YARWAY HIGH PRESSURE GLOBE VALVE
WELBOND MODEL 5600

In line repairable high pressure globe valve designed to provide maximum service life with minimum maintenance

GENERAL APPLICATION

These valves have become the established stop valve in all modern high pressure power plants.

TECHNICAL DATA

Size range:	NPS ½ to 3
Pressure class:	1700, 2700 and 4500 psi
Temperature range:	1022°F to 1039°F
Materials:	ASME SA182 Gr. F22 ASME SA182 Gr. F91 ASME SA105

FEATURES

- Fastest in-line repair - Repairable in line more easily and at less cost than other similar valve. Stem, disc, and packing can be quickly removed through the yoke, and the seat fully exposed for "like new" restoration.
- High dependability - One-piece forged body without pressure welds, seal welds, pressure-containing threads or gaskets, body/bonnet joints, or any of their related problems.
- Greater durability - Solid Stellite® disc and seat ring all but eliminates cracking. Extra thickness of the seat ring also provides enough material to renew the seating surface over and over again.
- High flow capacity - Generous port sizes and disc retraction well beyond that required for optimum flow. These features help to minimize flow velocities, and therefore, decrease the erosive forces, which shorten the life of the seat and disc.
- Available off-the-shelf - An in-depth stocking program makes Welbond® valves available to you directly off-theshelf (socketweld ends standard to NPS 2½).
- Convertible feature - The complete premachining of each valve body means one of the backseat designs can be converted to the other, simply by reassembly with alternate backseat bushing.

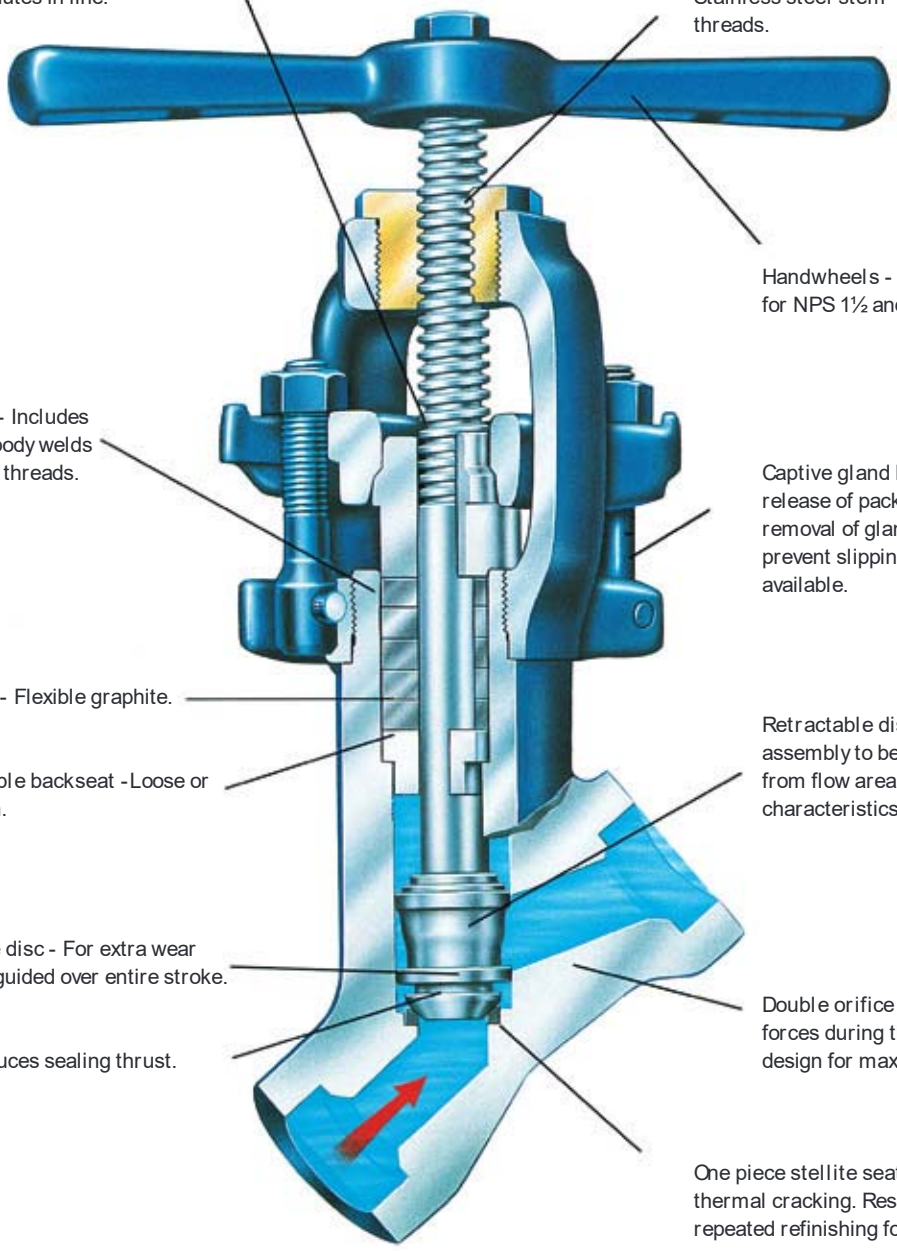
APPLICABLE CODES AND STANDARDS

NPS ½ to 2½ ASME B16.34 Ltd. Class 1700 and 2700.
NPS ½ and 2 ASME B16.34 Ltd. Class 4500.
NPS 3 ASME B16.34 Std. Class 1700 and 2700.
End connections per ASME B16.11 for socketwelding ends, and per ASME B16.25 for buttwelding ends.

YARWAY HIGH PRESSURE GLOBE VALVE
WELBOND MODEL 5600

Accessible internals - Stem, disc and packing assembly easily removed through the yoke. Repair and repack in minutes in line.

Stainless steel stem - Has rugged ACME threads.



Handwheels - With impactors available for NPS 1½ and larger valves.

One-piece body forging - Includes stuffing box; eliminates body welds and pressure-containing threads.

Captive gland bolts - Allow quick release of packing gland without removal of gland nuts. "Ears" on gland prevent slipping. Optional API gland available.

Packing - Flexible graphite.

Retractable disc - Permits stem assembly to be fully withdrawn from flow area; offers higher C_v characteristics, smoother flow pattern.

Removable backseat - Loose or thread in.

One-piece stellite disc - For extra wear resistance. Body-guided over entire stroke.

Double orifice - Dissipates erosive forces during throttling. Full-ported design for maximum C_v.

Disc design - Reduces sealing thrust.

One piece stellite seat insert - Eliminates thermal cracking. Reserve of material permits repeated refinishing for longer service life.

YARWAY HIGH PRESSURE GLOBE VALVE
WELBOND MODEL 5600

WELBOND® HIGH PRESSURE GLOBE VALVE

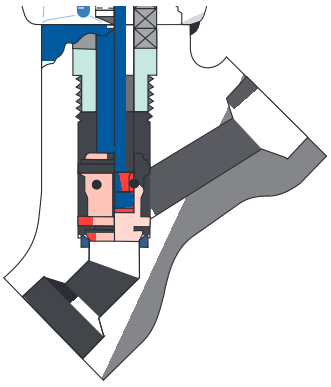
The Yarway Welbond® valve has become an established stop valve for general line service in modern high pressure power plants.
The latest design of the valve combines the proven features of its predecessor with advantages made possible by advancements in metallurgy and fluid flow research. No other valve on the market offers this outstanding combination of features.
It offers industry a value-engineered product with minimum maintenance and maximum service life resulting from its in-line repairability feature. The one-piece body eliminates all pressure welds, threads, and their related problems.
The extra thickness of the Stellite seat ring eliminates seat cracking and provides for repeated renewal of the seating surface with Yarway's reseating tool.
The disc is a Stellite investment casting. The design provides a secondary orifice during opening and closing so that erosive forces are dissipated through the disc-body orifice rather than the disc-seat orifice, which must be protected for drop-tight sealing. The body design allows the disc-stem assembly to retract completely into the body, thus assuring smooth flow and a high C_v characteristic. The design of the disc reduces sealing torque for easy operation, both manually and with a powered actuator.

LOOSE BACKSEAT

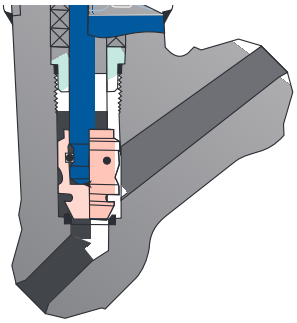
This design offers the greatest accessibility, thus is the easiest to maintain, especially when complete removal of the stem packing is desired.
Because the stuffing box bushing is not fastened to the body, the entire stem, disc, and packing assembly can be jacked out of the body by simply turning the handwheel counterclockwise after releasing the gland. No special tools or picks are required to extract the packing.
In operation, full opening of the valve exerts an upward force on the stuffing box bushing, thus compressing the stem packing from below – a maintenance feature frequently used to prevent stem leakage until shutdown can be scheduled.
Loose backseat models are available in sizes shown on page 8 for Classes 1700, 2700 and 4500. Corresponding figure numbers are indicated. The appropriate figures should be specified when ordering.

THREADED-IN BACKSEAT

This design offers accessibility after removal of the threaded stuffing box bushing by means of a special 'backseat removal tool'. It requires no seal weld removal for maintenance.
A special packing removal tool, available from Emerson, can be used to remove old packing quickly, from fixed backseat valves.
Threaded-in backseat models are available in all sizes shown on page 8 for Classes 1700, 2700 and 4500. Corresponding figure numbers are indicated. When ordering the threaded-in backseat design, use suffix "B."



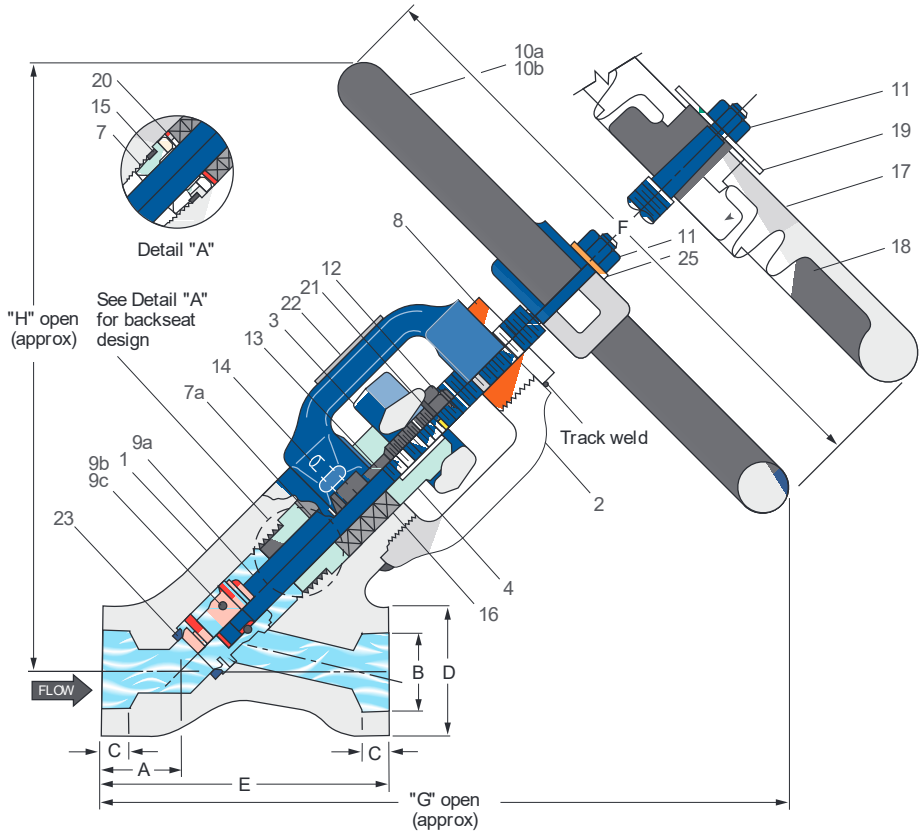
LOOSE BACKSEAT
CLASS 1700 117 BAR – F5617
CLASS 2700 186 BAR – F5627
CLASS 4500 310 BAR – F5645



THREADED-IN BACKSEAT
CLASS 1700 117 BAR – F5617B
CLASS 2700 186 BAR – F5627B
CLASS 4500 310 BAR – F5645B

YARWAY HIGH PRESSURE GLOBE VALVE
WELBOND MODEL 5600

MODEL 5600 WELBOND GLOBE VALVE – SOCKETWELD ENDS



PARTS LIST - F22

No.	Part	Material
1	Body	ASME SA 182 Gr. F22
2	Yoke	ASME SA 182 Gr. F22
3	Gland	AISI 4140
4	Split gland bushing	AISI 1018
7[7]	Backseat bushing (Threaded-in back seat design)	ASME SA 182 Gr. F6A CL. 2
7a[7]	Stuffing box bushing (loose back seat design)	AISI 410
8	Yoke bushing	ASTM B21 Alloy No. 694
9a	Stem	ASTM A582 Type 416
9b	Disc	AMS 5385 (Stellite 21)
9c	Disc pin	AMS 5796 (Stellite 25)
10a	Handwheel[1]	ASTM A47 Gr. 32510
10b	"T" handle[2]	ASTM A47 Gr. 32510
11	Locknut	Carbon steel
12	Hex nut	ASME SA 194 Gr. 2H
13	Swing bolt	ASME SA 193 Gr. B7
14	Pin	AISI 6150 OR 8740
15[7]	Gasket	ASME SB 127
16[7]	Packing	Flexible graphite
17	Impact handwheel[3]	ASTM A47 Gr. 32510
18	T-Bar[4]	4140 Annealed
19	Washer[4]	Carbon steel
20[7]	Packing support ring (Threaded-in back seat design)	AISI 430
21	Washer	Carbon steel
22	Name plate	AISI 302
23	Seat[6]	AMS 5387 (Stellite 6)
25	Washer[8]	Carbon steel

MATERIALS OF CONSTRUCTION

The following items are material changes for carbon steel and alloy steel. All other items remain the same.

Items 1 and 2 (body and yoke):

- Carbon steel ASME A105 body with ASME SA182 Gr. F22 yoke.
- Alloy steel ASME SA182 Gr. F91 body with ASME SA182 Gr. F22 yoke

Item 9a (stem disc assembly):

- Alloy steel ASME SA182 Gr. F91
  Stem ASTM A638 Grade 660

Item 13 (swing bolt):

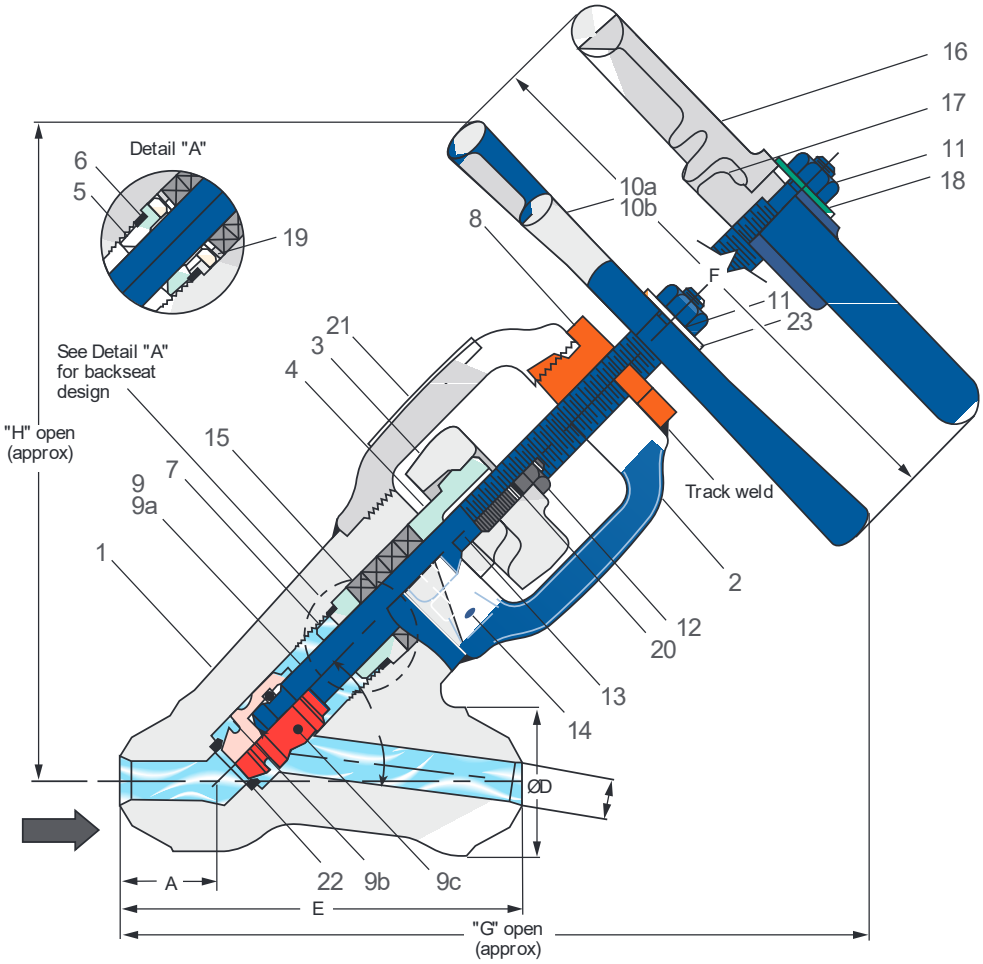
- Alloy steel ASME SA Gr. F91
  Swing bolt ASTM A479 Type XM-19

NOTES:

1. Handwheel furnished on NPS 1½ and 2.
2. "T" handle furnished on NPS ½, ¾ and 1 sizes.
3. Impact handwheel furnished on NPS 2½ size; optional on NPS 1½ and 2 sizes.
4. For use with impact handwheel only (Item 17).
5. Valves are suitable for acid washing.
6. Seat is vacuum brazed to body – not replaceable.
7. Recommended spare parts.
8. Used on valve sizes NPS ½ to 2 only.

YARWAY HIGH PRESSURE GLOBE VALVE
WELBOND MODEL 5600

MODEL 5600 WELBOND GLOBE VALVE – BUTTWELD ENDS



PARTS LIST - F22

No.	Part	Material
1	Body	ASME SA 182 Gr. F22
2	Yoke	ASME SA 182 Gr. F22
3	Gland	AISI 4140
4	Split gland bushing	AISI 1018
5[7]	Backseat bushing	ASME SA 182 Gr. F6A CL. 2
6[7]	Gasket	ASME SB 127
7	Stuffing box bushing	AISI 410
8	Yoke bushing	ASTM B21 Alloy No. 694
9a	Stem	ASTM A582 Type 416
9b	Disc	AMS 5385 (Stellite 21)
9c	Disc pin	AMS 5796 (Stellite 25)
10a	Handwheel[1]	ASTM A47 Gr. 32510
10b	"T" handle[2]	ASTM A47 Gr. 32510
11	Locknut	Carbon steel
12	Hex nut	ASME SA 194 Gr. 2H
13	Swing bolt	ASME SA 193 Gr. B7
14	Pin	AISI 6150 OR 8740
15[7]	Packing	Flexible graphite
16	Impact handwheel[3]	ASTM A47 Gr. 32510
17	T-Bar[4]	AISI 4140
18	Washer[4]	Carbon steel
19	Packing support ring	AISI 430
20	Washer	Carbon steel
21	Name plate	AISI 302
22	Seat[6]	AMS 5387 (Stellite 6)
23	Washer[8]	Carbon steel

MATERIALS OF CONSTRUCTION

The following items are material changes for carbon steel and alloy steel. All other items remain the same.

Items 1 and 2 (body and yoke):

- Carbon steel ASME A105 body with ASME SA182 Gr. F22 yoke.
- Alloy steel ASME SA182 Gr. F91 body with ASME SA182 Gr. F22 yoke

Item 9a (stem disc assembly):

- Alloy steel ASME SA182 Gr. F91
  Stem ASTM A638 Grade 660

Item 13 (swing bolt):

- Alloy steel ASME SA Gr. F91
  Swing bolt ASTM A479 Type XM-19

NOTES:

1. Handwheel furnished on NPS 1½ and 2.
2. "T" handle furnished on NPS ½, ¾ and 1 sizes.
3. Impact handwheel furnished on NPS 2½ size; optional on NPS 1½ and 2 sizes.
4. For use with impact handwheel only (Item 17).
5. Valves are suitable for acid washing.
6. Seat is vacuum brazed to body – not replaceable.
7. Recommended spare parts.
8. Used on valve sizes NPS ½ to 2 only.

YARWAY HIGH PRESSURE GLOBE VALVE
WELBOND MODEL 5600

DIMENSIONS (INCHES) CLASS 1700 (1700 PSI AT 1022° F) - F5617 & F5617B

Valve Size NPS	A	B	C	D	D*	E	E*	F	G	H	Max. stem rise	Weight (lbs)	C_v
¼	15/16	0.855	⅜	1 13/16	-	4 ⅜	-	8	10 5/16	9 5/8	⅝	10	6
¾	15/16	1.065	½	1 13/16	-	4 ⅜	-	8	10 5/16	9 5/8	⅝	10	6
1	1 13/16	1.330	½	2 ⅜	2 5/16	5	5 ¼	8	11 ⅜	10	¼	15	10
1 ½	2 3/16	1.915	¾	3	2 7/8	6 ¼	6 ¼	12	17 7/16	16 5/16	1 ⅜	36	38
2	2	2.406	⅝	3 5/8	3 13/16	7 ¼	8	14	17 7/16	16 7/16	1 ½	50	60
2 ½	2 ⅜	2.906	⅝	4 13/16	-	9 5/8	-	14	21 ⅛	20 7/16	2	105	80
¾	2 ½	Buttweld end only				9 5/8	-	14	21 ⅛	20 7/16	2	105	70

DIMENSIONS (INCHES) CLASS 2700 (2700 PSI AT 1028° F) - F5627 & F5627B

Valve Size NPS	A	B	C	D	D*	E	E*	F	G	H	Max. stem rise	Weight (lbs)	C_v
¼	1 13/16	0.855	⅜	2 ⅜	1 ¼	5	5 ¼	8	10 5/16	9 9/16	⅝	15	6
¾	1 13/16	1.065	½	2 ⅜	¾	¾	5 ¼	8	10 5/16	9 9/16	⅝	15	6
1	1 13/16	1.330	½	2 ⅜	2 5/16	5	5 ¼	8	11 ⅜	9 13/16	¼	15	12
1 ½	2	1.915	¾	3 5/8	3 5/8	7 ¼	8	12	17 ⅜	15 ¼	1 5/16	52	34
2	2 ⅜	2.406	⅝	4 13/16	-	9 5/8	-	14	21 ⅜	19 7/16	1 ¼	98	65
2 ½	2 ⅜	2.906	⅝	4 13/16	-	9 5/8	-	14	21 ⅛	19 ⅜	2	105	90
¾	2 ⅜	Buttweld end only				9 5/8	-	14	21 ⅛	19 ⅜	2	105	75

DIMENSIONS (INCHES) CLASS 4500 (4500 PSI AT 1039° F) - F5645 & F5645B

Valve Size NPS	A	B	C	D	E	F	G	H	Max. stem rise	Weight (lbs)	C_v
¼	2	0.855	⅜	3 5/8	7 ¼	8	14 5/8	12 13/16	5/16	43	2
¾	2	1.065	½	3 5/8	7 ¼	8	14 5/8	12 13/16	5/16	43	5
1	2	1.330	½	3 5/8	7 ¼	8	14 5/8	12 13/16	5/16	43	6
1 ½	2 ⅜	1.915	¾	4 13/16	9 5/8	12	19 ¼	17 ⅜	1 ¼	105	18
2	2 ⅜	Buttweld end only			9 5/8	12	19 ¼	17 ⅜	1 ¼	105	17

NOTE:

* Dimensional changes with preheat and postweld heat treat requirement

YARWAY HIGH PRESSURE GLOBE VALVE
WELDBOND MODEL 5600

PRESSURE AND TEMPERATURE RATINGS - BUTTWELD ENDS (NPS 3 ONLY)

	Maximum allowable working pressure, psig					
	Class 1700			Class 2700		
Service temp °F	ASME 182 Grade F22	ASME 182 Grade F91	ASME SA105 [1]	ASME 182 Grade F22	ASME 182 Grade F91	ASME SA105 [1]
100	4250	4250	4195	6750	6750	6660
150	4250	4250	4020	6750	6750	6385
200	4250	4250	3845	6750	6750	6105
250	4185	4185	3775	6650	6650	5995
300	4125	4125	3705	6555	6555	5885
350	4060	4060	3645	6450	6450	5790
400	4000	4000	3590	6350	6350	5700
450	3880	3880	3505	6165	6165	5560
500	3765	3765	3415	5980	5980	5425
550	3595	3595	3315	5710	5710	5265
600	3425	3425	3215	5440	5440	5105
650	3330	3330	3110	5295	5295	4940
700	3215	3215	3015	5105	5105	4775
750	3010	3010	2870	4780	4780	4565
800	2875	2875	2330	4565	4565	3700
850	2760	2760	1805	4385	4385	2865
900	2545	2545	1300	4045	4045	2065
950	2185	2185	775	3475	3475	1235
1000	1510	2060	485	2405	3270	770
1050	990	2040	–	1570	3240	–
1100	620	1710	–	985	2710	–

NOTES:

1. Not recommended for prolonged use above 800°F.
2. Valves are rated in accordance with American National Standard ASME B16.34 (2013).

PRESSURE AND TEMPERATURE RATINGS - SOCKET WELD AND BUTTWELD ENDS (NPS 2 AND SMALLER)

	Maximum allowable working pressure, psig						
	Class 1700			Class 2700			Class 4500
Service temp °F	ASME 182 Grade F22	ASME 182 Grade F91	ASME SA105 [1]	ASME 182 Grade F22	ASME 182 Grade F91	ASME SA105 [1]	ASME 182 Grade F22
100	4250	4250	4250	6750	6750	6750	11250
150	4250	4250	4250	6750	6750	6750	11250
200	4250	4250	4250	6750	6750	6750	11250
250	4215	4250	4220	6700	6750	6705	11170
300	4185	4250	4190	6650	6750	6660	11090
350	4155	4250	4170	6600	6750	6625	11000
400	4125	4250	4150	6550	6750	6590	10915
450	4110	4250	4150	6530	6750	6590	10890
500	4100	4250	4150	6515	6750	6590	10865
550	4095	4250	4150	6500	6750	6590	10840
600	4085	4250	4150	6490	6750	6590	10815
650	4055	4250	4050	6440	6750	6435	10735
700	4005	4150	3915	6365	6595	6220	10605
750	4005	4130	3590	6365	6555	5705	10605
800	4005	4080	2910	6365	6480	4625	10605
850	3835	3835	2260	6096	6095	3585	10160
900	3400	3400	1625	5400	5400	2585	9000
950	2745	2745	995	4420	4420	1605	7555
1000	2050	2585	655	3425	4315	1100	6210
1050	1340	2585	–	2240	3870	–	4060
1100	840	2315	–	1405	3870	–	2540

NOTES:

1. Not recommended for prolonged use above 800°F.
2. Valves are rated in accordance with American National Standard ASME B16.34 (2013) Limited Class.

YARWAY HIGH PRESSURE GLOBE VALVE
WELBOND MODEL 5600

PACKING/BACKSEAT REMOVAL TOOL SELECTOR

Valve size NPS	Valve fig. no.	Pressure Class, ASME	Indent. tool no.
½	5617B	1700	60
	5627B	2700	61
	5645B	4500	66
	5645BR	4500	68
	W5617B	1700	66
	W5627B	2700	66
¾	5617B	1700	60
	5627B	2700	61
	5645B	4500	66
	5645BR	4500	68
	W5617B	1700	66
	W5627B	2700	66
1	5617B	1700	40
	5627B	2700	40
	5645B	4500	66
	5645BR	4500	68
	W5617B	1700	66
	W5627B	2700	66
1½	5617B	1700	62
	5627B	2700	63
	5645B	4500	67
	W5617B	1700	62
	W5627B	2700	63
2	5617B	1700	42
	5627B	2700	64
	5645B	4500	67
	W5617B	1700	42
	W5627B	2700	64
2½	5617B	1700	65
	5627B	2700	65
	W5627B	2700	65
3	5617B	1700	65
	W5627B	2700	65

W = Buttweld ends

RESEATING TOOL SELECTOR

Valve fig. no.	Valve size NPS	Tool no.	Cutter no.
5617	½, ¾	50	26
	1	20	20
	1½	52	23
	2	22	29
	2½, 3	54	28
5627	½, ¾	51	26
	1	20	20
	1½	53	27
	2	54	29
	2½, 3	54	28
5645	½, ¾	55	26
	1	55	26
	1½, 2	56	21
5645R	½, ¾, 1	55	20

STANDARD PREPARATION OF VALVE BUTTWELD ENDS*

Nominal pipe size (in)	Pipe schedule	Nominal outside Ø	Inside pipe Ø
½	40	0.840	0.622
	80		0.546
	160		0.464
	XXS		0.252
¾	40	1.050	0.824
	80		0.742
	160		0.612
	XXS		0.434
1	40	1.315	1.049
	80		0.957
	160		0.815
	XXS		0.599
1½	40	1.900	1.610
	80		1.500
	160		1.383
	XXS		1.100
2	40	2.375	2.067
	80		1.939
	160		1.687
	XXS		1.503
2½	40	2.875	2.469
	80		2.323
	160		2.125
	XXS		1.771
3	40	3.500	3.068
	80		2.900
	160		2.624
	XXS		2.300

*Conforming to the requirements of ASME B16.25
NOTE:
Different standards for buttweld ends connections, available upon request.

QUICK RENEWABILITY IN LINE

Without cutting the valve body out of the line, the stem/disc/packing assembly can be jacked out in minutes for inspection or replacement of the packing rings. With body still in place, the Welbond reseating tool can be mounted through the yoke, for the establishment of wholly new seating surfaces. Normally, the reconditioned and reassembled valve can be back in service in less than an hour without cleaning, welding, radiography, and other operations associated with the maintenance of conventional valves.

The reseating tool comprises a shaft with a removable tungsten carbide cutting head on one end and a handwheel on the other end. These components plus a key for removing the head are supplied as a kit. Complete lists of tools for all valves can be found on these pages. After removing the weld that secures the yoke bushing, the bushing is unscrewed and the stem is backed out. Then the tool is inserted into the valve body and slowly fed into contact with the seat by means of a threaded-feed screw that engages the yoke threads. With the cutting head against the valve seat, a locknut is tightened to prevent too deep a bite into the Stellite seat material. When the wheel turns freely, the locknut is readjusted to permit a new cut. After five or six turns, an entirely new seat has been machined. The tool cuts both inclined portion and throat of seat to give a completely new line-contact seal.

WELDING OF WELBOND VALVES

Since the welding procedure is dependent upon various codes established by users, contractors and government rules, qualification to the specific code involved should be followed during valve installation.

The valve should be full closed during welding. Installation welds made in accordance with ASME Section I and ANSI B31.1 are exempt from post-weld heat treatment as long as the preheat and exemptions of these codes are followed.

Reseating tool is lowered into valve body after removal of yoke bushing and valve stem.

New stem/disc assembly is lowered into valve body after completion of reseating cuts.

After tool locknut has been tightened against yoke face, to prevent too deep a bite into seat material, seat can be reconditioned by means of a series of five or six slow cuts.

YARWAY HIGH PRESSURE GLOBE VALVE
WELBOND MODEL 5600

HOW TO SELECT

As shown in temperature-pressure rating tables, page 9, Yarway Welbond valves cover a wide range of services including pressures up to 11,250 psi and temperatures as high as 1100°F. When maximum temperature requirements are known, the proper valve (Classes 1700, 2700, 4500) can be determined from the pressure rating tables on page 9.
For example: Class 4500 forged chromemoly F22 steel Welbond valve, designed for temperatures to 1100°F in standard steam service, may be operated at pressures up to 10,160 if temperature does not exceed 850°F. In other services, maximum pressure may be as high as 11,250 at temperatures not exceeding 200°F. Check tables on page 9 for other corresponding limits of Classes 1700, 2700 and 4500 forged Welbonds.

APPLICATIONS

The F5600 Welbond has opened up a new dimension in stop valve maintenance and reliability in these typical applications:
- Waterwall drains
- Superheater drains
- Reheater inlet drains
- Economizer drains
- Constant head chamber shut-off
- Water column and gauge drains and shut-off
- Drum vents
- Reheat spray isolation and water and steam sampling.

INSTALLATION REQUIREMENTS

Yarway Welbond valves conform to all requirements of the ASME Boiler Code. Installation in any position gives proper drainage. The materials listed on pages 5 and 7 make these valves fully suitable for acid wash operations. Adjacent piping should be adequately supported in a manner to keep thrust and moment force at a minimum as covered by ASME B31.1 Power Piping, Chapter II, Design.

HOW TO SPECIFY

Select figure number whenever possible. If not permitted to use name and figure number, describe as follows: valve shall be of seat and disc type straightway pattern with forged (specify material grade) steel body having integral Stellite #6 seat.
Body to be one-piece design with no pressure boundary welds or threads and to have socketweld or buttweld ends. Disc to be of self-aligning design. Working parts to be removable through top of yoke.

HOW TO ORDER

May be ordered simply by giving your sales representative the following details:
- Size
- Figure number and material (ASME SA182 F22 furnished unless otherwise specified)
- Basic pressure rating or class
- Service (see list of applications)
- Maximum operating pressure and temperature

LOCKING DEVICES

Welbond valves for shut-off service on water columns, gauges, and remote level indicators are made in 1" and 1½" sizes with a locking device.
Class 1700 – specify F5617
Class 2700 – specify F5627
Be sure to specify if a lock-closed or lock-open attachment is required. Welbond valves for other services are available with lock-open or lock-closed attachment in all sizes shown on page 6 for Classes 1700, 2700 and 4500.
In ordering, specify which locking device is required.

NUCLEAR CONSTRUCTION

Welbond valves of the threaded-in backseat design, through NPS 2 size, meet all requirements for both “N” and “NPT” approvals for nuclear construction. Seismic analyses and seismic qualification test data are available through NPS 2 sizes.

CHEMICAL PROCESSES

Carbon steel Welbond meets the standards of the Refining Department of the API for use in drilling, refining, chemical and petrochemical applications. The valves perform in H2N2 and liquid NH3 services in various refineries.

YARWAY HIGH PRESSURE GLOBE VALVE
WELBOND MODEL 5600

POWER ACTUATION

Welbond valves can be fitted with electric motor actuators for remote or local automatic push button control. With this addition, valves installed in elevated piping runs, or where an emergency will require rapid, positive, and remote operation, can be quickly controlled. Motor actuated valves are available in the same sizes, materials and pressure classes as manually operated valves. They use standard repair parts, which are interchangeable with manually operated valves of the same size and pressure class.
Motor actuators include position switches, torque switches, and auxiliary switches for audible or visual signals at the panel board.

Dial indication of stem travel is also available. Valve actuators are designed to provide constant seating thrust. This helps ensure drop-tight closure and automatic compensation for valve wear. A handwheel is provided for emergency operation in the event of power failure.
Pneumatic actuators, in both fail-open and fail-closed models, are also available for remote operation of Welbond valves. Manual handwheels, limit switches, solenoid valves and air filter regulators can be provided.

MOTOR OPERATED VALVE DATA

Valve size NPS	Class	Stem thread	Stem rise inches	Stem rise mm	Turns to open	Required torque Ft-lbs	Required torque Nm	Recommended actuators: Biffi model	Biffi Mounting flange	AUMU model	LIMITORQUE actuator	Mounting flange
½, ¾	1700	½-12 ACME	⅝	15.9	7.5	21	28	ICON-010/30-**	F10/FA10	SA 07.6	MX 05	F10/FA10
1	1700	⅝-8 ACME	¾	19.1	6	25	34	ICON-010/90-**	F10/FA10	SA 07.6	MX 05	F10/FA10
1½	1700	¾-8 ACME	1⅜	34.9	11	58	79	ICON-010/90-**	F10/FA10	SA 10.2	MX 10	F10/FA10
2	1700	15/16-6 ACME	1½	38.1	9	109	148	ICON-020/180-**	F14/FA14	SA 14.2	MX 20	F14/FA14
2½, 3	1700	1⅛-5 ACME	2	50.8	10	199	270	ICON-030/360-**	F14/FA14	SA 14.6	MX 20	F14/FA14
½, ¾	2700	½-12 ACME	⅝	15.9	7.5	21	28	ICON-010/30-**	F10/FA10	SA 07.6	MX 05	F10/FA10
1	2700	⅝-8 ACME	¾	19.1	6	36	49	ICON-010/90-**	F10/FA10	SA 07.6	MX 05	F10/FA10
1½	2700	¾-8 ACME	1 5/16	33.3	10.5	75	102	ICON-020/180-**	F14/FA14	SA 14.2	MX 10	F10/FA10
2	2700	1 5/16-6 ACME	1¾	44.5	10.5	166	225	ICON-030/360-**	F14/FA14	SA 14.2	MX 20	F14/FA14
2½, 3	2700	1⅛-5 ACME	2	50.8	10	305	414	ICON-040/720-**	F16/FA16	SA 14.6	MX 40	F14/FA14
½,¾, 1	4500	⅝-8 ACME	1 5/16	23.6	7.5	30	41	ICON-010/90-**	F10/FA10	SA 07.6	MX 05	F10/FA10
1½, 2	4500	¾-8 ACME	1¼	31.8	10	95	129	ICON-020/180-**	F14/FA14	SA 14.2	MX 10	F14/FA14

YARWAY HIGH PRESSURE GLOBE VALVE
WELBOND MODEL 5600

HOW TO CHANGE FROM MANUAL TO MOTOR OPERATED VALVE

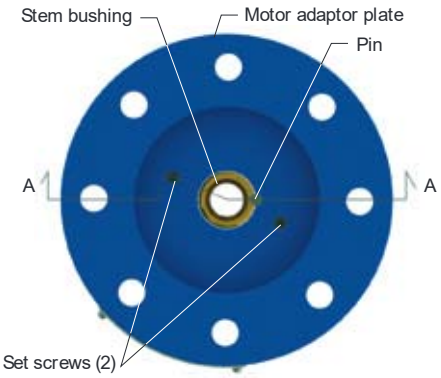
A Welbond valve already installed on field can be quickly changed from manual to motor operated by means of an auto-alignment adaptor plate. Adaptor plates are available for all Welbond sizes from NPS ½ to 3. Please refer to your sales representative for further details.

When ordering an auto alignment mounting plate please specify valve size, class value and actuator type and brand.
1. Loosen the gland nuts.
2. Remove the tack weld from the bushing yoke.
3. Unscrew the yoke bushing.
4. Screw the mounting plate kit.
5. Fit the actuator.

AUTO-ALIGNMENT MOTOR ADAPTOR PLATE TO CONVERT A MANUAL VALVE TO A MOTOR OPERATED VALVE

Valve size NPS	Class	Mounting flange
½ & ¾	1700	F10/FA10
½ & ¾	2700	F10/FA10
½, ¾ & 1	4500	F10/FA10
1	1700/2700	F10/FA10
*1½	1700	F10/FA10
*1½	2700	F10/FA10
1½ & 2	4500	F10/FA10
2	1700	F14/FA14
*2	2700	F14/FA14
*2½ & 3	1700/2700	F14/FA14

NOTES:
* For Biffi actuators, spacer plate between auto-alignment mounting plate and actuator is required. (spacer plate is included, when Biffi actuator is specified)
I Drive nut type depends of the brand and size of actuator.
II Actuators mounting base required:
Biffi - Type A
AUMA - Type 6KT
LIMITORQUE - Type BL (6 Splined)
See actuator's datasheet for technical details.



VIEW A - SIDE ANGLE