR SIZE		
	PORT (P_1), ACTUATOR SPRING HOLDS CLOSED AGAINST:	PORT (P_2), AIR TO PORT A, WILL OPEN AGAINST:	
	6ALY	6ALY 50PSI/3BAR	
2.5"	**57**	**52**	**PSI**
63mm	4	4	Bar
3.0"	**46**	**35**	**PSI**
76mm	3	2	Bar
4.0"	**27**	**16**	**PSI**
101mm	2	1	Bar

W62 Holding Pressure Charts

- If pressure rating is higher than documented in tables consult factory before exceeding.
- Minimum air supply requirements: 50 PSI for 4, 5 and 6 inch standard spring actuators; 75 PSI for 4, 5 and 6 inch heavy spring and 4 and 6 inch long stroke actuators; 87 PSI for A, B and C size actuators.
- Please contact the factory for holding pressure values not listed.

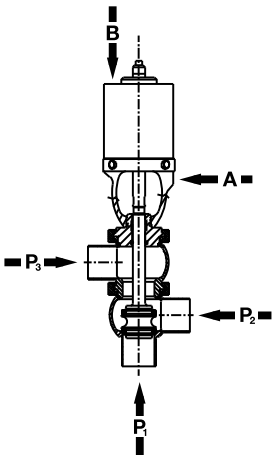
W62 AR/HAR (AIR-TO-RAISE) - STANDARD STROKE

VALVE SIZE	ACTUATOR SIZE									
	BOTTOM PORT (P_1), ACTUATOR SPRING HOLDS CLOSED AGAINST:									
	4AR	4HAR	5AR	5HAR	6AR	6HAR	A1	B1	C1	
1.0"	**125**	**177**	**220**	378	**317**	--	**84**	**269**	**641**	**PSI**
25mm	9	12	15	26	22	--	6	19	44	Bar
1.5"	**125**	**177**	**220**	**378**	**317**	--	**84**	**269**	**641**	**PSI**
38mm	9	12	15	26	22	--	6	19	44	Bar
2.0"	**70**	**99**	**124**	**212**	**178**	**338**	**48**	**156**	**372**	**PSI**
50mm	5	7	9	15	12	23	3	11	26	Bar
2.5"	**45**	**64**	**79**	**136**	**114**	**216**	**32**	**102**	**243**	**PSI**
63mm	3	4	5	9	8	15	2	7	17	Bar
3.0"	**31**	**44**	**55**	**94**	**79**	**150**	**22**	**72**	**171**	**PSI**
76mm	2	3	4	6	5	10	2	5	12	Bar
4.0"	**19**	**26**	**32**	**55**	**45**	**88**	**13**	**41**	**98**	**PSI**
101mm	1	2	2	4	3	6	1	3	7	Bar



VALVE SIZE	ACTUATOR SIZE									
	SIDE PORT (P_2), AIR TO ACTUATOR (WITH STEM RAISED), SPRING WILL LOWER AGAINST:									
	4AR	4HAR	5AR	5HAR	6AR	6HAR	A1	B1	C1	
1.0"	**238**	**293**	**320**	--	--	--	**84**	**269**	**641**	**PSI**
25mm	16	20	22	--	--	--	6	19	44	Bar
1.5"	**253**	**308**	**333**	--	--	--	**84**	**269**	**641**	**PSI**
38mm	17	21	23	--	--	--	6	19	44	Bar
2.0"	**142**	**173**	**187**	**336**	**239**	--	**48**	**156**	**3**	**PSI**
50mm	10	12	13	23	16	--	3	11	26	Bar
2.5"	**91**	**111**	**120**	**215**	**153**	**367**	**32**	**102**	**2**	**PSI**
63mm	6	8	8	15	11	25	2	7	17	Bar
3.0"	**63**	**77**	**83**	**149**	**106**	**255**	**22**	**72**	**171**	**PSI**
76mm	4	5	6	10	7	18	2	5	12	Bar
4.0"	**37**	**44**	**48**	**86**	**61**	**147**	**13**	**41**	**98**	**PSI**
101mm	3	3	3	6	4	10	10	1	3	Bar

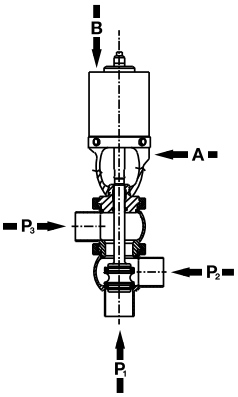
W62 AR/HAR (AIR-TO-RAISE) - STANDARD STROKE (CONTINUED)



VALVE SIZE	ACTUATOR SIZE									
	PORT (P_2), AIR TO PORT A, WILL RAISE STEM (OPENS) AGAINST:									
	4AR 50PSI/ 3BAR	4HAR 75PSI/ 5BAR	5AR 50PSI/ 3BAR	5HAR 75PSI/ 5BAR	6AR 50PSI/ 3BAR	6HAR 75PSI/ 5BAR	A1 50PSI/ 3BAR	B1 50PSI/ 3BAR	C1 50PSI/ 3BAR	
1.0"	**270**	**419**	**398**	--	--	--	**45**	**46**	**92**	**PSI**
25mm	19	29	27	--	--	--	3	3	6	Bar
1.5"	**270**	**419**	**398**	--	--	--	**45**	**46**	**92**	**PSI**
38mm	19	29	27	--	--	--	3	3	6	Bar
2.0"	**132**	**205**	**195**	**261**	**278**	**334**	**23**	**24**	**48**	**PSI**
50mm	9	14	13	18	19	23	2	2	3	Bar
2.5"	**80**	**124**	**118**	**158**	**168**	**202**	**14**	**15**	**30**	**PSI**
63mm	6	9	8	11	12	14	1	1	2	Bar
3.0"	**54**	**84**	**79**	**106**	**113**	**136**	**10**	**10**	**20**	**PSI**
76mm	4	6	5	7	8	9	1	1	1	Bar
4.0"	**28**	**44**	**42**	**56**	**61**	**71**	**5**	**6**	**11**	**PSI**
101mm	2	3	3	4	4	5	0	0	1	Bar

VALVE SIZE	ACTUATOR SIZE									
	PORT (P_3), AIR TO PORT A, (WITH STEM RAISED), WILL HOLD AGAINST:									
	4AR 50PSI/ 3BAR	4HAR 75PSI/ 5BAR	5AR 50PSI/ 3BAR	5HAR 75PSI/ 5BAR	6AR 50PSI/ 3BAR	6HAR 75PSI/ 5BAR	A1 50PSI/ 3BAR	B1 50PSI/ 3BAR	C1 50PSI/ 3BAR	
1.0"	**118**	**264**	**264**	**272**	**438**	**185**	**45**	**46**	**92**	**PSI**
25mm	8	18	18	19	30	13	3	3	6	Bar
1.5"	**99**	**244**	**247**	**239**	**421**	**121**	**45**	**46**	**92**	**PSI**
38mm	7	17	17	16	29	8	3	3	6	Bar
2.0"	**48**	**119**	**121**	**117**	**206**	**59**	**23**	**24**	**48**	**PSI**
50mm	3	8	8	8	14	4	2	2	3	Bar
2.5"	**29**	**72**	**73**	**71**	**125**	**36**	**14**	**15**	**30**	**PSI**
63mm	2	5	5	5	9	2	1	1	2	Bar
3.0"	**20**	**49**	**49**	**48**	**84**	**24**	**10**	**10**	**20**	**PSI**
76mm	1	3	3	3	6	2	1	1	1	Bar
4.0"	**10**	**25**	**26**	**24**	**45**	**9**	**5**	**6**	**11**	**PSI**
101mm	1	2	2	2	3	1	0	0	1	Bar

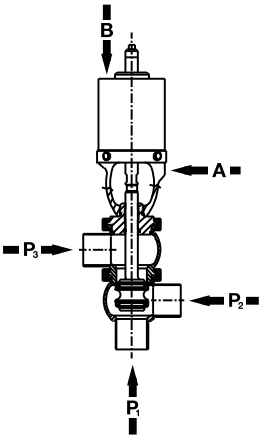
W62 AR (AIR-TO-RAISE) - LONG STROKE



VALVE SIZE	ACTUATOR SIZE								
	PORT (P_1), ACTUATOR SPRING HOLDS CLOSED AGAINST:		PORT (P_2), AIR TO ACTUATOR (WITH STEM RAISED), SPRING WILL LOWER AGAINST:		PORT (P_2), AIR TO PORT A, WILL RAISE STEM (OPENS) AGAINST:		PORT (P_3), AIR TO PORT A, WITH STEM RAISED WILL HOLD AGAINST:		
	4ARLG	6ARLG	4ARLG	6ARLG	4ARLG	6ARLG	4ARLG	6ARLG	
2.5"	**33**	**112**	**49**	**135**	**93**	**170**	**75**	**145**	**PSI**
63mm	2	8	3	9	6	12	5	10	Bar
3.0"	**23**	**78**	**36**	**97**	**63**	**114**	**48**	**94**	**PSI**
76mm	2	5	2	7	4	8	3	6	Bar
4.0"	**13**	**44**	**23**	**59**	**34**	**62**	**23**	**47**	**PSI**
101mm	1	3	2	4	2	4	2	3	Bar

W62 AL (AIR-TO-LOWER) - LONG STROKE

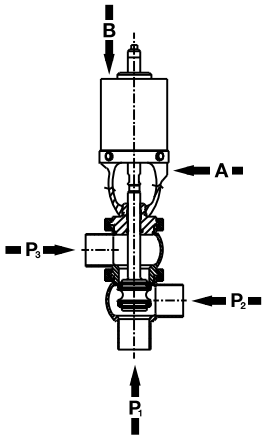
ACTUATOR SIZE	PORT (P_1), AIR TO PORT B HOLDS CLOSED AGAINST:		PORT (P_2), (STEM LOWERED) SPRING OPENS STEM AGAINST:		PORT (P_2), AIR TO PORT B, (WITH STEM RAISED) WILL CLOSE STEM AGAINST:		PORT (P_3), (STEM RAISED) ACTUATOR SPRING HOLDS AGAINST:		
	4ALLG	6ALLG	4ALLG	6ALLG	4ALLG	6ALLG	4ALLG	6ALLG	
2.5"	**69**	**135**	**54**	**148**	**85**	**158**	**36**	**123**	**PSI**
63mm	5	9	4	10	6	11	2	8	Bar
3.0"	**45**	**91**	**39**	**103**	**59**	**110**	**24**	**83**	**PSI**
76mm	3	6	3	7	4	8	2	6	Bar
4.0"	**22**	**47**	**24**	**61**	**33**	**62**	**13**	**45**	**PSI**
101mm	2	3	2	4	2	4	1	3	Bar



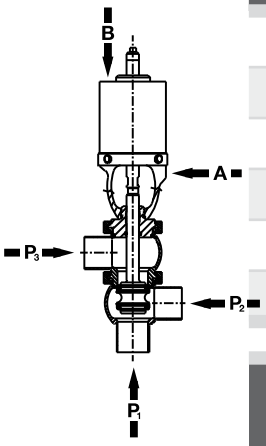
W62 AL/HAL (AIR-TO-LOWER) - STANDARD STROKE

VALVE SIZE	ACTUATOR SIZE									
	BOTTOM PORT (P_1), AIR TO PORT B, WILL HOLD AGAINST:									
	4AL 50PSI/ 3BAR	4HAL 75PSI/ 5BAR	5AL 50PSI/ 3BAR	5HAL 75PSI/ 5BAR	6AL 50PSI/ 3BAR	6HAL 75PSI/ 5BAR	A2 50PSI/ 3BAR	B2 50PSI/ 3BAR	C2 50PSI/ 3BAR	
1.0"	**76**	**185**	**187**	**184**	**353**	**213**	**33**	**69**	**162**	**PSI**
25mm	5	13	13	13	24	15	2	5	11	Bar
1.5"	**76**	**185**	**187**	**184**	**353**	**213**	**33**	**69**	**162**	**PSI**
38mm	5	13	13	13	24	15	2	5	11	Bar
2.0"	**43**	**104**	**105**	**104**	**198**	**120**	**19**	**40**	**94**	**PSI**
50mm	3	7	7	7	14	8	1	3	6	Bar
2.5"	**27**	**66**	**67**	**66**	**127**	**77**	**12**	**26**	**61**	**PSI**
63mm	2	5	5	5	9	5	1	2	4	Bar
3.0"	**19**	**46**	**47**	**46**	**88**	**53**	**9**	**18**	**43**	**PSI**
76mm	1	3	3	3	6	4	1	1	3	Bar
4.0"	**16**	**27**	**27**	**28**	**50**	**33**	**5**	**10**	**25**	**PSI**
101mm	1	2	2	2	3	2	0	1	2	Bar

VALVE SIZE	ACTUATOR SIZE									
	SIDE PORT (P_2), (STEM LOWERED), SPRING OPENS STEM AGAINST:									
	4AL	4HAL	5AL	5HAL	6AL	6HAL	A2	B2	C2	
1.0"	**335**	**409**	--	--	--	--	**109**	**307**	**750**	**PSI**
25mm	23	28	--	--	--	--	8	21	52	Bar
1.5"	**335**	**409**	**441**	**--**	**--**	**--**	**109**	**307**	**750**	**PSI**
38mm	23	28	30	--	--	--	8	21	52	Bar
2.0"	**164**	**200**	**216**	**388**	**260**	--	**57**	**159**	**390**	**PSI**
50mm	11	14	15	27	18	--	4	11	27	Bar
2.5"	**99**	**121**	**131**	**234**	**157**	**361**	**35**	**99**	**242**	**PSI**
63mm	7	8	9	16	11	25	2	7	17	Bar
3.0"	**67**	**81**	**88**	**158**	**106**	**243**	**24**	**68**	**166**	**PSI**
76mm	5	6	6	11	7	17	2	5	11	Bar
4.0"	**31**	**43**	**47**	**84**	**57**	**129**	**13**	**38**	**92**	**PSI**
101mm	2	3	3	6	4	9	1	3	6	Bar



W62 AL/HAL (AIR-TO-LOWER) - STANDARD STROKE (CONTINUED)



VALVE SIZE	ACTUATOR SIZE									
	BOTTOM PORT (P_2), AIR TO PORT B, (WITH STEM RAISED), WILL CLOSE STEM AGAINST:									
	4AL 50PSI/ 3BAR	4HAL 75PSI/ 5BAR	5AL 50PSI/ 3BAR	5HAL 75PSI/ 5BAR	6AL 50PSI/ 3BAR	6HAL 75PSI/ 5BAR	A2 50PSI/ 3BAR	B2 50PSI/ 3BAR	C2 50PSI/ 3BAR	
1.0"	**189**	**301**	**288**	**379**	--	--	**33**	**69**	**162**	**PSI**
25mm	13	21	20	26	--	--	2	5	11	Bar
1.5"	**204**	**316**	**301**	**404**	**--**	**--**	**33**	**69**	**162**	**PSI**
38mm	14	22	21	28	--	--	2	5	11	Bar
2.0"	**115**	**176**	**169**	**227**	**260**	**356**	**19**	**40**	**94**	**PSI**
50mm	8	12	12	16	18	25	1	3	6	Bar
2.5"	**73**	**114**	**108**	**145**	**166**	**227**	**12**	**26**	**61**	**PSI**
63mm	5	8	7	10	11	16	1	2	4	Bar
3.0"	**51**	**79**	**75**	**101**	**115**	**158**	**9**	**18**	**43**	**PSI**
76mm	4	5	5	7	8	11	1	1	3	Bar
4.0"	**32**	**45**	**43**	**59**	**66**	**92**	**5**	**10**	**25**	**PSI**
101mm	2	3	3	4	5	6	0	1	2	Bar

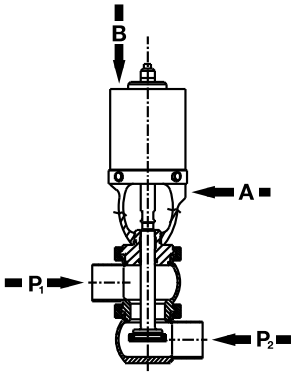
VALVE SIZE	ACTUATOR SIZE									
	PORT (P_3), (STEM RAISED), ACTUATOR SPRING HOLDS AGAINST:									
	4AL	4HAL	5AL	5HAL	6AL	6HAL	A2	B2	C2	
1.0"	**184**	**253**	**300**	**531**	**402**	--	**109**	**307**	**750**	**PSI**
25mm	13	17	21	37	28	--	8	21	52	Bar
1.5"	**164**	**233**	**290**	**497**	**385**	**--**	**109**	**307**	**750**	**PSI**
38mm	11	16	20	34	27	--	8	21	52	Bar
2.0"	**81**	**114**	**142**	**244**	**189**	**323**	**57**	**159**	**390**	**PSI**
50mm	6	8	10	17	13	22	4	11	27	Bar
2.5"	**49**	**69**	**86**	**147**	**114**	**195**	**35**	**99**	**242**	**PSI**
63mm	3	5	6	10	8	13	2	7	17	Bar
3.0"	**33**	**46**	**58**	**99**	**77**	**131**	**24**	**68**	**166**	**PSI**
76mm	2	3	4	7	5	9	2	5	11	Bar
4.0"	**15**	**24**	**31**	**52**	**41**	**68**	**13**	**38**	**92**	**PSI**
101mm	1	2	2	4	3	5	1	3	6	Bar

W63 & 64 Holding Pressure Charts

- If pressure rating is higher than documented in tables consult factory before exceeding.
- Minimum air supply requirements: 50 PSI for 4, 5 and 6 inch standard spring actuators; 75 PSI for 4, 5 and 6 inch heavy spring and 4 and 6 inch long stroke actuators; 87 PSI for A, B and C size actuators.
- [1]For sizing Over-Pressure valves, select a Heavy-Duty spring actuator with a holding pressure greater than the desired relief pressure. Designate with the "R" valve model (i.e. WR61) and actuator size (i.e. 5RHAR).
- Please contact the factory for holding pressure values not listed.

W63 AR/HAR (AIR-TO-RAISE) - STANDARD STROKE

VALVE SIZE	ACTUATOR SIZE									
	BOTTOM PORT (P_2), STEM RAISED, ACTUATOR SPRING WILL OPEN AGAINST:									
	4AR	4HAR	5AR	5HAR[1]	6AR	6HAR	A1	B1	C1	
1.0"	**203**	**257**	**289**	--	**384**	--	--	--	--	**PSI**
25mm	14	18	20	--	26	--	--	--	--	Bar
1.5"	**253**	**308**	**333**	--	**426**	--	--	--	--	**PSI**
38mm	17	21	23	--	29	--	--	--	--	Bar
2.0"	**142**	**173**	**187**	**336**	**239**	--	--	--	--	**PSI**
50mm	10	12	13	23	16	--	--	--	--	Bar
2.5"	**91**	**111**	**120**	**215**	**153**	**367**	--	--	--	**PSI**
63mm	6	8	8	15	11	25	--	--	--	Bar
3.0"	**63**	**77**	**83**	**149**	**106**	**255**	--	--	--	**PSI**
76mm	4	5	6	10	7	18	--	--	--	Bar
4.0"	**37**	**44**	**48**	**86**	**61**	**147**	**--**	**--**	**--**	**PSI**
101mm	3	3	3	6	4	10	--	--	--	Bar

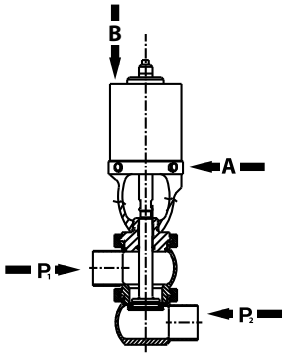


VALVE SIZE	ACTUATOR SIZE									
	PORT (P_1), AIR TO PORT A, WILL HOLD VALVE CLOSED AGAINST:									
	4AR 50PSI/ 3BAR	4HAR[1] 75PSI/ 5BAR	5AR 50PSI/ 3BAR	5HAR[1] 75PSI/ 5BAR	6AR 50PSI/ 3BAR	6HAR[1] 75PSI/ 5BAR	A1 50PSI/ 3BAR	B1 50PSI/ 3BAR	C1 50PSI/ 3BAR	
1.0"	**165**	**312**	**305**	**353**	**478**	**339**	--	--	--	**PSI**
25mm	11	22	21	24	33	23	--	--	--	Bar
1.5"	**99**	**244**	**247**	**239**	**421**	**121**	--	--	--	**PSI**
38mm	7	17	17	16	29	8	--	--	--	Bar
2.0"	**48**	**119**	**121**	**117**	**206**	**59**	--	--	--	**PSI**
50mm	3	8	8	8	14	4	--	--	--	Bar
2.5"	**29**	**72**	**73**	**71**	**125**	**36**	--	--	--	**PSI**
63mm	2	5	5	5	9	2	--	--	--	Bar
3.0"	**20**	**49**	**49**	**48**	**84**	**24**	--	--	--	**PSI**
76mm	1	3	3	3	6	2	--	--	--	Bar
4.0"	**10**	**25**	**26**	**24**	**45**	**9**	**--**	**--**	**--**	**PSI**
101mm	1	2	2	2	3	1	--	--	--	Bar

W63 AR (AIR-TO-RAISE) - LONG STROKE

VALVE SIZE	ACTUATOR SIZE				
	PORT (P2), STEM RAISED, ACTUATOR SPRING WILL OPEN AGAINST:		PORT (P1), AIR TO PORT A, WILL HOLD VALVE CLOSED AGAINST:		
	4ARLG	6ARLG	4ARLG	6ARLG	
2.5"	**48**	**131**	**77**	**149**	**PSI**
63mm	3	9	5	10	Bar
3.0"	**37**	**97**	**48**	**94**	**PSI**
76mm	3	7	3	6	Bar
4.0"	**23**	**58**	**23**	**47**	**PSI**
101mm	2	4	2	3	Bar

W63 AL/HAL (AIR-TO-LOWER) - STANDARD STROKE



VALVE SIZE	ACTUATOR SIZE									
	PORT (P_1), ACTUATOR SPRING HOLDS CLOSED AGAINST:									
	4AL	4HAL	5AL	5HAL	6AL	6HAL	A2	B2	C2	
1.0"	**231**	**301**	**349**	--	**442**	--	--	--	--	**PSI**
25mm	16	21	24	--	30	--	--	--	--	Bar
1.5"	**164**	**233**	**290**	**497**	**385**	**--**	**161**	**386**	**--**	**PSI**
38mm	11	16	20	34	27	--	11	27	--	Bar
2.0"	**81**	**114**	**142**	**244**	**189**	**323**	**59**	**174**	**403**	**PSI**
50mm	6	8	10	17	13	22	4	12	28	Bar
2.5"	**49**	**69**	**86**	**147**	**114**	**195**	**35**	**105**	**243**	**PSI**
63mm	3	5	6	10	8	13	2	7	17	Bar
3.0"	**33**	**46**	**58**	**99**	**77**	**131**	**24**	**71**	**164**	**PSI**
76mm	2	3	4	7	5	9	2	5	11	Bar
4.0"	**17**	**24**	**31**	**52**	**41**	**68**	**--**	**--**	**--**	**PSI**
101mm	1	2	2	4	3	5	--	--	--	Bar

VALVE SIZE	ACTUATOR SIZE									
	PORT (P2), AIR TO PORT B, WILL OPEN AGAINST:									
	4AL 50PSI/ 3BAR	4HAL 75PSI/ 5BAR	5AL 50PSI/ 3BAR	5HAL 75PSI/ 5BAR	6AL 50PSI/ 3BAR	6HAL 75PSI/ 5BAR	A2 50PSI/ 3BAR	B2 50PSI/ 3BAR	C2 50PSI/ 3BAR	
1.0"	**154**	**265**	**257**	**319**	420	--	--	--	--	**PSI**
25mm	11	18	18	22	29	--	--	--	--	Bar
1.5"	**204**	**316**	**300**	**404**	**462**	**--**	**--**	**--**	**--**	**PSI**
38mm	14	22	21	28	32	--	--	--	--	Bar
2.0"	**115**	**178**	**169**	**227**	**260**	**356**	--	--	--	**PSI**
50mm	8	12	12	16	18	25	--	--	--	Bar
2.5"	**73**	**114**	**108**	**145**	**166**	**227**	**--**	**--**	**--**	**PSI**
63mm	5	8	7	10	11	16	--	--	--	Bar
3.0"	**51**	**79**	**75**	**101**	**115**	**158**	--	--	--	**PSI**
76mm	4	5	5	7	8	11	--	--	--	Bar
4.0"	**30**	**45**	**43**	**59**	**66**	**92**	**--**	**--**	**--**	**PSI**
101mm	2	3	3	4	5	6	--	--	--	Bar

W63 AL (AIR-TO-LOWER) - LONG STROKE

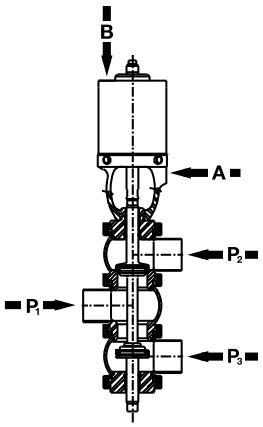
VALVE SIZE	ACTUATOR SIZE				
	PORT (P1), ACTUATOR SPRING HOLDS CLOSED AGAINST:		PORT (P2), AIR TO PORT B, WILL OPEN STEM AGAINST:		
	4ALLG	6ALLG	4ALLG	6ALLG	
2.5"	**36**	**123**	**85**	**158**	**PSI**
63mm	2	8	6	11	Bar
3.0"	**24**	**83**	**59**	**110**	**PSI**
76mm	2	6	4	8	Bar
4.0"	**13**	**45**	**33**	**62**	**PSI**
101mm	1	3	2	4	Bar

W65 Holding Pressure Charts

- If pressure rating is higher than documented in tables consult factory before exceeding.
- Minimum air supply requirements: 50 PSI for 4, 5 and 6 inch standard spring actuators; 75 PSI for 4, 5 and 6 inch heavy spring and 4 and 6 inch long stroke actuators; 87 PSI for A, B and C size actuators.
- Please contact the factory for holding pressure values not listed.

W65 AR/HAR (AIR-TO-RAISE) - STANDARD STROKE

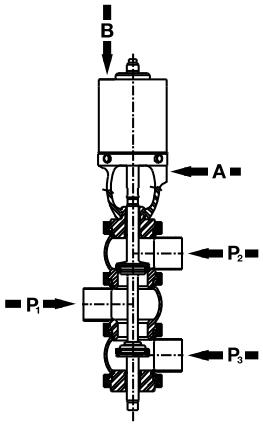
VALVE SIZE	ACTUATOR SIZE									
	BOTTOM PORT (P_1), ACTUATOR SPRING HOLDS CLOSED AGAINST:									
	4AR	4HAR	5AR	5HAR	6AR	6HAR	A1	B1	C1	
1.0"	**214**	**284**	**336**	--	--	--	**120**	**338**	**801**	**PSI**
25mm	15	20	23	--	--	--	8	23	55	Bar
1.5"	**162**	**230**	**289**	**495**	**418**	--	**120**	**338**	**801**	**PSI**
38mm	11	16	20	34	29	--	8	23	55	Bar
2.0"	**76**	**109**	**139**	**237**	**200**	**367**	**62**	**176**	**416**	**PSI**
50mm	5	8	10	16	14	25	4	12	29	Bar
2.5"	**50**	**70**	**87**	**150**	**126**	**239**	**39**	**109**	**258**	**PSI**
63mm	3	5	6	10	9	16	3	8	18	Bar
3.0"	**34**	**47**	**59**	**101**	**85**	**161**	**26**	**75**	**177**	**PSI**
76mm	2	3	4	7	6	11	2	5	12	Bar
4.0"	**19**	**26**	**32**	**56**	**46**	**89**	**15**	**42**	**98**	**PSI**
101mm	1	2	2	4	3	6	1	3	7	Bar



VALVE SIZE	ACTUATOR SIZE									
	PORT (P_3), STEM RAISED, SPRING LOWERS STEM AGAINST:									
	4AR	4HAR	5AR	5HAR	6AR	6HAR	A1	B1	C1	
1.0"	**344**	**418**	--	--	--	--	**65**	**272**	**801**	**PSI**
25mm	24	29	--	--	--	--	4	19	55	Bar
1.5"	**344**	**418**	**433**	--	--	--	**65**	**272**	**801**	**PSI**
38mm	24	29	30	--	--	--	4	19	55	Bar
2.0"	**169**	**205**	**218**	**392**	**279**	--	**34**	**141**	**416**	**PSI**
50mm	12	14	15	27	19	--	2	10	29	Bar
2.5"	**102**	**124**	**132**	**237**	**168**	**404**	**21**	**88**	**258**	**PSI**
63mm	7	9	9	16	12	28	1	6	18	Bar
3.0"	**69**	**83**	**89**	**160**	**114**	**274**	**14**	**60**	**177**	**PSI**
76mm	5	6	6	11	8	19	1	4	12	Bar
4.0"	**37**	**45**	**49**	**89**	**63**	**152**	**8**	**33**	**98**	**PSI**
101mm	3	3	3	6	4	10	1	2	7	Bar

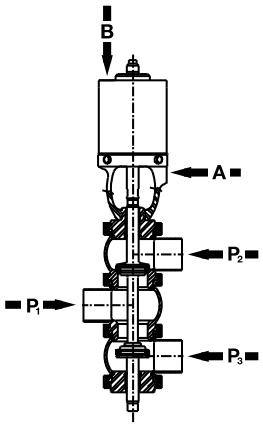
VALVE SIZE	ACTUATOR SIZE									
	PORT (P_2), AIR TO PORT A, WILL RAISE STEM AGAINST:									
	4AR 50PSI/ 3BAR	4HAR 75PSI/ 5BAR	5AR 50PSI/ 3BAR	5HAR 75PSI/ 5BAR	6AR 50PSI/ 3BAR	6HAR 75PSI/ 5BAR	A1 50PSI/ 3BAR	B1 50PSI/ 3BAR	C1 50PSI/ 3BAR	
1.0"	**223**	**371**	**356**	--	--	--	**36**	**66**	**157**	**PSI**
25mm	15	26	25	--	--	--	2	5	11	Bar
1.5"	**275**	**425**	**403**	--	--	--	**36**	**66**	**157**	**PSI**
38mm	19	29	28	--	--	--	2	5	11	Bar
2.0"	**138**	**212**	**200**	**272**	**285**	**361**	**19**	**34**	**81**	**PSI**
50mm	10	15	14	19	20	25	1	2	6	Bar
2.5"	**79**	**124**	**117**	**157**	**167**	**200**	**12**	**21**	**51**	**PSI**
63mm	5	9	8	11	12	14	1	1	3	Bar
3.0"	**53**	**83**	**79**	**106**	**113**	**135**	**8**	**15**	**35**	**PSI**
76mm	4	6	5	7	8	9	1	1	2	Bar
4.0"	**29**	**45**	**43**	**57**	**61**	**73**	**4**	**8**	**19**	**PSI**
101mm	2	3	3	4	4	5	0	1	1	Bar

W65 AR/HAR (AIR-TO-RAISE) - STANDARD STROKE (CONTINUED)



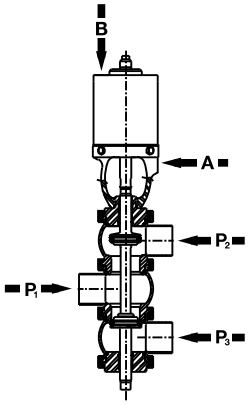
VALVE SIZE	ACTUATOR SIZE									
	PORT (P_1), AIR TO PORT A, (WITH STEM RAISED), WILL HOLD AGAINST:									
	4AR 50PSI/ 3BAR	4HAR 75PSI/ 5BAR	5AR 50PSI/ 3BAR	5HAR 75PSI/ 5BAR	6AR 50PSI/ 3BAR	6HAR 75PSI/ 5BAR	A1 50PSI/ 3BAR	B1 50PSI/ 3BAR	C1 50PSI/ 3BAR	
1.0"	**93**	**238**	**241**	**228**	**416**	**102**	**68**	**76**	**106**	**PSI**
25mm	6	16	17	16	29	7	5	5	7	Bar
1.5"	**113**	**258**	**259**	**263**	**433**	**167**	**68**	**76**	**106**	**PSI**
38mm	8	18	18	18	30	12	5	5	7	Bar
2.0"	**48**	**119**	**120**	**116**	**206**	**58**	**35**	**40**	**55**	**PSI**
50mm	3	8	8	8	14	4	2	3	4	Bar
2.5"	**29**	**72**	**73**	**70**	**125**	**35**	**22**	**25**	**34**	**PSI**
63mm	2	5	5	5	9	2	2	2	2	Bar
3.0"	**19**	**48**	**48**	**46**	**83**	**22**	**15**	**17**	**23**	**PSI**
76mm	1	3	3	3	6	2	1	1	2	Bar
4.0"	**10**	**25**	**26**	**24**	**45**	**10**	**8**	**9**	**13**	**PSI**
101mm	1	2	2	2	3	1	1	1	1	Bar

W65 AR (AIR-TO-RAISE) - LONG STROKE



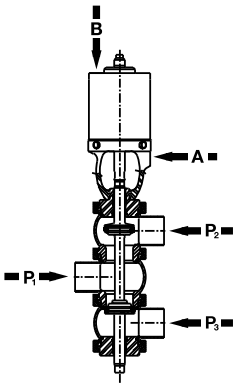
VALVE SIZE	ACTUATOR SIZE								
	PORT (P_1), ACTUATOR SPRING HOLDS CLOSED AGAINST:		PORT (P_3), (STEM RAISED) SPRING LOWERS STEM AGAINST:		PORT (P_2), AIR TO PORT A, WILL RAISE STEM AGAINST:		PORT (P_1), (WITH STEM RAISED) WILL HOLDS AGAINST:		
	4ARLG	6ARLG	4ARLG	6ARLG	4ARLG	6ARLG	4ARLG	6ARLG	
2.5"	**36**	**123**	**53**	**147**	**93**	**170**	**76**	**146**	**PSI**
64mm	2	8	4	10	6	12	5	10	Bar
3.0"	**24**	**83**	**39**	**103**	**63**	**114**	**48**	**94**	**PSI**
76mm	2	6	3	7	4	8	3	6	Bar
4.0"	**13**	**45**	**21**	**60**	**34**	**62**	**26**	**48**	**PSI**
102mm	1	3	1	4	2	4	2	3	Bar
6.0"	**--**	**19**	**--**	**26**	**--**	**24**	**--**	**18**	**PSI**
152mm	--	1	--	2	--	2	--	1	Bar

W65 AL (AIR-TO-LOWER) - LONG STROKE



VALVE SIZE	ACTUATOR SIZE								
	PORT (P_1), AIR TO PORT B, WILL HOLD CLOSED AGAINST:		PORT (P_1), (STEM RAISED) SPRING HOLDS CLOSED AGAINST:		PORT (P_3), AIR TO PORT B, WILL LOWER STEM AGAINST:		PORT (P_2), STEM LOWERED, ACTUATOR SPRING RAISES STEM AGAINST:		
	4ALLG	6ALLG	4ALLG	6ALLG	4ALLG	6ALLG	4ALLG	6ALLG	
2.5"	**76**	**149**	**36**	**123**	**93**	**173**	**53**	**147**	**PSI**
64mm	5	10	2	8	6	12	4	10	Bar
3.0"	**48**	**97**	**24**	**83**	**63**	**117**	**39**	**103**	**PSI**
76mm	3	7	2	6	4	8	3	7	Bar
4.0"	**24**	**49**	**13**	**45**	**34**	**64**	**24**	**60**	**PSI**
102mm	2	3	1	3	2	4	2	4	Bar
6.0"	**--**	**18**	**--**	**19**	**--**	**24**	**--**	**26**	**PSI**
152mm	--	1	--	1	--	2	--	2	Bar

W65 AL/HAL (AIR-TO-LOWER) - STANDARD STROKE

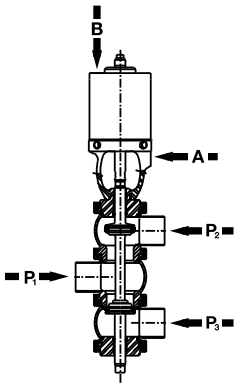


VALVE SIZE	ACTUATOR SIZE									
	PORT (P_2), AIR TO PORT B, WILL HOLD CLOSED AGAINST:									
	4AL 50PSI/ 3BAR	4HAL 75PSI/ 5BAR	5AL 50PSI/ 3BAR	5HAL 75PSI/ 5BAR	6AL 50PSI/ 3BAR	6HAL 75PSI/ 5BAR	A2 50PSI/ 3BAR	B2 50PSI/ 3BAR	C2 50PSI/ 3BAR	
1.0"	**149**	**295**	**292**	**327**	--	--	**49**	**74**	**164**	**PSI**
25mm	10	20	20	23	--	--	3	5	11	Bar
1.5"	**96**	**241**	**245**	**237**	**--**	**267**	**49**	**74**	**164**	**PSI**
38mm	7	17	17	16	--	18	3	5	11	Bar
2.0"	**44**	**115**	**117**	**110**	**226**	**120**	**25**	**38**	**85**	**PSI**
50mm	3	8	8	8	16	8	2	3	6	Bar
2.5"	**31**	**73**	**74**	**74**	**140**	**86**	**16**	**24**	**53**	**PSI**
63mm	2	5	5	5	10	6	1	2	4	Bar
3.0"	**21**	**50**	**50**	**50**	**94**	**59**	**11**	**16**	**36**	**PSI**
76mm	1	3	3	3	6	4	1	1	2	Bar
4.0"	**12**	**27**	**28**	**28**	**52**	**33**	**6**	**9**	**20**	**PSI**
101mm	1	2	2	2	4	2	0	1	1	Bar

VALVE SIZE	ACTUATOR SIZE									
	PORT (P_1), (STEM RAISED), SPRING HOLDS CLOSED AGAINST:									
	4AL	4HAL	5AL	5HAL	6AL	6HAL	A2	B2	C2	
1.0"	**158**	**227**	**285**	--	**380**	--	**113**	**323**	**776**	**PSI**
25mm	11	16	20	--	26	--	8	22	53	Bar
1.5"	**178**	**248**	**300**	--	**397**	--	**113**	**323**	**776**	**PSI**
38mm	12	17	21	--	27	--	8	22	53	Bar
2.0"	**80**	**114**	**142**	**243**	**188**	**322**	**59**	**168**	**403**	**PSI**
50mm	6	8	10	17	13	22	4	12	28	Bar
2.5"	**49**	**69**	**86**	**147**	**114**	**196**	**37**	**104**	**250**	**PSI**
63mm	3	5	6	10	8	14	3	7	17	Bar
3.0"	**32**	**46**	**57**	**98**	**76**	**129**	**25**	**71**	**171**	**PSI**
76mm	2	3	4	7	5	9	2	5	12	Bar
4.0"	**17**	**24**	**31**	**52**	**41**	**68**	**14**	**40**	**95**	**PSI**
101mm	1	2	2	4	3	5	1	3	7	Bar

W65 AL/HAL (AIR-TO-LOWER) - STANDARD STROKE (CONTINUED)

VALVE SIZE	ACTUATOR SIZE									
	BOTTOM PORT (P_2), AIR TO PORT B, (WITH STEM RAISED), WILL CLOSE STEM AGAINST:									
	4AL 50PSI/ 3BAR	4HAL 75PSI/ 5BAR	5AL 50PSI/ 3BAR	5HAL 75PSI/ 5BAR	6AL 50PSI/ 3BAR	6HAL 75PSI/ 5BAR	A2 50PSI/ 3BAR	B2 50PSI/ 3BAR	C2 50PSI/ 3BAR	
1.0"	**278**	**428**	**407**	--	--	--	**13**	**27**	**180**	**PSI**
25mm	19	30	28	--	--	--	1	2	12	Bar
1.5"	**258**	**408**	**389**	**--**	**--**	**--**	**13**	**27**	**180**	**PSI**
38mm	18	28	27	--	--	--	1	2	12	Bar
2.0"	**134**	**207**	**197**	**265**	**300**	**415**	**7**	**14**	**93**	**PSI**
50mm	9	14	14	18	21	29	0	1	6	Bar
2.5"	**81**	**125**	**119**	**160**	**182**	**249**	**4**	**9**	**58**	**PSI**
63mm	6	9	8	11	13	17	0	1	4	Bar
3.0"	**55**	**85**	**81**	**109**	**124**	**171**	**3**	**6**	**40**	**PSI**
76mm	4	6	6	8	9	12	0	0	3	Bar
4.0"	**31**	**47**	**45**	**61**	**68**	**95**	**2**	**3**	**22**	**PSI**
101mm	2	3	3	4	5	7	0	0	2	Bar

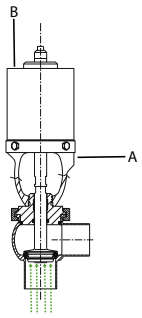


VALVE SIZE	ACTUATOR SIZE									
	PORT (P_3), (STEM RAISED), ACTUATOR SPRING HOLDS AGAINST:									
	4AL	4HAL	5AL	5HAL	6AL	6HAL	A2	B2	C2	
1.0"	**288**	**360**	**400**	--	--	--	**110**	**320**	**788**	**PSI**
25mm	20	25	28	--	--	--	8	22	54	Bar
1.5"	**302**	**414**	**446**	**--**	**--**	**--**	**110**	**320**	**788**	**PSI**
38mm	21	29	31	--	--	--	8	22	54	Bar
2.0"	**170**	**206**	**222**	**398**	**265**	--	**57**	**166**	**409**	**PSI**
50mm	12	14	15	27	18	--	4	11	28	Bar
2.5"	**99**	**120**	**130**	**233**	**157**	**359**	**35**	**103**	**254**	**PSI**
63mm	7	8	9	16	11	25	2	7	18	Bar
3.0"	**66**	**81**	**87**	**157**	**105**	**241**	**24**	**71**	**174**	**PSI**
76mm	5	6	6	11	7	17	2	5	12	Bar
4.0"	**36**	**44**	**48**	**85**	**57**	**131**	**14**	**39**	**97**	**PSI**
101mm	2	3	3	6	4	9	1	3	7	Bar

Air Assist Charts

- [1] Refer to W61 & W65 holding pressure charts for spring only holding force.
- [2] Refer to W62 & W63 holding pressure charts for spring only holding force.
- [3] Air requirements: 50 PSI to actuate 4", 5", & 6" Actuators 75 PSI to actuate 4", 5" & 6" heavy spring and 4" & 5" long stroke actutators; 87 PSI for A, B, and C size actuators (refer to holding pressure charts for holding power).

AIR BOOST FOR PORT B



PRODUCT PRESSURE APPLIED TO BOTTOM OF PLUG.

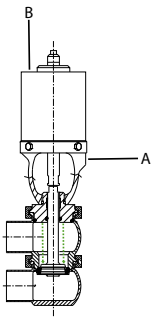
ACTUATOR SIZE	PRODUCT RATIO PER VALVE SIZE						
	1" (25MM)	1.5" (36MM)	2" (59MM)	2.5" (64MM)	3" (76MM)	4" (102MM)	6" (152MM)
"4" (102mm)	**6.50**	**6.50**	**3.70**	2.40	**1.60**	**0.90**	--
"5" (127mm)	**10.40**	**10.40**	**5.80**	**3.70**	**2.60**	**1.50**	--
"6" (152mm)	**15.00**	**15.00**	**8.40**	**5.40**	**3.70**	**2.10**	**0.95**
Y-BODY*	--	--	--	**2.20**	**1.70**	**0.93**	--
"A" Size (74mm)	**3.50**	**3.50**	**2.00**	**1.30**	**0.90**	**0.50**	--
"B" Size (110mm)	**8.10**	**8.10**	**4.50**	**2.90**	**2.00**	**1.10**	--
"C" Size (165mm)	**18.60**	**18.60**	**10.40**	**6.70**	**4.60**	**2.60**	--

Note: * Y Body Valve is only available with 6ARY and 6ALY actuators

Chart shows additional product holding pressure per 1 PSI or BAR of air applied to port B to:
(1) air assist spring holding force[1] (spring to close)
(2) calculate holding power on air to air actuator
(3) calculate additional holding power above the nominal air requirement of the actuator[3]
(4) Maximum Air Assist Pressures should not exceed:
- 70 psi on 4", 5", 6" Maintainable Actuators
- 15 psi on A, B or C sized Maintenance Free Actuator

(5) Air Assist pressures should be air regulated to the lowerest required amount of air pressure

AIR BOOST FOR PORT A



ACTUATOR SIZE	PRODUCT RATIO PER VALVE SIZE						
	1" (25MM)	1.5" (36MM)	2" (59MM)	2.5" (64MM)	3" (76MM)	4" (102MM)	6" (152MM)
"4" (102mm)	**6.50**	**6.50**	**3.70**	2.40	**1.60**	**0.90**	--
"5" (127mm)	**10.40**	**10.40**	**5.80**	**3.70**	**2.60**	**1.50**	--
"6" (152mm)	**15.00**	**15.00**	**8.40**	**5.40**	**3.70**	**2.10**	**0.95**
Y-BODY*	--	--	--	**2.20**	**1.70**	**0.93**	--
"A" Size (74mm)	**4.70**	**4.70**	**2.30**	**1.40**	**0.90**	**0.50**	--
"B" Size (110mm)	**10.80**	**10.80**	**5.30**	**3.20**	**2.20**	**1.20**	--
"C" Size (165mm)	**24.80**	**24.80**	**12.10**	**7.30**	**4.90**	**2.70**	--

Chart shows additional product holding pressure per 1 PSI or BAR of air applied to port A to:
(1) air assist spring holding force[1] (spring to close)
(2) calculate holding power on air to air actuator
(3) calculate additional holding power above the nominal air requirement of the actuator[3]
(4) Maximum Air Assist Pressures should not exceed:
- 70 psi on 4", 5", 6" Maintainable Actuators
- 15 psi on A, B or C sized Maintenance Free Actuator

(5) Air Assist pressures should be air regulated to the lowerest required amount of air pressure

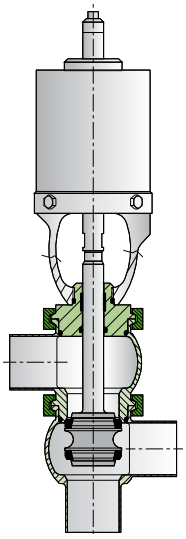
Example:

W61T-3" with 5" Air to Raise (Spring to Close) actuator required to hold against 75 PSI product pressure.

Holding pressure required: 75 PSI
Minus Spring only holding force: - 55 PSI
(From page16)
Additional holding power required: 20 PSI

Air Assist pressure required = Additional holding power required (20) / Product Ratio from chart above (2.6) = 7.79 PSI Air Required to Port B

W60 Series Valves: Safe, Strong and Sanitary



W62TT

Cleanable, Designed For Sanitary / Hygienic Applications

- 316L Stainless Steel wetted parts
- Minimal internal crevices and high surface finishes
- Free-spinning, snap-on TFM or PEEK seats for reliable sealing: choice of Tef-Flow, Tef-Flow P, tri-ring, or metal
- Captive, supported stationary seals located forward to the product zone: choice of o-ring, quad, or wiping stem seals
- Free draining in multiple positions – including upside down
- 3-A compliant, FDA approved materials

Heavy-duty Construction

- Machined-from-bar body construction can withstand mishandlings of active plant environment & lead to long service life
- Consistently thick body wall dimensions & laser welded port extensions minimize body distortion during manifolding & extreme fluid temperature changes
- Deep, inter-locking bodies and adapters
- Heavy-Duty Clamps & High Pressure Adapters for up to 1220 PSI applications
- Multiple split TFM bearing support of stems

Heavy-duty Construction

Flexibility & Modularity

- Major components (body, stem, adapter, actuators) are modular in design to quickly and easily assemble or retrofit in field a valve to meet specific applications
- Choice of standard fully maintainable actuator or cost-effective maintenance-free actuator with 5-year warranty with various sizes and spring options
- True-line mix body sizes and custom 45° or other angled ports available to match complicated pipe design
- One-piece bodies or two-piece clamped
- AL6XN alloy product zone parts available for corrosive products
- Custom port lengths and center-to-center dimensions can match competitor and legacy series valves to provide easy drop-in replacements
- Various control top models available to fit customer needs: cost-effective CU4 full-featured, robust WCB control tops, or state-of-the-art Burkert 8681

Low Cost of Ownership

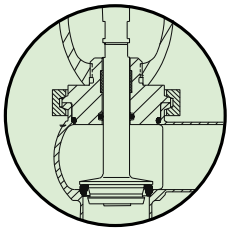
- Heavy-duty construction maximizes service life
- Minimum propriety parts gives off-the-shelf availability and low price of most spares and components
- Available spare parts from local distributor or factory in Delavan, WI
- Modular design enables multi-use parts, easy training & familiarity with whole family of valves, minimum spares required on shelf
- Long life standard actuator is field-maintainable with finger-safe, caged springs and cartridge piston assemblies
- Commonality of parts: same part numbers used multiple places
- Simple, easy-to-maintain design is intuitive and does not require advanced mechanical skills

Domestic Manufacture, Local Support

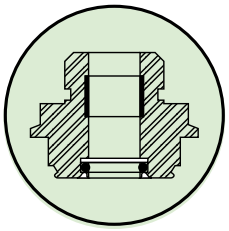
- Value-Added Distributor Relationships
- Face-to-Face Representation
- Manufacturing, Assembly, Inventory, Engineering & Customer Service in Delavan, Wisconsin, USA

Valve Adapter Options

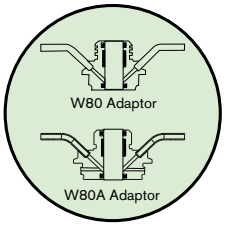
The ‘standard’ adapter is used on all models of short and long stroke W60 Series valves. Machined from 316LSS bar with a thick cross-section, the adapter adds strength to the valve body and provides alignment for the stem. The outer perimeter seals to the valve body with an O-ring that is located forward to the product zone to minimize crevices. The product stem passes through the adapter and is sealed to the adapter with an O-ring. A TFM split bearing guides the stem and takes up the mechanical loading imparted by hydraulic forces. This increases the service life of the stem seal. Adapters are made in 1"-6" (25mm -152mm) sizes.



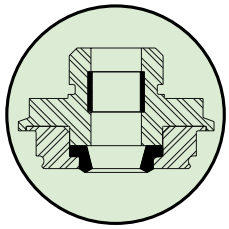
The pressure limitation of the W60 adapter is the sealing capability of the dynamic O-ring on the product stem. This variation of the W60 adapter uses a backing ring added on the atmospheric side to support the stem O-ring. This significantly boosts the pressure rating on the stem O-ring. The product stem passes through the adapter and is sealed to the adapter with an O-ring and is guided by a TFM split bearing.



This adapter is used to convert a ‘standard’ W60 series valve to a W80. The outer perimeter seals to the valve body with an O-ring that is located forward to the product zone to minimize crevices. The product stem passes through the adapter and is sealed in the upper part and the lower part of the adapter with O-rings. The space between the O-rings is flushed with a suitable liquid or steam. The TFM split bearing is located in the flushed chamber. Adapters are made in 1"-6" (25mm - 152mm) sizes. For vacuum-rated, extended shelf-life (ESL) applications, the W80A adapter adds steam trace to the adapter-to-valve body connection.



For high-risk and hard to clean product applications, the wiping stem seal fills the gap between the product zone and the traditional O-ring stem seal. The adapter is a two-piece design to allow easy inspection or replacement of the wiping stem seal. The outer perimeter seals to the valve body with an O-ring that is located forward to the product zone to minimize crevices. A TFM split bearing is used to guide and support the valve stem.



W60/W80 Series

SHUT OFF AND DIVERT VALVES

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WCB_Valves-Single-Seat-DS-1201_DST_US Version: 07/2025

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