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<u>MATERIALS OR STYLE</u>		<u>TYPE</u>	<u>VARIATIONS</u>	<u>SIZE</u>
70	Bronze	1 NPT Female/150 Flange	1 One Size Larger	1 1/4"
71	Bronze with pads	2 Solder & Soc. Weld/150 Flange Full Port	2 Male Retainer	2 3/8"
72	Carbon Steel, High Pressure	3 Union End NPT/Reg.Port Soc.Weld	3 Adjustable Stop Lever	3 1/2"
73	Carbon Steel	4 Union End Solder/Reg.Port Soc.Weld	4 Cu-Ni Ball & Stem	4 3/4"
73A	A105 Carbon Steel	5 Spring Return/High Pressure Full Port NPT	5 SS Sall & Stem	5 1"
74	Nickel	6 3-way, NPT/High Pressure Soc.Weld Full Port	6 Original Balancing Stop- Attach to Lever or T-Handle	6 1 1/4"
75	Pad-Locking Bronze	7 Butt Weld/300 Flange	7 One Size Smaller Female Retainer	7 1 1/2"
76	CF8M Stainless Steel	8 Male x Female, NPT/600 Flange	8 (Not Assigned)	8 2"
76F	CF8M Stainless Steel, Full Port	9 3-way Solder/O-Ring Boss/300 Flange Full Port	9 Pinned Retainer	9 2 1/2"
77	Bronze Full Port			0 3"
77C	Bronze Full Port Economy			A 4"
78	Special Valves			C 6"
79	Refrigerant Valves			E 8"
7A	Chlorine Carbon Steel			G 10"
7K	Bronze Full Port Drain			H 12"
80	Bronze, UL Listed			
81	Bronze UL Listed Plain Ball			
82	Bronze 3-Piece Full Port			
83	CS 3-Piece			
83R	CS 3-Piece, Actuator Ready			
85	SS 3-Piece, Reg.Port			
85R	SS 3-Piece, Reg.Port, Actuator Ready			
86	SS 3-Piece, Full Port			
86R	SS 3-Piece, FullPort, Actuator Ready			
87	CF8M SS Flanged			
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88	Carbon Steel Flanged			
88A	Carbon Steel Flanged			
89	Cast Carbon Steel w/Pads			
9A	Bronze, Hvy.Patt. Unibody			
90	Bronze, Unibody, UL Listed			
91	Bronze, Unibody			
92	Cast Carbon Steel Unibody			
93	CS Unibody			
95	Bronze Stop & Drain			
96	CF8M SS Unibody			
399	Alloy-20 NPT			
401	Alloy-20, 3-Piece, Full Port			

DESIGN

-01	Standard	-46	SS Latch Lock Lever, Lock in Closed Position Only
-02	Stem Grounded	-47	SS Oval Latch Lock Handle, SS Nut
-03	1-1/4" Carbon Steel Ext.Stem	-48	SS Oval Handle, No Latch, SS Nut
-04	2-1/4" Carbon Steel Ext.Stem	-49	Assembled Dry
-05	Plain Ball	-50	2-1/4" CS Locking Stem Extension
-06	2000 lb. 73-100 Series (1-1/4" to 2")	-51	One Tack Weld (I-7362-05-1X)
-07	Steel Tee Handle	-52	Two Tack Weld (I-7362-05-2X)
-08	90 degree reversed stem	-53	Three Tack Weld (I-7362-05-3X)
-09	SS Lever	-54	Four Tack Weld (I-7362-05-4X)
-10	SS Lever & Nut	-56	MultiFill Seats and Packing
-12	Stamp "157 SWP" & Bagged	-57	Oxygen Cleaned (Bronze and SS Only)
-13	Stamp "157 SWP"	-58	Chain Lever, Horizontal
-14	Side Vented Ball (uni-directional)	-59	SS External Trim - 3-pc Valves
-15	Wheel Handle, Steel	-60	Grounded Ball & Stem
-16	Chain Lever, Vertical	-61	Grounded Ball & Stem, Assembled Dry
-17	Rough Chrome Plate - Bronze Valves	-62	Body Centre Section
-21	UHMWPE Trim (non-PTFE)	-63	NPT x Solder/Socket Weld
-22	Viton Union Seals	-64	250 lb. Steam Trim
-23	Tank Flange (2" 3-pc valves only)	-65	MultiFill Seats & Graphite Packing
-24	Graphite Packing	-66	FNPT x Butt Weld
-25	Graphite Packing, Vented Ball & Tack Welded Ret.	-68	4" Stem Extension (3" & 4" 3-pc. 82 Series
-26	Chevron Pkg Vent Assd.Dry Monel Trim (7A)	-69	Purge Ports Drilled/Tapped @ Bottom & approx. 45" from Top
-27	SS Latch Lock Lever & Nut	-70	4" Extended Bonnet
-28	Actuator Mounting Pad Not Drilled/Tapped	-72	RTFE Packing
-29	Graphite Packing & Seals	-73	TFE Packing - Spiral Wound Body Seals - TFE Fillers - Flange BV
-30	Cam-Lock and Grounded Stem	-74	Graphite Packing - Spiral Wound Body Seals - Graphoil Fillers - Flange BV
-31	7B Series w/Boss not Drilled/Tapped	-75	MPTEF Seats, PTFE Packing, RPTFE Gaskets
-32	SS Hi-Rise Tee Handle & Nut	-76	Live Loaded 87A/88A Series (Lever)
-33	76-300 Series w/Pad Drilled/Tapped	-77	Live Loaded 87A/88A Series (Gear & Actuated)
-34	Nylatron Seats (96 Series)	-78	Delrin Seats
-35	VTFE Trim	-79	Nylon Seats/Graphite Packing 72 Series
-36	SS HiRise Round Handle, SS Nut	-80	Multi-Seal (Super TFE) 87A/88A Series
-38	Peek Seats & Bearing (Graphite packing & seals)	-97	Grnd.Whl.Handle, Pinned or Tack Welded
-39	SS Hi-Rise Locking Wheel Handle, SS Nut	-98	Grnd.Whl. Pinned or Tack Welded & 1-1/4" Stem Ext.
-40	Cyl-loc and Grounded Stem	-SW	Limit Switch Mounted
-41	Auto.Drain (Bronze Valves Only)	-MG	Gear Operated, Std. Hand Wheel
-42	Non-Vented Ball, No Holes in Slot (CS and SS)	-MH	Gear Operated, Std. Hand Wheel, Lockout Device
-43	Cyl-Loc, Grnd B&S, 680 LocTite or 2-Tack Welds	-MJ	Gear Operated, Oversize Hand Wheel
-44	Seal Weld 76-100 & 89-100	-MK	Gear Operated, Oversize Hand Wheel, Lockout Device
-45	Less Lever & Nut	-P01	BSPP (Parallel) Thread Connection
		-BC	Ball Check
		T01	BSPT (Tapered) Thread Connection

Apollo® 82-100 Series

Bronze 3-Piece Full Port Ball Valve

Threaded, 600 psig WOG, Cold Non-Shock. 150 psig Saturated Steam.

Vacuum Service to 29 inches Hg.

Federal Specification: WW-V-35C, Type: II, Composition: BZ, Style: 1.

FEATURES

- Full port configuration
- RPTFE seats and seals
- In-line repairable
- Blow-out-proof stem design
- Adjustable packing gland

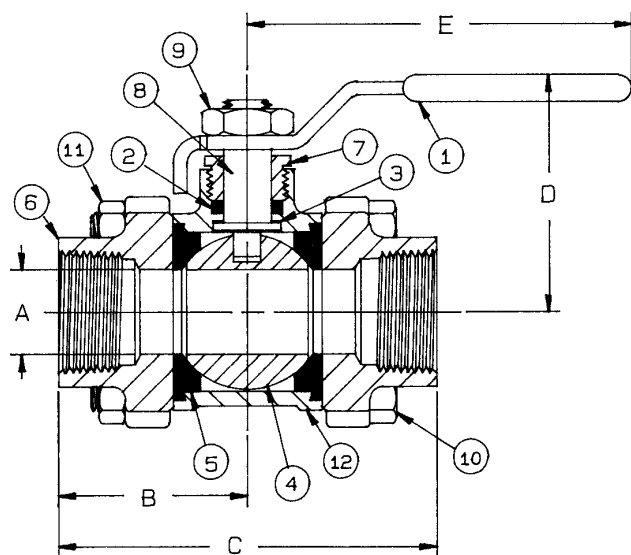
STANDARD MATERIAL LIST

1. Lever and grip	Steel, zinc plated w/vinyl	10. Body bolt	Steel, zinc plated
2. Stem packing	RPTFE	11. Hex nut	Steel, zinc plated
3. Stem bearing	RPTFE	12. Body	B584-C84400
4. Ball	B16, chrome plated (except 3" & 4")		
5. Seat (2)	RPTFE		
6. End cap (2)	B16 (1/4" to 3/8")		
	B584-C84400 (1/2" to 4")		
7. Gland nut	B16		
8. Stem	B16 (except 3" & 4")		
9. Lever nut	Steel, zinc plated		

VARIATIONS AVAILABLE:

82-140 Series (316 SS Ball & Stem)

82-150 Series (Original Balancing Stop)



BRONZE 3-PIECE FULL PORT BALL VALVE

NUMBER	SIZE	A	B	C	D	E	Wt.
82-101-01	1/4"	.43	1.28	2.56	1.81	3.87	1.02
82-102-01	3/8"	.50	1.28	2.56	1.81	3.87	1.04
82-103-01	1/2"	.62	1.40	2.81	1.93	4.87	1.55
82-104-01	3/4"	.81	1.71	3.43	2.18	4.87	2.27
82-105-01	1"	1.00	1.93	3.87	2.62	5.50	3.28
82-106-01	1-1/4"	1.25	2.37	4.75	2.87	5.50	5.62
82-107-01	1-1/2"	1.50	2.62	5.25	3.37	8.00	8.07
82-108-01	2"	2.00	3.01	6.03	3.68	8.00	14.42
82-109-01	2-1/2"	2.50	3.62	7.25	5.14	9.75	26.61
82-140-01	3"	3.00	4.00	8.00	6.77	18.00	42.24
82-14A-01	4"	4.00	5.50	11.00	8.26	18.00	88.40

OPTIONS AVAILABLE:

(SUFFIX)	OPTION	SIZES
-02-	Static Grounded	1/4" to 4"
-03-	1-1/4" Stem Extension	1/4" to 2"
-04-	2-1/4" Stem Extension	1/4" to 2"
-05-	Plain Ball	1/4" to 4"
-07-	Tee Handle	1/4" to 2"
-08-	90° Reversed Stem	1/4" to 4"
-10-	SS Lever & Nut	1/4" to 4"
-14-	Vented Ball (see page J-2)	1/4" to 4"
-15-	Round Handle	1/4" to 2"
-16-	Vertical Chain Lever	1/2" to 2"
-18-	Plain Yellow Grip	1/4" to 2"
-19-	Lock Plate	1/4" to 4"
-20-	Slot Vented Ball	1/4" to 4"
-21-	UHMWPE Seats	1/4" to 4"
-23-	Tank Flange	2" ONLY
-24-	Graphite Stem Packing	1/4" to 4"
-27-	Latch Lock Lever	1/2" to 2"
-30-	CamLock Handle	1/4" to 1-1/4"
-32-	SS Tee Handle & Nut	1/4" to 2"
-35-	PTFE Trim	1/4" to 4"
-45-	Less Lever & Nut	1/4" to 4"
-46-	Latch Lock Lever - Lock Close Only	1/2" to 2"
-48-	SS Oval Handle	1/4" to 2"
-49-	Assembled Dry	1/4" to 4"
-50-	2-1/4" Locking Stem Extension	1/4" to 2"
-57-	Cleaned for Gaseous Oxygen	1/4" to 4"
-58-	Horizontal Chain Lever	1/2" to 2"
-59-	SS Body Trim	1/4" to 4"
-60-	Static Grounded Ball & Stem	1/4" to 4"
-63-	Threaded x Solder	3/8" to 4"
-P01-	BSPP (Parallel) Thread Connection	1/4" to 4"
-T01-	BSPT (Tapered) Thread Connection	1/4" to 4"

**For Pressure/Temperature Ratings,
Refer to Page N-10, Graph No. 4**

Apollo® 82-200 Series

Bronze 3-Piece Full Port Solder End Ball Valve

Solder End, 600 psig WOG, Cold Non-Shock. 150 psig Saturated Steam.
 Vacuum Service to 29 inches Hg.
 Federal Specification: WW-V-35B, Type: II, Composition: BZ, Style: 1.
 Designed For Soft Solder or Brazed Installation.

FEATURES

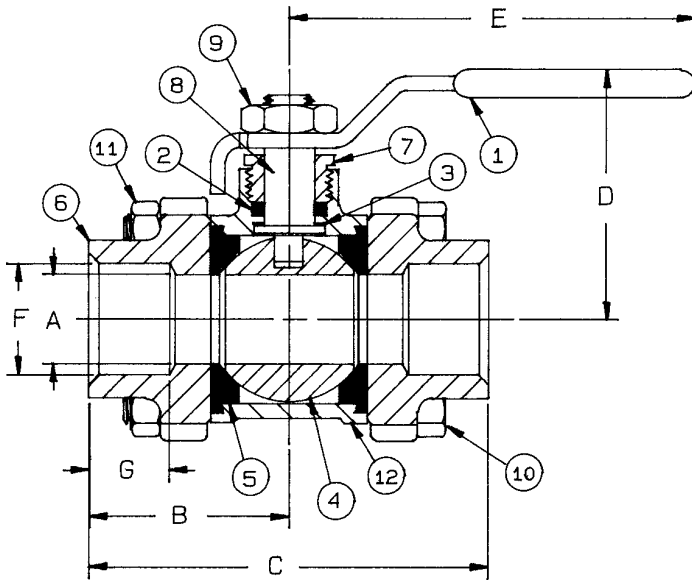
- Full port configuration
- RPTFE seats and seals
- In-line repairable
- Blow-out-proof stem design
- Adjustable packing gland

STANDARD MATERIAL LIST

1. Lever and grip	Steel, zinc plated w/vinyl	10. Body bolt	Steel, zinc plated
2. Stem packing	RPTFE	11. Hex nut	Steel, zinc plated
3. Stem bearing	RPTFE	12. Body	B584-C84400
4. Ball	B16, chrome plated (except 3" & 4")		
5. Seat (2)	RPTFE		
6. End cap (2)	B16 (3/8")		
	B584-C84400 (1/2" to 4")		
7. Gland nut	B16		
8. Stem	B16 (except 3" & 4")		
9. Lever nut	Steel, zinc plated		

VARIATIONS AVAILABLE:

82-240 Series (316 SS Ball & Stem)



OPTIONS AVAILABLE:

(SUFFIX)	OPTION	SIZES
-02-	Static Grounded	3/8" to 4"
-03-	1-1/4" Stem Extension	3/8" to 2"
-04-	2-1/4" Stem Extension	3/8" to 2"
-05-	Plain Ball	3/8" to 4"
-07-	Tee Handle	3/8" to 2"
-08-	90° Reversed Stem	3/8" to 4"
-10-	SS Lever & Nut	3/8" to 4"
-14-	Vented Ball (see page J-2)	3/8" to 4"
-15-	Round Handle	3/8" to 2"
-16-	Vertical Chain Lever	1/2" to 2"
-18-	Plain Yellow Grip	3/8" to 2"
-19-	Lock Plate	3/8" to 4"
-20-	Slot Vented Ball	3/8" to 4"
-21-	UHMWPE Seats	3/8" to 4"
-23-	Tank Flange	2" ONLY
-24-	Graphite Stem Packing	3/8" to 4"
-27-	Latch Lock Lever	1/2" to 2"
-30-	CamLock Handle	3/8" to 1-1/4"
-32-	SS Tee Handle & Nut	3/8" to 2"
-35-	PTFE Trim	3/8" to 4"
-45-	Less Lever & Nut	3/8" to 4"
-46-	Latch Lock Lever - Lock Close Only	1/2" to 2"
-48-	SS Oval Handle	1/4" to 2"
-49-	Assembled Dry	3/8" to 4"
-50-	2-1/4" Locking Stem Extension	3/8" to 2"
-57-	Cleaned for Gaseous Oxygen	3/8" to 4"
-58-	Horizontal Chain Lever	1/2" to 2"
-59-	SS Body Trim	3/8" to 4"
-60-	Static Grounded Ball & Stem	3/8" to 4"

BRONZE 3-PIECE FULL PORT BALL VALVE

NUMBER	SIZE	A	B	C	D	E	F	G	Wt.
82-202-01	3/8"	.50	1.28	2.56	1.81	3.87	.505	.37	.99
82-203-01	1/2"	.62	1.40	2.81	1.93	4.87	.630	.50	1.46
82-204-01	3/4"	.81	1.71	3.43	2.18	4.87	.880	.75	2.07
82-205-01	1"	1.00	1.93	3.87	2.62	5.50	1.130	.90	3.03
82-206-01	1-1/4"	1.25	2.37	4.75	2.87	5.50	1.380	.96	5.02
82-207-01	1-1/2"	1.50	2.60	5.25	3.37	8.00	1.630	1.09	7.91
82-208-01	2"	2.00	3.01	6.03	3.68	8.00	2.130	1.34	13.50
82-209-01	2-1/2"	2.50	3.62	7.25	5.14	9.38	2.630	1.47	26.61
82-240-01	3"	3.00	4.00	8.00	6.77	18.00	3.130	1.66	42.24
82-24A-01	4"	4.00	5.50	11.00	8.26	18.00	4.130	2.16	88.40

**For Pressure/Temperature Ratings,
 Refer to Page N-10, Graph No. 4**

NEW FOR
2000

Apollo® 83R-100 Series

Carbon Steel 3-Piece Full Port Ball Valve With Actuator Ready ISO Mounting Pad

Full Port Threaded, 1000 psig WOG, Cold Non-Shock. 150 psig Saturated Steam.
Vacuum Service to 29 inches Hg.
Federal Specification: WW-V-35C, Type: II, Composition: CS, Style: 1.

FEATURES

- Multi-piece packing set
- ISO 5211 mounting pad
- Blow-out-proof stem design
- In-line repairable
- Adjustable packing gland
- Investment cast components
- RPTFE seats and seals
- Full port configuration

STANDARD MATERIAL LIST

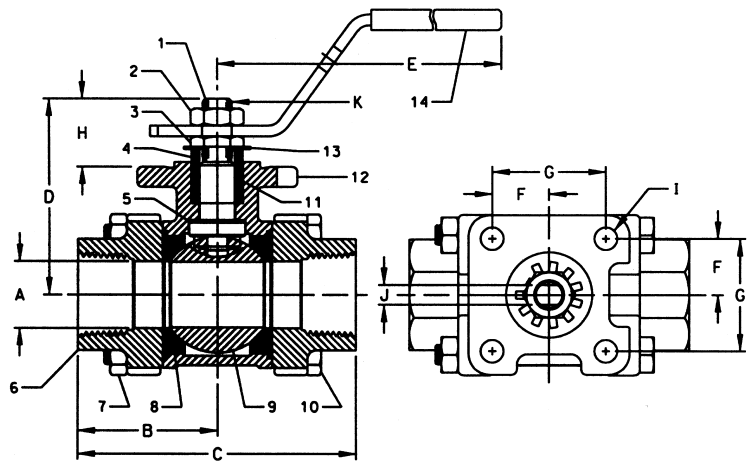
1. Stem	A108-CS	7. Hex nut (4)	Stl-gr. 8-zinc plt
2. Jam nut	Steel, zinc plate	8. Seat (2)	RPTFE
3. Low profile nut	316 SS	9. Ball	A108-CS chrome plate
4. Gland	A108-CS	10. Body bolt (4)	Stl-gr. 8-zinc plt
5. Stem bearing	RPTFE	11. Stem packing	MPTFE
6. End cap (2)	A108-CS (1/4" to 1") A216-WCB (1-1/4" to 2")	12. Body	ASTM A216-WCB
		13. Lock tab washer	304 SS
		14. Lever and grip	Stl-zinc plt-w/vinyl

VARIATIONS AVAILABLE:

- 83R-140 Series (316 SS Ball & Stem)
- Meets NACE MR-01-75 (1-1/4" to 2")

OPTIONS AVAILABLE:

(SUFFIX)	OPTION	SIZES
-02-	Static Grounded	1/4" to 2"
-03-	1-1/4" Stem Extension	1/4" to 2"
-04-	2-1/4" Stem Extension	1/4" to 2"
-08-	90° Reversed Stem	1/4" to 2"
-10-	SS Lever & Nut	1/4" to 2"
-14-	Vented Ball	1/4" to 2"
-18-	Plain Yellow Grip	1/4" to 2"
-21-	UHMWPE Seats (Non-PTFE)	1/4" to 2"
-24-	Graphite Stem Packing	1/4" to 2"
-27-	Latch Lock Lever	1/4" to 2"
-35-	PTFE Trim	1/4" to 2"
-39-	SS Latch Lock Round Handle	1/4" to 2"
-59-	SS Body Trim	1/4" to 2"
-60-	Static Grounded Ball & Stem	1/4" to 2"
-63-	Threaded x Socket Weld	1/4" to 2"
-P01-	BSPP (Parallel) Thread Connection	1/4" to 2"
-T01-	BSPT (Tapered) Thread Connection	1/4" to 2"
-AR-	Less Handle & Stop-Add Belleville Washers	1/4" to 2"
-WB-	With Lever & Belleville Washers	1/4" to 2"



**For Pressure/Temperature Ratings,
Refer to Page N-12, Graph No. 7**

CARBON STEEL 3-PIECE FULL PORT BALL VALVE WITH ISO MOUNTING PAD

NUMBER	SIZE	A	B	C	D	E	F	G	H	I	J (FLATS)	K (THRDS.) UNF	L	M
83R-101-01	1/4"	.62	1.40	2.81	2.05	4.18	.59	1.17	.61	.28	.247/.249	3/8-24	.565	.50
83R-102-01	3/8"	.62	1.40	2.81	2.05	4.18	.59	1.17	.61	.28	.247/.249	3/8-24	.700	.56
83R-103-01	1/2"	.62	1.40	2.81	2.05	4.18	.59	1.17	.61	.28	.247/.249	3/8-24	.855	.43
83R-104-01	3/4"	.81	1.71	3.42	2.42	4.93	.70	1.39	.84	.28	.247/.249	3/8-24	1.065	.56
83R-105-01	1"	1.00	1.92	3.85	2.54	4.93	.70	1.39	.84	.28	.247/.249	3/8-24	1.330	.68
83R-106-01	1-1/4"	1.25	2.35	4.70	3.16	8.06	.98	1.95	1.16	.34	.370/.372	5/8-18	1.675	.81
83R-107-01	1-1/2"	1.50	2.59	5.18	3.49	8.06	.98	1.95	1.16	.34	.370/.372	5/8-18	1.915	.87
83R-108-01	2"	2.00	3.01	6.03	3.95	8.06	.98	1.95	1.16	.34	.370/.372	5/8-18	2.405	1.05

NEW FOR
2000

Apollo® 83R-200 Series

Carbon Steel 3-Piece Full Port Socket Weld Ball Valve With Actuator Ready ISO Mounting Pad

Socket Weld, 1000 psig WOG, Cold Non-Shock. 150 psig Saturated Steam.
Vacuum Service to 29 inches Hg.
Federal Specification: WW-V-35C, Type: II, Composition: CS, Style: 1.

FEATURES

- Multi-piece packing set
- ISO 5211 mounting pad
- Blow-out-proof stem design
- In-line repairable
- Adjustable packing gland
- Investment cast components
- RPTFE seats and seals
- Full port configuration

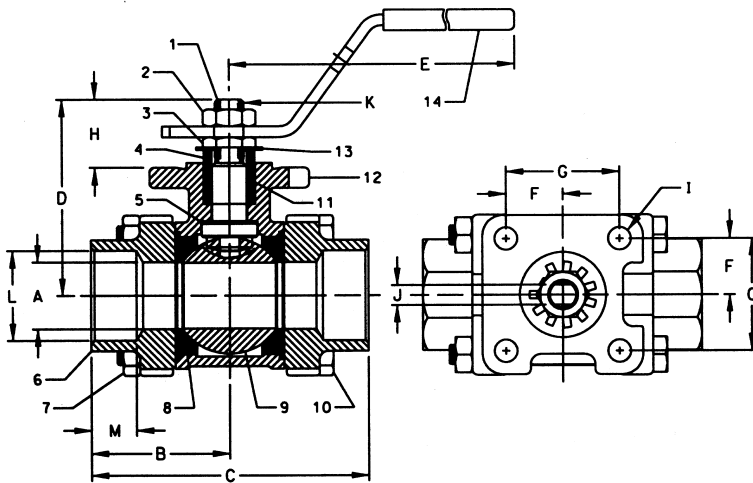
STANDARD MATERIAL LIST

1. Stem	A108-CS	7. Hex nut (4)	Stl-gr. 8-zinc plt
2. Jam nut	Steel, zinc plate	8. Seat (2)	RPTFE
3. Low profile nut	316 SS	9. Ball	A108-CS chrome plate
4. Gland	A108-CS	10. Body bolt (4)	Stl-gr. 8-zinc plt
5. Stem bearing	RPTFE	11. Stem packing	MPTFE
6. End cap (2)	A108-CS (1/4" to 1")	12. Body	ASTM A216-WCB
	A216-WCB (1-1/4" to 2")	13. Lock tab washer	304 SS
		14. Lever and grip	Stl-zinc plt-w/vinyl

VARIATIONS AVAILABLE:

- 83R-240 Series (316 SS Ball & Stem)
- Meets NACE MR-01-75 (1-1/4" to 2")

OPTIONS AVAILABLE:



(SUFFIX)	OPTION	SIZES
-02-	Static Grounded	1/4" to 2"
-03-	1-1/4" Stem Extension	1/4" to 2"
-04-	2-1/4" Stem Extension	1/4" to 2"
-08-	90° Reversed Stem	1/4" to 2"
-10-	SS Lever & Nut	1/4" to 2"
-14-	Vented Ball	1/4" to 2"
-18-	Plain Yellow Grip	1/4" to 2"
-21-	UHMWPE Seats (Non-PTFE)	1/4" to 2"
-24-	Graphite Stem Packing	1/4" to 2"
-27-	Latch Lock Lever	1/4" to 2"
-35-	PTFE Trim	1/4" to 2"
-39-	SS Latch Lock Round Handle	1/4" to 2"
-59-	SS Body Trim	1/4" to 2"
-60-	Static Grounded Ball & Stem	1/4" to 2"
-63-	Threaded x Socket Weld	1/4" to 2"
-P01-	BSPP (Parallel) Thread Connection	1/4" to 2"
-T01-	BSPT (Tapered) Thread Connection	1/4" to 2"
-AR-	Less Handle & Stop-Add Belleville Washers	1/4" to 2"
-WB-	With Lever & Belleville Washers	1/4" to 2"

**For Pressure/Temperature Ratings,
Refer to Page N-12, Graph No. 7**

CARBON STEEL 3-PIECE FULL PORT SOCKET WELD BALL VALVE WITH ISO MOUNTING PAD

NUMBER	SIZE	A	B	C	D	E	F	G	H	I	J (FLATS)	K (THRDS.) UNF	L	M
83R-201-01	1/4"	.62	1.40	2.81	2.05	4.18	.59	1.17	.61	.28	.247/.249	3/8-24	.565	.50
83R-202-01	3/8"	.62	1.40	2.81	2.05	4.18	.59	1.17	.61	.28	.247/.249	3/8-24	.700	.56
83R-203-01	1/2"	.62	1.40	2.81	2.05	4.18	.59	1.17	.61	.28	.247/.249	3/8-24	.855	.43
83R-204-01	3/4"	.81	1.71	3.42	2.42	4.93	.70	1.39	.84	.28	.247/.249	3/8-24	1.065	.56
83R-205-01	1"	1.00	1.92	3.85	2.54	4.93	.70	1.39	.84	.28	.247/.249	3/8-24	1.330	.68
83R-206-01	1-1/4"	1.25	2.35	4.70	3.16	8.06	.98	1.95	1.16	.34	.370/.372	5/8-18	1.675	.81
83R-207-01	1-1/2"	1.50	2.59	5.18	3.49	8.06	.98	1.95	1.16	.34	.370/.372	5/8-18	1.915	.87
83R-208-01	2"	2.00	3.01	6.03	3.95	8.06	.98	1.95	1.16	.34	.370/.372	5/8-18	2.405	1.05

NEW FOR
2000

Apollo® 83R-700 Series

Carbon Steel 3-Piece Full Port Butt-Weld Ball Valve With Actuator Ready ISO Mounting Pad

Schedule 40 Butt-Weld Ends, 1000 psig WOG, Cold Non-Shock. 150 psig Saturated Steam.
Vacuum Service to 29 inches Hg.
Federal Specification: WW-V-35C, Type: II, Composition: CS, Style: 1.

FEATURES

- Multi-piece packing set
- ISO 5211 mounting pad
- Blow-out-proof stem design
- In-line repairable
- Adjustable packing gland
- Investment cast components
- RPTFE seats and seals
- Full port configuration

STANDARD MATERIAL LIST

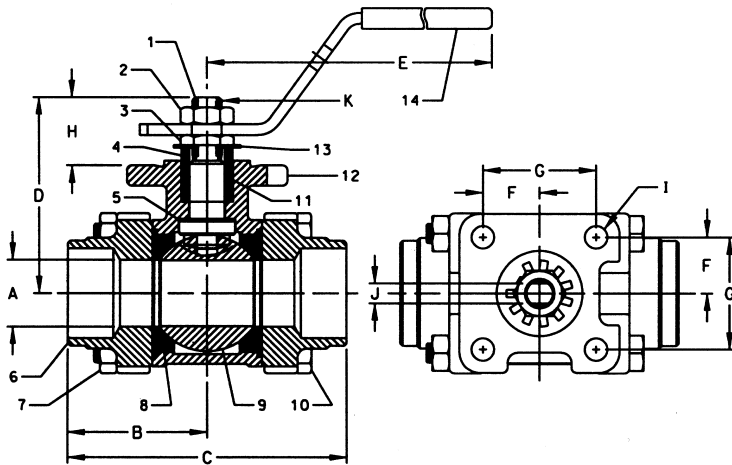
1. Stem	A108-CS	7. Hex nut (4)	Stl-gr. 8-zinc plt
2. Jam nut	Steel, zinc plate	8. Seat (2)	RPTFE
3. Low profile nut	316 SS	9. Ball	A108-CS chrome plate
4. Gland	A108-CS	10. Body bolt (4)	Stl-gr. 8-zinc plt
5. Stem bearing	RPTFE	11. Stem packing	MPTFE
6. End cap (2)	A108-CS (1/2" to 1")	12. Body	ASTM A216-WCB
	A216-WCB (1-1/4" to 2")	13. Lock tab washer	304 SS
		14. Lever and grip	Stl-zinc plt-w/vinyl

VARIATIONS AVAILABLE:

- 83R-740 Series (316 SS Ball & Stem)
- Meets NACE MR-01-75 (1-1/4" to 2")

OPTIONS AVAILABLE:

(SUFFIX)	OPTION	SIZES
-02-	Static Grounded	1/2" to 2"
-03-	1-1/4" Stem Extension	1/2" to 2"
-04-	2-1/4" Stem Extension	1/2" to 2"
-08-	90° Reversed Stem	1/2" to 2"
-10-	SS Lever & Nut	1/2" to 2"
-14-	Vented Ball	1/2" to 2"
-18-	Plain Yellow Grip	1/2" to 2"
-21-	UHMWPE Seats (Non-PTFE)	1/2" to 2"
-24-	Graphite Stem Packing	1/2" to 2"
-27-	Latch Lock Lever	1/2" to 2"
-35-	PTFE Trim	1/2" to 2"
-39-	SS Latch Lock Round Handle	1/2" to 2"
-59-	SS Body Trim	1/2" to 2"
-60-	Static Grounded Ball & Stem	1/2" to 2"
-63-	Threaded x Socket Weld	1/2" to 2"
-P01-	BSPP (Parallel) Thread Connection	1/2" to 2"
-T01-	BSPT (Tapered) Thread Connection	1/2" to 2"
-AR-	Less Handle & Stop-Add Belleville Washers	1/2" to 2"
-WB-	With Lever & Belleville Washers	1/2" to 2"



**For Pressure/Temperature Ratings,
Refer to Page N-12, Graph No. 7**

CARBON STEEL 3-PIECE FULL PORT BUTT-WELD BALL VALVE WITH ISO MOUNTING PAD

NUMBER	SIZE	A	B	C	D	E	F	G	H	I	J (FLATS)	K (THRDS.) UNF
83R-703-01	1/2"	.62	1.40	2.81	2.05	4.18	.59	1.17	.61	.28	.247/.249	3/8-24
83R-704-01	3/4"	.81	1.71	3.42	2.42	4.93	.70	1.39	.84	.28	.247/.249	3/8-24
83R-705-01	1"	1.00	1.92	3.85	2.54	4.93	.70	1.39	.84	.28	.247/.249	3/8-24
83R-706-01	1-1/4"	1.25	2.35	4.70	3.16	8.06	.98	1.95	1.16	.34	.370/.372	5/8-18
83R-707-01	1-1/2"	1.50	2.59	5.18	3.49	8.06	.98	1.95	1.16	.34	.370/.372	5/8-18
83R-708-01	2"	2.00	3.01	6.03	3.95	8.06	.98	1.95	1.16	.34	.370/.372	5/8-18

NEW FOR
2000

Apollo® 85R-100 Series

Stainless Steel 3-Piece Ball Valve With Actuator Ready ISO Mounting Pad

Std. Port Threaded, 1000 psig WOG, Cold Non-Shock. 150 psig Saturated Steam.
Vacuum Service to 29 inches Hg.
Federal Specification: WW-V-35C, Type: II, Composition: SS, Style: 1.

FEATURES

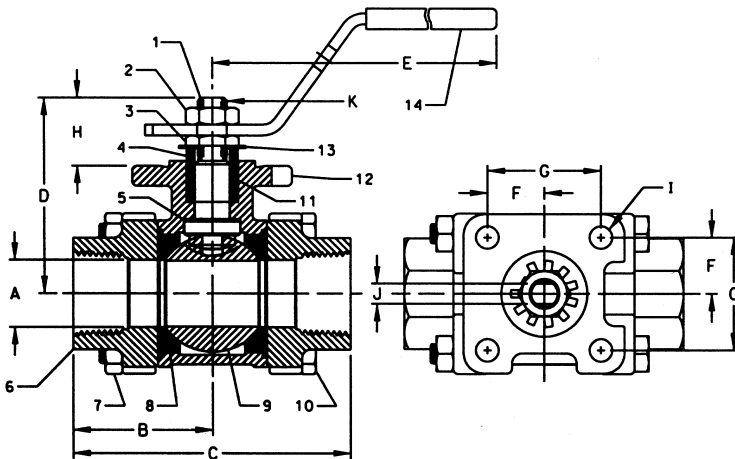
- Multi-piece packing set
- ISO 5211 mounting pad
- Blow-out-proof stem design
- In-line repairable
- Adjustable packing gland
- Investment cast components
- RPTFE seats and seals
- Full port configuration
- Meets NACE MR01-75

STANDARD MATERIAL LIST

1. Stem	A276-316	8. Seat (2)	RPTFE
2. Jam nut	SS	9. Ball	316 SS
3. Low profile nut	316 SS	10. Body bolt (4)	18-8 SS
4. Gland	A276-316	11. Stem packing	MPTFE
5. Stem bearing	RPTFE	12. Body	ASTM A351-CF8M
6. End cap (2)	ASTM A351-CF8M	13. Lock tab washer	304 SS
7. Hex nut (4)	18-8 SS	14. Lever and grip	304 SS w/vinyl

OPTIONS AVAILABLE:

(SUFFIX)	OPTION	SIZES
-02-	Static Grounded	3/4" to 2"
-03-	1-1/4" Stem Extension	3/4" to 2"
-04-	2-1/4" Stem Extension	3/4" to 2"
-08-	90° Reversed Stem	3/4" to 2"
-14-	Vented Ball	3/4" to 2"
-18-	Plain Yellow Grip	3/4" to 2"
-21-	UHMWPE Seats (Non-PTFE)	3/4" to 2"
-24-	Graphite Stem Packing	3/4" to 2"
-27-	Latch Lock Lever	3/4" to 2"
-35-	PTFE Trim	3/4" to 2"
-39-	SS Latch Lock Round Handle	3/4" to 2"
-49-	Assembled Dry	3/4" to 2"
-57-	Cleaned For Gaseous Oxygen	3/4" to 2"
-60-	Static Grounded Ball & Stem	3/4" to 2"
-63-	Threaded x Socket Weld	3/4" to 2"
-P01-	BSPP (Parallel) Thread Connection	3/4" to 2"
-T01-	BSPT (Tapered) Thread Connection	3/4" to 2"
-AR-	Less Handle & Stop-Add Belleville Washers	3/4" to 2"
-WB-	With Lever & Belleville Washers	3/4" to 2"



**For Pressure/Temperature Ratings,
Refer to Page N-12, Graph No. 8**

STAINLESS STEEL 3-PIECE STANDARD PORT
BALL VALVE WITH ISO MOUNTING PAD

NUMBER	SIZE	A	B	C	D	E	F	G	H	I	J (FLATS)	K (THRDS.) UNF
85R-104-01	3/4"	.62	1.40	2.81	2.05	4.18	.59	1.17	.61	.28	.247/.249	3/8-24
85R-105-01	1"	.81	1.71	3.42	2.42	4.93	.70	1.39	.84	.28	.247/.249	3/8-24
85R-106-01	1-1/4"	1.00	1.92	3.85	2.54	4.93	.70	1.39	.84	.28	.247/.249	3/8-24
85R-107-01	1-1/2"	1.25	2.35	4.70	3.16	8.06	.98	1.95	1.16	.34	.370/.372	5/8-18
85R-108-01	2"	1.50	2.59	5.18	3.49	8.06	.98	1.95	1.16	.34	.370/.372	5/8-18

NEW FOR
2000

Apollo® 85R-200 Series

Stainless Steel 3-Piece Standard Port Socket Weld Ball Valve With Actuator Ready ISO Mounting Pad

Socket Weld, 1000 psig WOG, Cold Non-Shock. 150 psig Saturated Steam.
Vacuum Service to 29 inches Hg.
Federal Specification: WW-V-35C, Type: II, Composition: SS, Style: 1.

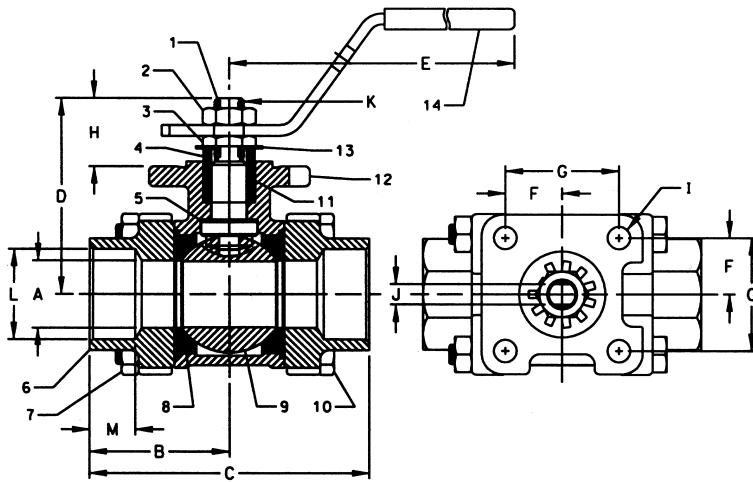
FEATURES

- Multi-piece packing set
- ISO 5211 mounting pad
- Blow-out-proof stem design
- In-line repairable
- Adjustable packing gland
- Investment cast components
- RPTFE seats and seals
- Standard port configuration
- Meets NACE MR01-75

STANDARD MATERIAL LIST

1. Stem	A276-316	8. Seat (2)	RPTFE
2. Jam nut	SS	9. Ball	316 SS
3. Low profile nut	316 SS	10. Body bolt (4)	18-8 SS
4. Gland	A276-316	11. Stem packing	MPTFE
5. Stem bearing	RPTFE	12. Body	ASTM A351-CF8M
6. End cap (2)	ASTM A351-CF8M	13. Lock tab washer	304 SS
7. Hex nut (4)	18-8 SS	14. Lever and grip	304 SS w/vinyl

OPTIONS AVAILABLE:



(SUFFIX)	OPTION	SIZES
-02-	Static Grounded	3/4" to 2"
-03-	1-1/4" Stem Extension	3/4" to 2"
-04-	2-1/4" Stem Extension	3/4" to 2"
-08-	90° Reversed Stem	3/4" to 2"
-14-	Vented Ball	3/4" to 2"
-18-	Plain Yellow Grip	3/4" to 2"
-21-	UHMWPE Seats (Non-PTFE)	3/4" to 2"
-24-	Graphite Stem Packing	3/4" to 2"
-27-	Latch Lock Lever	3/4" to 2"
-35-	PTFE Trim	3/4" to 2"
-39-	SS Latch Lock Round Handle	3/4" to 2"
-49-	Assembled Dry	3/4" to 2"
-57-	Cleaned For Gaseous Oxygen	3/4" to 2"
-60-	Static Grounded Ball & Stem	3/4" to 2"
-63-	Threaded x Socket Weld	3/4" to 2"
-P01-	BSPP (Parallel) Thread Connection	3/4" to 2"
-T01-	BSPT (Tapered) Thread Connection	3/4" to 2"
-AR-	Less Handle & Stop-Add Belleville Washers	3/4" to 2"
-WB-	With Lever & Belleville Washers	3/4" to 2"

**For Pressure/Temperature Ratings,
Refer to Page N-12, Graph No. 8**

STAINLESS STEEL 3-PIECE STANDARD PORT SOCKET WELD BALL VALVE WITH ISO MOUNTING PAD

NUMBER	SIZE	A	B	C	D	E	F	G	H	I	J (FLATS)	K (THRDS.) UNF	L	M
85R-204-01	3/4"	.62	1.40	2.81	2.05	4.18	.59	1.17	.61	.28	.247/.249	3/8-24	1.065	.56
85R-205-01	1"	.81	1.71	3.42	2.42	4.93	.70	1.39	.84	.28	.247/.249	3/8-24	1.330	.68
85R-206-01	1-1/4"	1.00	1.92	3.85	2.54	4.93	.70	1.39	.84	.28	.247/.249	3/8-24	1.675	.81
85R-207-01	1-1/2"	1.25	2.35	4.70	3.16	8.06	.98	1.95	1.16	.34	.370/.372	5/8-18	1.915	.87
85R-208-01	2"	1.50	2.59	5.18	3.49	8.06	.98	1.95	1.16	.34	.370/.372	5/8-18	2.406	1.06

NEW FOR
2000

Apollo® 86R-100 Series

Stainless Steel 3-Piece Full Port Ball Valve With Actuator Ready ISO Mounting Pad

Full Port Threaded, 1000 psig WOG, Cold Non-Shock. 150 psig Saturated Steam.
Vacuum Service to 29 inches Hg.
Federal Specification: WW-V-35C, Type: II, Composition: SS, Style: 1.

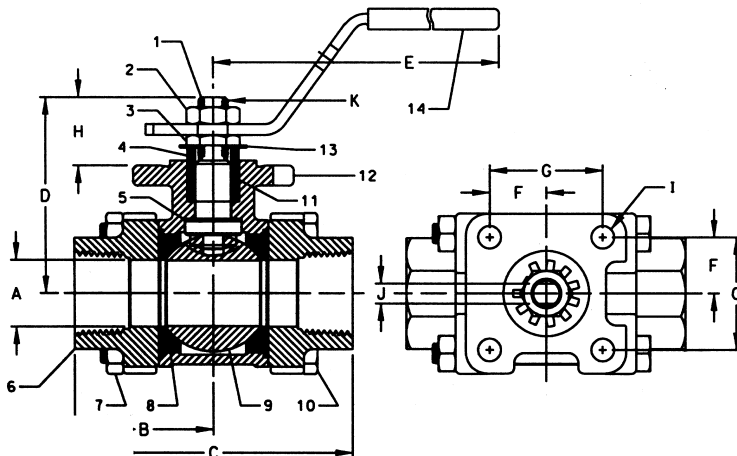
FEATURES

- Multi-piece packing set
- ISO 5211 mounting pad
- Blow-out-proof stem design
- In-line repairable
- Adjustable packing gland
- Investment cast components
- RPTFE seats and seals
- Full port configuration
- Meets NACE MR01-75

STANDARD MATERIAL LIST

1. Stem	A276-316	8. Seat (2)	RPTFE
2. Jam nut	SS	9. Ball	316 SS
3. Low profile nut	316 SS	10. Body bolt (4)	18-8 SS
4. Gland	A276-316	11. Stem packing	MPTFE
5. Stem bearing	RPTFE	12. Body	ASTM A351-CF8M
6. End cap (2)	ASTM A351-CF8M	13. Lock tab washer	304 SS
7. Hex nut (4)	18-8 SS	14. Lever and grip	304 SS w/vinyl

OPTIONS AVAILABLE:



(SUFFIX)	OPTION	SIZES
-02-	Static Grounded	1/4" to 2"
-03-	1-1/4" Stem Extension	1/4" to 2"
-04-	2-1/4" Stem Extension	1/4" to 2"
-08-	90° Reversed Stem	1/4" to 2"
-14-	Vented Ball	1/4" to 2"
-18-	Plain Yellow Grip	1/4" to 2"
-21-	UHMWPE Seats (Non-PTFE)	1/4" to 2"
-24-	Graphite Stem Packing	1/4" to 2"
-27-	Latch Lock Lever	1/4" to 2"
-35-	PTFE Trim	1/4" to 2"
-39-	SS Latch Lock Round Handle	1/4" to 2"
-49-	Assembled Dry	1/4" to 2"
-57-	Cleaned For Gaseous Oxygen	1/4" to 2"
-60-	Static Grounded Ball & Stem	1/4" to 2"
-63-	Threaded x Socket Weld	1/4" to 2"
-P01-	BSPP (Parallel) Thread Connection	1/4" to 2"
-T01-	BSPT (Tapered) Thread Connection	1/4" to 2"
-AR-	Less Handle & Stop-Add Belleville Washers	1/4" to 2"
-WB-	With Lever & Belleville Washers	1/4" to 2"

**For Pressure/Temperature Ratings,
Refer to Page N-12, Graph No. 8**

STAINLESS STEEL 3-PIECE FULL PORT BALL VALVE WITH ISO MOUNTING PAD

NUMBER	SIZE	A	B	C	D	E	F	G	H	I	J (FLATS)	K (THRDS.) UNF	L	M
86R-101-01	1/4"	.62	1.40	2.81	2.05	4.18	.59	1.17	.61	.28	.247/.249	3/8-24	.565	.50
86R-102-01	3/8"	.62	1.40	2.81	2.05	4.18	.59	1.17	.61	.28	.247/.249	3/8-24	.700	.56
86R-103-01	1/2"	.62	1.40	2.81	2.05	4.18	.59	1.17	.61	.28	.247/.249	3/8-24	.855	.43
86R-104-01	3/4"	.81	1.71	3.42	2.42	4.93	.70	1.39	.84	.28	.247/.249	3/8-24	1.065	.56
86R-105-01	1"	1.00	1.92	3.85	2.54	4.93	.70	1.39	.84	.28	.247/.249	3/8-24	1.330	.68
86R-106-01	1-1/4"	1.25	2.35	4.70	3.16	8.06	.98	1.95	1.16	.34	.370/.372	5/8-18	1.675	.81
86R-107-01	1-1/2"	1.50	2.59	5.18	3.49	8.06	.98	1.95	1.16	.34	.370/.372	5/8-18	1.915	.87
86R-108-01	2"	2.00	3.01	6.03	3.95	8.06	.98	1.95	1.16	.34	.370/.372	5/8-18	2.405	1.05

NEW FOR
2000

Apollo® 86R-200 Series

Stainless Steel 3-Piece Full Port Socket Valve Ball Valve With Actuator Ready ISO Mounting Pad

Socket Weld, 1000 psig WOG, Cold Non-Shock. 150 psig Saturated Steam.
Vacuum Service to 29 inches Hg.
Federal Specification: WW-V-35C, Type: II, Composition: SS, Style: 1.

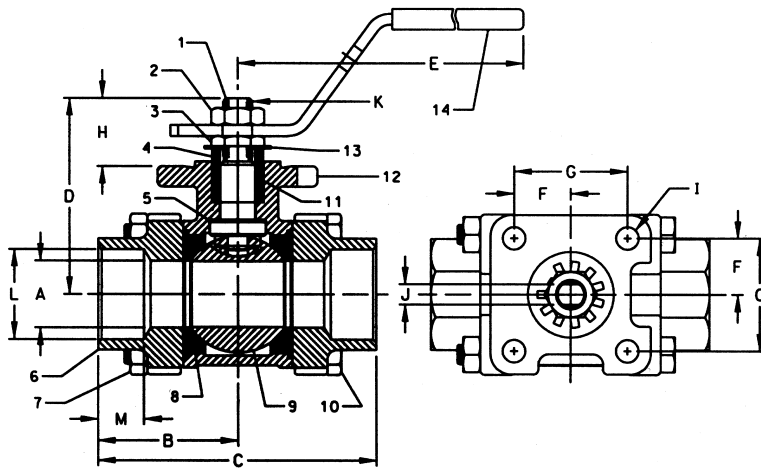
FEATURES

- Multi-piece packing set
- ISO 5211 mounting pad
- Blow-out-proof stem design
- In-line repairable
- Adjustable packing gland
- Investment cast components
- RPTFE seats and seals
- Full port configuration
- Meets NACE MR01-75

STANDARD MATERIAL LIST

1. Stem	A276-316	8. Seat (2)	RPTFE
2. Jam nut	SS	9. Ball	316 SS
3. Low profile nut	316 SS	10. Body bolt (4)	18-8 SS
4. Gland	A276-316	11. Stem packing	MPTFE
5. Stem bearing	RPTFE	12. Body	ASTM A351-CF8M
6. End cap (2)	ASTM A351-CF8M	13. Lock tab washer	304 SS
7. Hex nut (4)	18-8 SS	14. Lever and grip	304 SS w/vinyl

OPTIONS AVAILABLE:



(SUFFIX)	OPTION	SIZES
-02-	Static Grounded	1/4" to 2"
-03-	1-1/4" Stem Extension	1/4" to 2"
-04-	2-1/4" Stem Extension	1/4" to 2"
-08-	90° Reversed Stem	1/4" to 2"
-14-	Vented Ball	1/4" to 2"
-18-	Plain Yellow Grip	1/4" to 2"
-21-	UHMWPE Seats (Non-PTFE)	1/4" to 2"
-24-	Graphite Stem Packing	1/4" to 2"
-27-	Latch Lock Lever	1/4" to 2"
-35-	PTFE Trim	1/4" to 2"
-39-	SS Latch Lock Round Handle	1/4" to 2"
-49-	Assembled Dry	1/4" to 2"
-57-	Cleaned For Gaseous Oxygen	1/4" to 2"
-60-	Static Grounded Ball & Stem	1/4" to 2"
-63-	Threaded x Socket Weld	1/4" to 2"
-P01-	BSPP (Parallel) Thread Connection	1/4" to 2"
-T01-	BSPT (Tapered) Thread Connection	1/4" to 2"
-AR-	Less Handle & Stop-Add Belleville Washers	1/4" to 2"
-WB-	With Lever & Belleville Washers	1/4" to 2"

**For Pressure/Temperature Ratings,
Refer to Page N-12, Graph No. 8**

STAINLESS STEEL 3-PIECE FULL PORT SOCKET WELD BALL VALVE WITH ISO MOUNTING PAD

NUMBER	SIZE	A	B	C	D	E	F	G	H	I	J (FLATS)	K (THRDS.) UNF	L	M
86R-201-01	1/4"	.62	1.40	2.81	2.05	4.18	.59	1.17	.61	.28	.247/.249	3/8-24	.565	.50
86R-202-01	3/8"	.62	1.40	2.81	2.05	4.18	.59	1.17	.61	.28	.247/.249	3/8-24	.700	.56
86R-203-01	1/2"	.62	1.40	2.81	2.05	4.18	.59	1.17	.61	.28	.247/.249	3/8-24	.855	.43
86R-204-01	3/4"	.81	1.71	3.42	2.42	4.93	.70	1.39	.84	.28	.247/.249	3/8-24	1.065	.56
86R-205-01	1"	1.00	1.92	3.85	2.54	4.93	.70	1.39	.84	.28	.247/.249	3/8-24	1.330	.68
86R-206-01	1-1/4"	1.25	2.35	4.70	3.16	8.06	.98	1.95	1.16	.34	.370/.372	5/8-18	1.675	.81
86R-207-01	1-1/2"	1.50	2.59	5.18	3.49	8.06	.98	1.95	1.16	.34	.370/.372	5/8-18	1.915	.87
86R-208-01	2"	2.00	3.01	6.03	3.95	8.06	.98	1.95	1.16	.34	.370/.372	5/8-18	2.405	1.05

NEW FOR
2000

Apollo® 86R-700 Series

Stainless Steel 3-Piece Full Port Butt-Weld Ball Valve With Actuator Ready ISO Mounting Pad

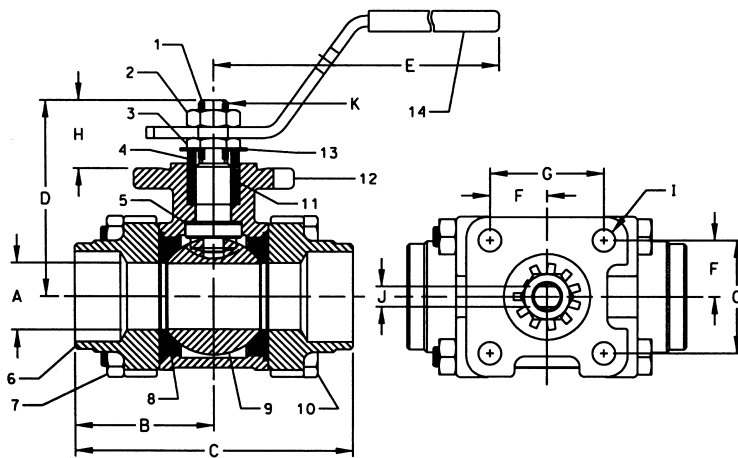
Schedule 10 Butt-Weld Ends, 1000 psig WOG, Cold Non-Shock. 150 psig Saturated Steam.
Vacuum Service to 29 inches Hg.
Federal Specification: WW-V-35C, Type: II, Composition: SS, Style: 1.

FEATURES

- Multi-piece packing set
- ISO 5211 mounting pad
- Blow-out-proof stem design
- In-line repairable
- Adjustable packing gland
- Investment cast components
- RPTFE seats and seals
- Full port configuration
- Meets NACE MR01-75

STANDARD MATERIAL LIST

1. Stem	A276-316	8. Seat (2)	RPTFE
2. Jam nut	SS	9. Ball	316 SS
3. Low profile nut	316 SS	10. Body bolt (4)	18-8 SS
4. Gland	A276-316	11. Stem packing	MPTFE
5. Stem bearing	RPTFE	12. Body	ASTM A351-CF8M
6. End cap (2)	ASTM A351-CF8M	13. Lock tab washer	304 SS
7. Hex nut (4)	18-8 SS	14. Lever and grip	304 SS w/vinyl



OPTIONS AVAILABLE:

(SUFFIX)	OPTION	SIZES
-02-	Static Grounded	1/2" to 2"
-03-	1-1/4" Stem Extension	1/2" to 2"
-04-	2-1/4" Stem Extension	1/2" to 2"
-08-	90° Reversed Stem	1/2" to 2"
-14-	Vented Ball	1/2" to 2"
-18-	Plain Yellow Grip	1/2" to 2"
-21-	UHMWPE Seats (Non-PTFE)	1/2" to 2"
-24-	Graphite Stem Packing	1/2" to 2"
-27-	Latch Lock Lever	1/2" to 2"
-35-	PTFE Trim	1/2" to 2"
-39-	SS Latch Lock Round Handle	1/2" to 2"
-49-	Assembled Dry	1/2" to 2"
-57-	Cleaned For Gaseous Oxygen	1/2" to 2"
-60-	Static Grounded Ball & Stem	1/2" to 2"
-63-	Threaded x Socket Weld	1/2" to 2"
-P01-	BSPP (Parallel) Thread Connection	1/2" to 2"
-T01-	BSPT (Tapered) Thread Connection	1/2" to 2"
-AR-	Less Handle & Stop-Add Belleville Washers	1/2" to 2"
-WB-	With Lever & Belleville Washers	1/2" to 2"

**For Pressure/Temperature Ratings,
Refer to Page N-12, Graph No. 8**

STAINLESS STEEL 3-PIECE FULL PORT SOCKET WELD BALL VALVE WITH ISO MOUNTING PAD

NUMBER	SIZE	A	B	C	D	E	F	G	H	I	J (FLATS)	K (THRDS.) UNF
86R-703-01	1/2"	.62	1.40	2.81	2.05	4.18	.59	1.17	.61	.28	.247/.249	3/8-24
86R-704-01	3/4"	.81	1.71	3.42	2.42	4.93	.70	1.39	.84	.28	.247/.249	3/8-24
86R-705-01	1"	1.00	1.92	3.85	2.54	4.93	.70	1.39	.84	.28	.247/.249	3/8-24
86R-706-01	1-1/4"	1.25	2.35	4.70	3.16	8.06	.98	1.95	1.16	.34	.370/.372	5/8-18
86R-707-01	1-1/2"	1.50	2.59	5.18	3.49	8.06	.98	1.95	1.16	.34	.370/.372	5/8-18
86R-708-01	2"	2.00	3.01	6.03	3.95	8.06	.98	1.95	1.16	.34	.370/.372	5/8-18

Apollo® 83-100 Series

Carbon Steel 3-Piece Full Port Ball Valve

Threaded, 1000 psig WOG, Cold Non-Shock. 150 psig Saturated Steam.
 Vacuum Service to 29 inches Hg.
 Federal Specification: WW-V-35C, Type: II, Composition: CS, Style: 1.

FEATURES

- Full port configuration
- RPTFE seats and seals
- In-line repairable
- Actuator mounting pad (3/4" to 2")
- Nitride corrosion protection
- Blow-out-proof stem design
- Adjustable packing gland
- Cast components are investment castings
- 1-1/4" to 2" meet NACE with SS trim

STANDARD MATERIAL LIST

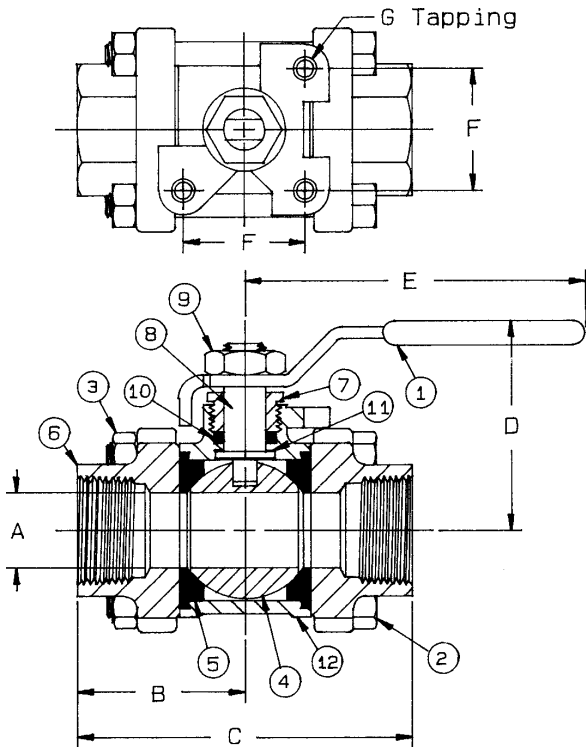
1. Lever and grip	Steel, zinc plated w/vinyl	7. Gland nut	A108-CS
2. Body bolt (4)	Steel, SAE grade 8 zinc plated	8. Stem	A108-CS
3. Hex nut (4)	Steel, SAE grade 8 zinc plated	9. Lever nut	Steel, zinc plated
4. Ball	A108-CS chrome plated	10. Stem packing	RPTFE
5. Seat (2)	RPTFE	11. Stem bearing	RPTFE
6. End cap (2)	A108-CS (1/4" to 1") A216-WCB (1-1/4" to 2")	12. Body	A216-WCB

VARIATIONS AVAILABLE:

83-140 Series (316 SS Ball & Stem)

OPTIONS AVAILABLE:

(SUFFIX)	OPTION	SIZES
-02-	Static Grounded	1/4" to 2"
-03-	1-1/4" Stem Extension	1/4" to 2"
-04-	2-1/4" Stem Extension	1/4" to 2"
-07-	Tee Handle	1/4" to 2"
-08-	90° Reversed Stem	1/4" to 2"
-10-	SS Lever & Nut	1/4" to 2"
-14-	Vented Ball (see page J-2)	1/4" to 2"
-15-	Round Handle	1/4" to 2"
-16-	Vertical Chain Lever	1/2" to 2"
-18-	Plain Yellow Grip	1/4" to 2"
-19-	Lock Plate	1/4" to 2"
-21-	UHMWPE Seats (Non-PTFE)	1/4" to 2"
-23-	Tank Flange	2" ONLY
-24-	Graphite Stem Packing	1/4" to 2"
-27-	Latch Lock Lever	1/2" to 2"
-32-	SS Tee Handle & Nut	1/4" to 2"
-35-	PTFE Trim	1/4" to 2"
-45-	Less Lever & Nut	1/4" to 2"
-47-	SS Latch-Lock Oval Handle	1/2" to 2"
-48-	SS Oval Handle	1/4" to 2"
-58-	Horizontal Chain Lever	1/2" to 2"
-59-	SS Body Trim	1/4" to 2"
-60-	Static Grounded Ball & Stem	1/4" to 2"
-63-	Female Threaded x Socket Weld	1/2" to 2"
-P01-	BSPP (Parallel) Thread Connection	1/4" to 2"
-T01-	BSPT (Tapered) Thread Connection	1/4" to 2"



CARBON STEEL 3-PIECE FULL PORT BALL VALVE

NUMBER	SIZE	A	B	C	D	E	F	G	Wt.
83-101-01	1/4"	.43	1.28	2.56	1.81	3.87	N/A	N/A	1.03
83-102-01	3/8"	.50	1.28	2.56	1.81	3.87	N/A	N/A	.99
83-103-01	1/2"	.62	1.40	2.81	1.93	4.81	N/A	N/A	1.40
83-104-01A	3/4"	.81	1.71	3.43	2.18	4.81	1.25	1/4-20	1.91
83-105-01A	1"	1.00	1.93	3.87	2.62	5.50	1.62	5/16-18	2.98
83-106-01A	1-1/4"	1.25	2.37	4.75	2.87	5.50	1.62	5/16-18	5.04
83-107-01A	1-1/2"	1.50	2.62	5.25	3.37	8.00	1.62	5/16-18	7.46
83-108-01A	2"	2.00	3.01	6.03	3.68	8.00	1.62	5/16-18	12.83

**For Pressure/Temperature Ratings,
 Refer to Page N-12, Graph No. 7**

Apollo® 83-200 Series

Carbon Steel 3-Piece Full Port Socket Weld Ball Valve

Socket Weld, 1000 psig WOG, Cold Non-Shock. 150 psig Saturated Steam.
 Vacuum Service to 29 inches Hg.
 Federal Specification: WW-V-35C, Type: II, Composition: CS, Style: 1.

FEATURES

- Full port configuration
- RPTFE seats and stuffing box ring
- In-line repairable
- Actuator mounting pad (3/4" to 2")
- Nitride corrosion protection
- Blow-out-proof stem design
- Adjustable packing gland
- Investment Cast Components
- Meet NACE MR-01-75 with SS trim

STANDARD MATERIAL LIST

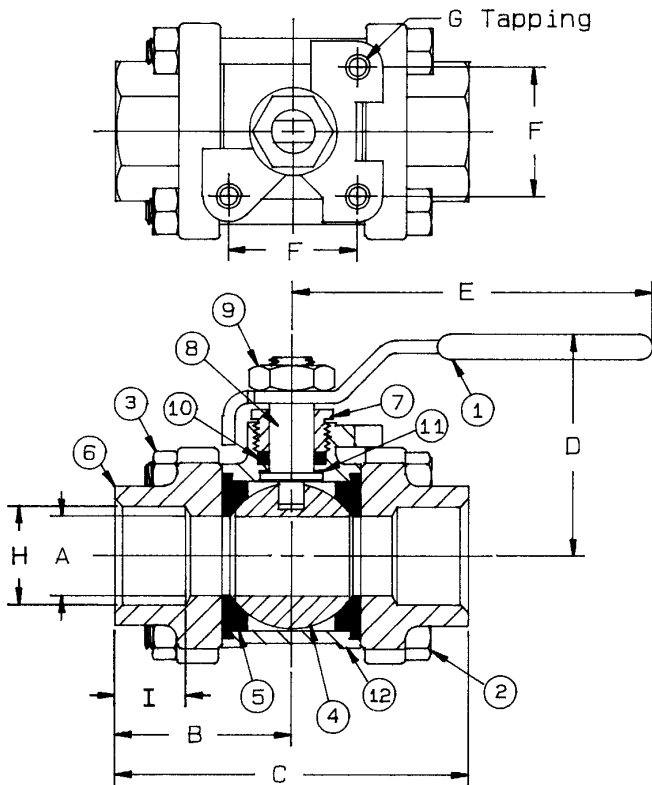
1. Lever and grip	Steel, zinc plated w/vinyl	7. Gland nut	A108-CS
2. Body bolt (4)	Steel, SAE grade 8 zinc plated	8. Stem	A108-CS
3. Hex nut (4)	Steel, SAE grade 8 zinc plated	9. Lever nut	Steel, zinc plated
4. Ball	A108-CS chrome plated	10. Stem packing	RPTFE
5. Seat (2)	RPTFE	11. Stem bearing	RPTFE
6. End cap (2)	A216-WCB	12. Body	A216-WCB

VARIATIONS AVAILABLE:

83-240 Series (316 SS Ball & Stem)

OPTIONS AVAILABLE:

(SUFFIX)	OPTION	SIZES
-02-	Static Grounded	1/2" to 2"
-03-	1-1/4" Stem Extension	1/2" to 2"
-04-	2-1/4" Stem Extension	1/2" to 2"
-07-	Tee Handle	1/2" to 2"
-08-	90° Reversed Stem	1/2" to 2"
-10-	SS Lever & Nut	1/2" to 2"
-14-	Vented Ball (see page J-2)	1/2" to 2"
-15-	Round Handle	1/2" to 2"
-16-	Vertical Chain Lever	1/2" to 2"
-18-	Plain Yellow Grip	1/2" to 2"
-19-	Lock Plate	1/2" to 2"
-21-	UHMWPE Seats (Non-PTFE)	1/2" to 2"
-23-	Tank Flange	2" ONLY
-24-	Graphite Stem Packing	1/2" to 2"
-27-	Latch Lock Lever	1/2" to 2"
-32-	SS Tee Handle & Nut	1/2" to 2"
-35-	PTFE Trim	1/2" to 2"
-45-	Less Lever & Nut	1/2" to 2"
-47-	SS Latch-Lock Oval Handle	1/2" to 2"
-48-	SS Oval Handle	1/2" to 2"
-58-	Horizontal Chain Lever	1/2" to 2"
-59-	SS Body Trim	1/2" to 2"
-60-	Static Grounded Ball & Stem	1/2" to 2"



CARBON STEEL 3-PIECE FULL PORT
 SOCKET WELD BALL VALVE

**For Pressure/Temperature Ratings,
 Refer to Page N-12, Graph No. 7**

NUMBER	SIZE	A	B	C	D	E	F	G	H	I	Wt.
83-203-01	1/2"	.62	1.40	2.81	1.93	4.81	N/A	N/A	.855	.43	1.36
83-204-01A	3/4"	.81	1.71	3.43	2.18	4.81	1.25	1/4-20	1.065	.56	1.86
83-205-01A	1"	1.00	1.93	3.87	2.62	5.50	1.62	5/16-18	1.330	.68	2.88
83-206-01A	1-1/4"	1.25	2.37	4.75	2.87	5.50	1.62	5/16-18	1.675	.81	4.91
83-207-01A	1-1/2"	1.50	2.62	5.25	3.37	8.00	1.62	5/16-18	1.915	.87	7.27
83-208-01A	2"	2.00	3.01	6.03	3.68	8.00	1.62	5/16-18	2.405	1.05	12.51

Apollo® 83-300 Series

Carbon Steel 3-Piece High Pressure Ball Valve

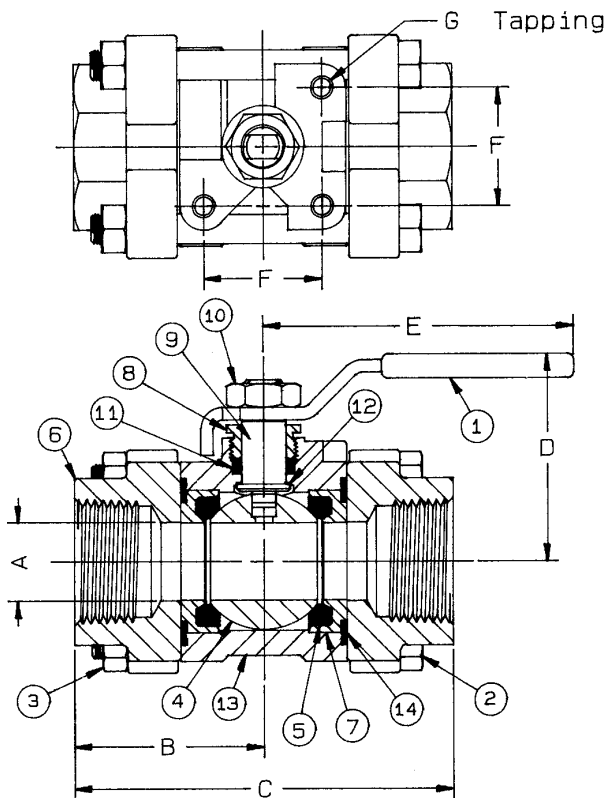
Standard Port, Threaded, 1500 psig WOG, Cold Non-Shock.
 150 psig Saturated Steam. Vacuum Service to 29 inches Hg.
 Federal Specification: WW-V-35C, Type: II, Composition: CS, Style: 1.

FEATURES

- Nitride corrosion protection
- Adjustable packing gland
- In-line repairable
- Blow-out-proof stem design
- (-29) certified to API 607 4TH ed. Class 600 burn
- Meets NACE MR-01-75 with SS trim
- Investment Cast Components
- Actuator mounting pad (1" to 2")
- RPTFE seats and seals

STANDARD MATERIAL LIST

1. Lever and grip	CS, zinc plated w/vinyl	8. Gland nut	A108-CS
2. Body bolt (4)	Steel, SAE grade 8 zinc plated	9. Stem	A108-CS
3. Hex nut (4)	Steel, SAE grade 8 zinc plated	10. Lever nut	Steel, zinc plated
4. Ball	A108-CS chrome plated	11. Stem packing	RPTFE
5. Seat (2)	RPTFE	12. Stem bearing	RPTFE
6. End cap (2)	A216-WCB	13. Body	A216-WCB
7. Seat holder (2)	A108-CS	14. Body seal (2)	RPTFE



VARIATIONS AVAILABLE:

83-340 Series (316 SS Ball & Stem)

OPTIONS AVAILABLE:

(SUFFIX)	OPTION	SIZES
-02-	Static Grounded	1/2" to 2"
-03-	1-1/4" Stem Extension	1/2" to 2"
-04-	2-1/4" Stem Extension	1/2" to 2"
-07-	Tee Handle	1/2" to 2"
-08-	90° Reversed Stem	1/2" to 2"
-10-	SS Lever & Nut	1/2" to 2"
-14-	Vented Ball (see page J-2)	1/2" to 2"
-15-	Round Handle	1/2" to 2"
-16-	Vertical Chain Lever	3/4" to 2"
-18-	Plain Yellow Grip	1/2" to 2"
-27-	Latch Lock Lever	1/2" to 2"
-29-	Firesafe	1/2" to 2"
-32-	SS Tee Handle & Nut	1/2" to 2"
-45-	Less Lever & Nut	1/2" to 2"
-48-	SS Oval Handle	1/2" to 2"
-56-	Multifill Seats	1/2" to 2"
-58-	Horizontal Chain Lever	3/4" to 2"
-59-	SS Body Trim	1/2" to 2"
-60-	Static Grounded Ball & Stem	1/2" to 2"
-63-	Threaded x Solder	1/2" to 2"
-64-	250 Lb. Steam Trim	1/2" to 2"
-P01-	BSPP (Parallel) Thread Connection	1/2" to 2"
-T01-	BSPT (Tapered) Thread Connection	1/2" to 2"

CARBON STEEL 3-PIECE
HIGH PRESSURE BALL VALVE

NUMBER	SIZE	A	B	C	D	E	F	G	Wt.
83-303-01	1/2"	.50	1.50	3.00	1.84	3.87	N/A	N/A	1.28
83-304-01	3/4"	.62	1.87	3.74	2.00	4.87	N/A	N/A	2.00
83-305-01A	1"	.81	1.99	3.99	2.18	4.87	1.25	1/4-20	2.69
83-306-01A	1-1/4"	1.00	2.31	4.62	2.60	5.50	1.62	5/16-18	3.97
83-307-01A	1-1/2"	1.25	2.62	5.25	2.82	5.50	1.62	5/16-18	5.50
83-308-01A	2"	1.50	2.74	5.48	3.37	8.00	1.62	5/16-18	8.05

**For Pressure/Temperature Ratings,
Refer to Page N-14, Graph No. 11**

Apollo® 83-400 Series

Carbon Steel 3-Piece High Pressure Socket Weld Ball Valve

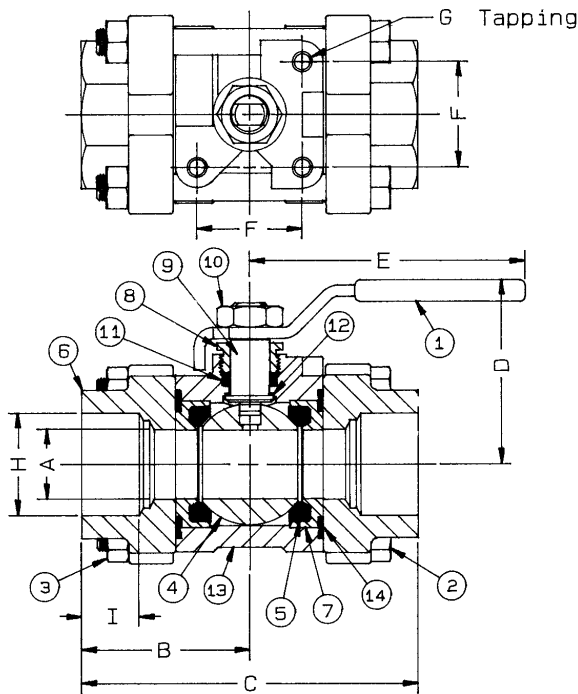
Standard Port, Socket Weld, 1500 psig WOG, Cold Non-Shock.
 150 psig Saturated Steam. Vacuum Service to 29 inches Hg.
 Federal Specification: WW-V-35C, Type: II, Composition: CS, Style: 1.

FEATURES

- Nitride corrosion protection
- Adjustable packing gland
- In-line repairable
- Blow-out-proof stem design
- (-29) certified to API 607 4TH ed. Class 600 burn
- Meets NACE MR-01-75 with SS trim
- Investment Cast Components
- Actuator mounting pad (1" to 2")
- RPTFE seats and seals

STANDARD MATERIAL LIST

1. Lever and grip	CS, zinc plated w/vinyl	8. Gland nut	A108-CS
2. Body bolt (4)	Steel, SAE grade 8 zinc plated	9. Stem	A108-CS
3. Hex nut (4)	Steel, SAE grade 8 zinc plated	10. Lever nut	Steel, zinc plated
4. Ball	A108-CS chrome plated	11. Stem packing	RPTFE
5. Seat (2)	RPTFE	12. Stem bearing	RPTFE
6. End cap (2)	A216-WCB	13. Body	A216-WCB
7. Seat holder (2)	A108-CS	14. Body seal (2)	RPTFE



VARIATIONS AVAILABLE:

83-440 Series (316 SS Ball & Stem)

OPTIONS AVAILABLE:

(SUFFIX)	OPTION	SIZES
-02-	Static Grounded	1/2" to 2"
-03-	1-1/4" Stem Extension	1/2" to 2"
-04-	2-1/4" Stem Extension	1/2" to 2"
-07-	Tee Handle	1/2" to 2"
-08-	90° Reversed Stem	1/2" to 2"
-10-	SS Lever & Nut	1/2" to 2"
-14-	Vented Ball (see page J-2)	1/2" to 2"
-15-	Round Handle	1/2" to 2"
-16-	Vertical Chain Lever	3/4" to 2"
-18-	Plain Yellow Grip	1/2" to 2"
-27-	Latch Lock Lever	3/4" to 2"
-29-	Firesafe	1/2" to 2"
-32-	SS Tee Handle & Nut	1/2" to 2"
-45-	Less Lever & Nut	1/2" to 2"
-48-	SS Oval Handle	1/2" to 2"
-56-	Multifill Seats	1/2" to 2"
-58-	Horizontal Chain Lever	3/4" to 2"
-59-	SS Body Trim	1/2" to 2"
-60-	Static Grounded Ball & Stem	1/2" to 2"
-64-	250 Lb. Steam Trim	1/2" to 2"

**For Pressure/Temperature Ratings,
 Refer to Page N-14, Graph No. 11**

CARBON STEEL 3-PIECE HIGH PRESSURE
 SOCKET WELD BALL VALVE

NUMBER	SIZE	A	B	C	D	E	F	G	H	I	Wt.
83-403-01	1/2"	.50	1.50	3.00	1.84	3.87	N/A	N/A	.825	.43	1.28
83-404-01	3/4"	.62	1.87	3.74	2.00	4.87	N/A	N/A	1.065	.56	2.00
83-405-01A	1"	.81	1.99	3.99	2.18	4.87	1.25	1/4-20	1.330	.68	2.69
83-406-01A	1-1/4"	1.00	2.31	4.62	2.60	5.50	1.62	5/16-18	1.675	.81	3.97
83-407-01A	1-1/2"	1.25	2.62	5.25	2.82	5.50	1.62	5/16-18	1.915	.87	5.50
83-408-01A	2"	1.50	2.74	5.48	3.37	8.00	1.62	5/16-18	5.406	1.06	8.05

Apollo® 83-500 Series

Carbon Steel 3-Piece High Pressure Full Port Ball Valve

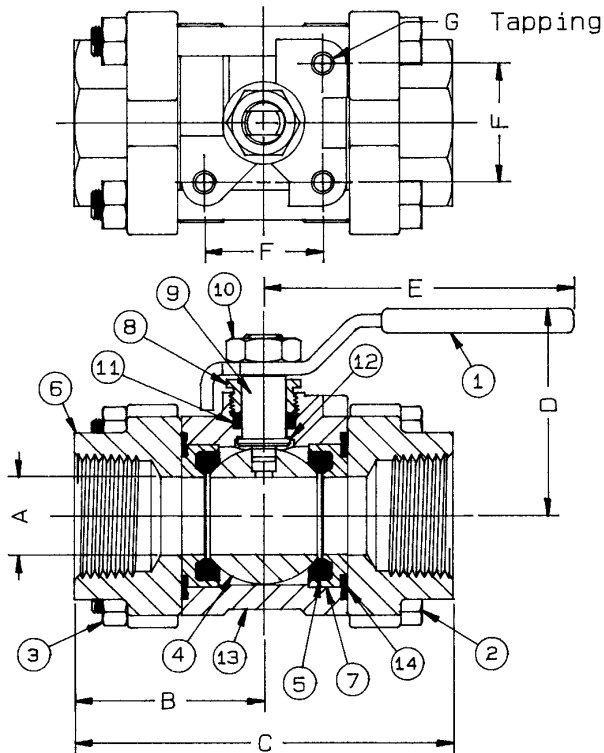
Threaded, 1500 psig WOG. Cold Non-Shock. 150 psig Saturated Steam. Vacuum Service to 29 inches Hg. Federal Specification: WW-V-35C, Type: II, Composition: CS, Style: 1.

FEATURES

- Nitride corrosion protection
- Adjustable packing gland
- In-line repairable
- Blow-out-proof stem design
- (-29) Certified to API standard 607, 4th Edition, Class 600 burn
- Meets NACE MR-01-75 with SS trim
- Investment Cast Components
- Actuator mounting pad (3/4" to 2")
- RPTFE seats and seals

STANDARD MATERIAL LIST

1. Lever and grip	CS, zinc plated w/vinyl	8. Gland nut	A108-CS
2. Body bolt (4)	Steel, SAE grade 8 zinc plated	9. Stem	A108-CS
3. Hex nut (4)	Steel, SAE grade 8 zinc plated	10. Lever nut	Steel, zinc plated
4. Ball	A108-CS chrome plated	11. Stem packing	RPTFE
5. Seat (2)	RPTFE	12. Stem bearing	RPTFE
6. End cap (2)	A216-WCB	13. Body	A216-WCB
7. Seat holder (2)	A108-CS	14. Body seal (2)	RPTFE



CARBON STEEL 3-PIECE HIGH PRESSURE FULL PORT BALL VALVE

NUMBER	SIZE	A	B	C	D	E	F	G	Wt.
83-501-01	1/4"	.43	1.50	3.00	1.93	3.87	N/A	N/A	1.21
83-502-01	3/8"	.50	1.50	3.00	1.93	3.87	N/A	N/A	1.22
83-503-01	1/2"	.62	1.69	3.38	2.00	4.81	N/A	N/A	1.90
83-504-01A	3/4"	.81	1.93	3.87	2.18	4.81	1.25	1/4-20	2.56
83-505-01A	1"	1.00	2.25	4.50	2.62	5.50	1.62	5/16-18	3.78
83-506-01A	1-1/4"	1.25	2.43	4.87	2.87	5.50	1.62	5/16-18	5.24
83-507-01A	1-1/2"	1.50	2.62	5.25	3.35	8.00	1.62	5/16-18	7.67
83-508-01A	2"	2.00	3.12	6.25	3.75	8.00	1.62	5/16-18	15.60

VARIATIONS AVAILABLE:

83-540 Series (316 SS Ball & Stem)

OPTIONS AVAILABLE:

(SUFFIX)	OPTION	SIZES
-02-	Static Grounded	1/4" to 2"
-03-	1-1/4" Stem Extension	1/4" to 2"
-04-	2-1/4" Stem Extension	1/4" to 2"
-07-	Tee Handle	1/4" to 2"
-08-	90° Reversed Stem	1/4" to 2"
-10-	SS Lever & Nut	1/4" to 2"
-14-	Vented Ball (see page J-2)	1/4" to 2"
-16-	Vertical Chain Lever	1/2" to 2"
-18-	Plain Yellow Grip	1/4" to 2"
-27-	Latch Lock Lever	1/4" to 2"
-29-	Firesafe	1/4" to 2"
-32-	SS Tee Handle & Nut	1/4" to 2"
-38-	PEEK Seats & Bearing	1/4" to 2"
-45-	Less Lever & Nut	1/4" to 2"
-47-	SS Latch-Lock Oval Handle	1/4" to 2"
-48-	SS Oval Handle	1/4" to 2"
-56-	Multifill Seats	1/4" to 2"
-58-	Horizontal Chain Lever	1/2" to 2"
-59-	SS Body Trim	1/4" to 2"
-60-	Static Grounded Ball & Stem	1/4" to 2"
-63-	Female Threaded x Socket Weld	1/4" to 2"
-64-	250 Lb. Steam Trim	1/4" to 2"
-P01-	BSPP (Parallel) Thread Connection	1/4" to 2"
-T01-	BSPT (Tapered) Thread Connection	1/4" to 2"

**For Pressure/Temperature Ratings,
Refer to Page N-14, Graph No. 11**

Apollo® 83-600 Series

Carbon Steel 3-Piece High Pressure Full Port Socket Weld Ball Valve

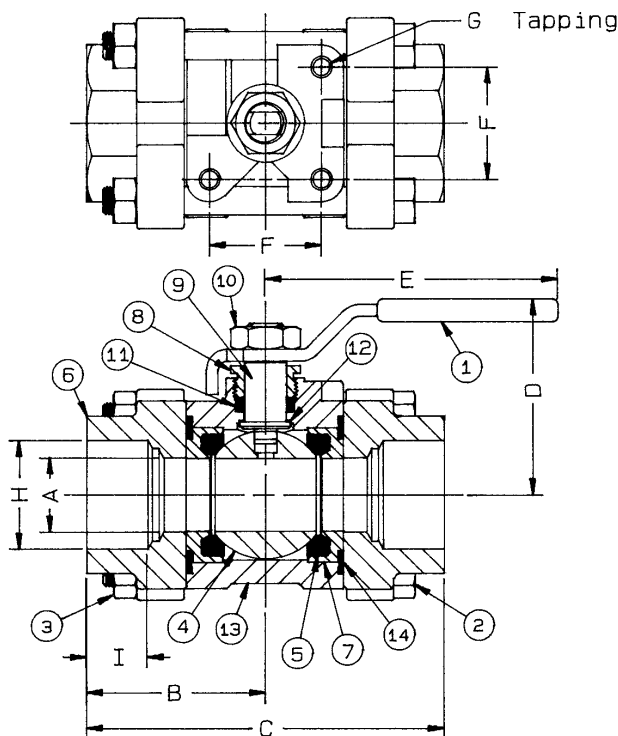
Socket Weld, 1500 psig WOG, Cold Non-Shock. 150 psig Saturated Steam. Vacuum Service to 29 inches Hg. Federal Specification: WW-V-35C, Type: II, Composition: CS, Style: 1.

FEATURES

- Nitride corrosion protection
- Adjustable packing gland
- In-line repairable
- Blow-out-proof stem design
- (-29) Certified to API standard 607, 4th Edition, Class 600 burn
- Meets NACE MR-01-75 with SS trim
- Investment Cast Components
- Actuator mounting pad (3/4" to 2")
- RPTFE seats and seals

STANDARD MATERIAL LIST

1. Lever and grip	CS, zinc plated w/vinyl	8. Gland nut	A108-CS
2. Body bolt (4)	Steel, SAE grade 8 zinc plated	9. Stem	A108-CS
3. Hex nut (4)	Steel, SAE grade 8 zinc plated	10. Lever nut	Steel, zinc plated
4. Ball	A108-CS chrome plated	11. Stem packing	RPTFE
5. Seat (2)	RPTFE	12. Stem bearing	RPTFE
6. End cap (2)	A216-WCB	13. Body	A216-WCB
7. Seat holder (2)	A108-CS	14. Body seal (2)	RPTFE



VARIATIONS AVAILABLE:

83-640 Series (316 SS Ball & Stem)

OPTIONS AVAILABLE:

(SUFFIX)	OPTION	SIZES
-02-	Static Grounded	1/2" to 2"
-03-	1-1/4" Stem Extension	1/2" to 2"
-04-	2-1/4" Stem Extension	1/2" to 2"
-07-	Tee Handle	1/2" to 2"
-08-	90° Reversed Stem	1/2" to 2"
-10-	SS Lever & Nut	1/2" to 2"
-14-	Vented Ball (see page J-2)	1/2" to 2"
-15-	Round Handle	1/2" to 2"
-16-	Vertical Chain Lever	1/2" to 2"
-18-	Plain Yellow Grip	1/2" to 2"
-27-	Latch Lock Lever	1/2" to 2"
-29-	Firesafe	1/2" to 2"
-32-	SS Tee Handle & Nut	1/2" to 2"
-38-	PEEK Seats & Bearing	1/2" to 2"
-45-	Less Lever & Nut	1/2" to 2"
-47-	SS Latch-Lock Oval Handle	1/2" to 2"
-48-	SS Oval Handle	1/4" to 2"
-56-	Multifill Seats	1/2" to 2"
-58-	Horizontal Chain Lever	1/2" to 2"
-59-	SS Body Trim	1/2" to 2"
-60-	Static Grounded Ball & Stem	1/2" to 2"
-64-	250 Lb. Steam Trim	1/2" to 2"

**For Pressure/Temperature Ratings,
Refer to Page N-14, Graph No. 11**

CARBON STEEL 3-PIECE HIGH PRESSURE FULL PORT SOCKET WELD BALL VALVE

NUMBER	SIZE	A	B	C	D	E	F	G	H	I	Wt.
83-603-01	1/2"	.62	1.69	3.38	2.00	4.81	N/A	N/A	.855	.43	1.90
83-604-01A	3/4"	.81	1.93	3.87	2.18	4.81	1.25	1/4-20	1.065	.56	2.56
83-605-01A	1"	1.00	2.25	4.50	2.62	5.50	1.62	5/16-18	1.330	.68	3.78
83-606-01A	1-1/4"	1.25	2.43	4.87	2.87	5.50	1.62	5/16-18	1.675	.81	5.24
83-607-01A	1-1/2"	1.50	2.62	5.25	3.35	8.00	1.62	5/16-18	1.915	.87	7.67
83-608-01A	2"	2.00	3.12	6.25	3.75	8.00	1.62	5/16-18	2.406	1.06	15.60

Apollo® 83-700 Series

Carbon Steel 3-Piece Full Port Butt-Weld Ball Valve

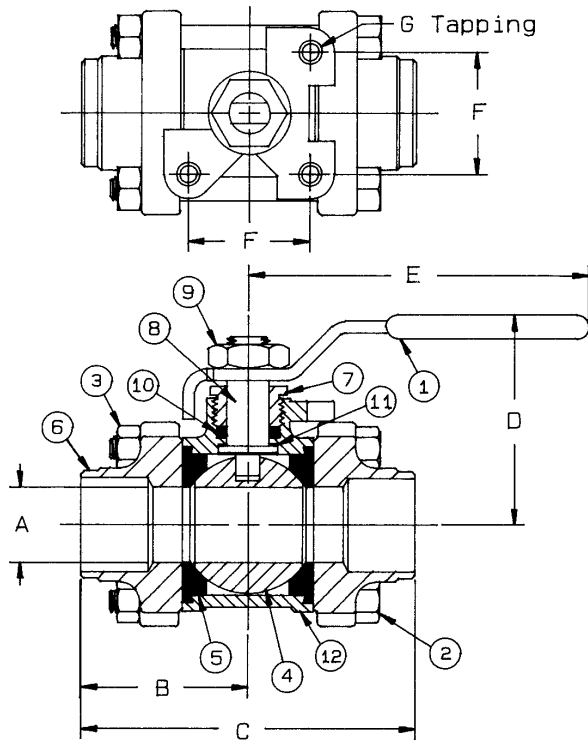
Schedule 40 Butt-Weld Ends. 1000 psig WOG. Cold Non-Shock. 150 psig Saturated Steam.
 Vacuum Service to 29 inches Hg.
 Federal Specification: WW-V-35C, Type: II, Composition: CS, Style: 1.

FEATURES

- Full port configuration
- Adjustable packing
- In-line repairable
- Blow-out-proof stem design
- Nitride corrosion protection
- Meets NACE MR-01-75 with SS trim
- Investment Cast Components
- Actuator mounting pad (3/4" to 2")
- RPTFE seats and seals

STANDARD MATERIAL LIST

1. Lever and grip	Steel, zinc plated w/vinyl	7. Gland nut	A108-CS
2. Body bolt (4)	Steel, SAE grade 8 zinc plated	8. Stem	A108-CS
3. Hex nut (4)	Steel, SAE grade 8 zinc plated	9. Lever nut	Steel, zinc plated
4. Ball	A108-CS chrome plated	10. Stem packing	RPTFE
5. Seat (2)	RPTFE	11. Stem bearing	RPTFE
6. End Cap (2)	A216-WCB	12. Body	CS



VARIATIONS AVAILABLE:

83-740 Series (316 SS Ball & Stem)

OPTIONS AVAILABLE:

(SUFFIX)	OPTION	SIZES
-02-	Static Grounded	1/2" to 2"
-03-	1-1/4" Stem Extension	1/2" to 2"
-04-	2-1/4" Stem Extension	1/2" to 2"
-07-	Tee Handle	1/2" to 2"
-08-	90° Reversed Stem	1/2" to 2"
-10-	SS Lever & Nut	1/2" to 2"
-14-	Vented Ball (see page J-2)	1/2" to 2"
-15-	Round Handle	1/2" to 2"
-16-	Vertical Chain Lever	1/2" to 2"
-18-	Plain Yellow Grip	1/2" to 2"
-19-	Lock Plate	1/2" to 2"
-21-	UHMWPE Seats (Non-PTFE)	1/2" to 2"
-23-	Tank Flange	2" ONLY
-24-	Graphite Stem Packing	1/2" to 2"
-27-	Latch Lock Lever	1/2" to 2"
-32-	SS Tee Handle & Nut	1/2" to 2"
-35-	PTFE Trim	1/2" to 2"
-45-	Less Lever & Nut	1/2" to 2"
-47-	SS Latch-Lock Oval Handle	1/2" to 2"
-48-	SS Oval Handle	1/2" to 2"
-58-	Horizontal Chain Lever	1/2" to 2"
-59-	SS Body Trim	1/2" to 2"
-60-	Static Grounded Ball & Stem	1/2" to 2"

CARBON STEEL 3-PIECE FULL PORT BUTT-WELD VALVE

NUMBER	SIZE	A	B	C	D	E	F	G	Wt.
83-703-01	1/2"	.62	1.40	2.81	1.93	4.81	N/A	N/A	1.36
83-704-01A	3/4"	.81	1.71	3.43	2.18	4.81	1.25	1/4-20	1.86
83-705-01A	1"	1.00	1.93	3.87	2.62	5.50	1.62	5/16-18	2.88
83-707-01A	1-1/2"	1.50	2.62	5.25	3.37	8.00	1.62	5/16-18	7.27
83-708-01A	2"	2.00	3.01	6.03	3.68	8.00	1.62	5/16-18	12.51

**For Pressure/Temperature Ratings,
 Refer to Page N-12, Graph No. 7**

Apollo® 85-100 Series

Stainless Steel 3-Piece Ball Valve

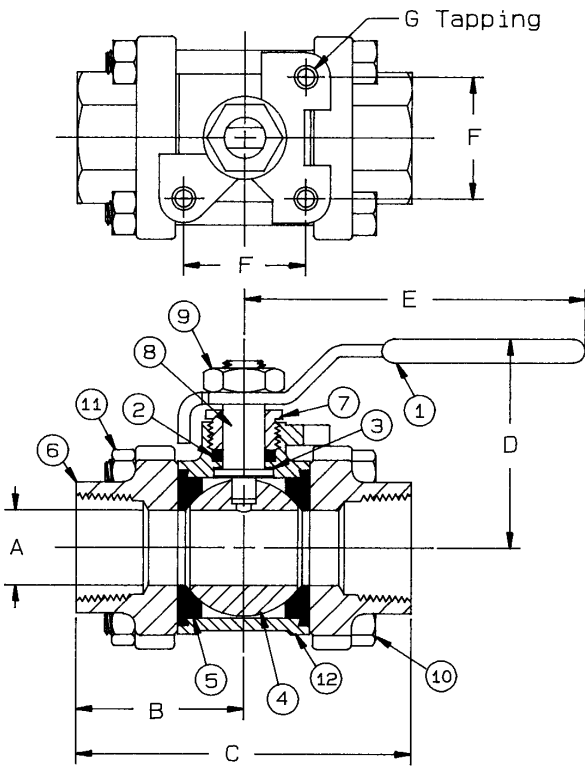
Standard Port Threaded, 1000 psig WOG, Cold Non-Shock. 150 psig Saturated Steam.
 Vacuum Service to 29 inches Hg.
 Federal Specification: WW-V-35C, Type: II, Composition: SS, Style: 1.

FEATURES

- Meets NACE MR-01-75
- Blow-out-proof stem design
- In-line repairable
- Adjustable packing gland
- Investment cast components
- Actuator mounting pad (1" to 2")
- RPTFE seats and seals

STANDARD MATERIAL LIST

1. Lever and grip	304 SS w/vinyl	7. Gland nut	A276-316
2. Stem packing	RPTFE	8. Stem	A276-316
3. Stem bearing	RPTFE	9. Lever nut	18-8 SS
4. Ball	A276-316	10. Body bolt (4)	18-8 SS
5. Seat (2)	RPTFE	11. Hex nut (4)	18-8 SS
6. End cap (2)	A351-CF3M	12. Body	A351-CF8M



OPTIONS AVAILABLE:

(SUFFIX)	OPTION	SIZES
-02-	Static Grounded	1/4" to 2"
-03-	1-1/4" Stem Extension	1/4" to 2"
-04-	2-1/4" Stem Extension	1/4" to 2"
-07-	Tee Handle	1/4" to 2"
-08-	90° Reversed Stem	1/4" to 2"
-14-	Vented Ball (see page J-2)	1/4" to 2"
-15-	Round Handle	1/4" to 2"
-16-	Vertical Chain Lever	3/4" to 2"
-18-	Plain Yellow Grip	1/4" to 2"
-24-	Graphite Stem Packing	1/4" to 2"
-27-	Latch Lock Lever	1/2" to 2"
-30-	CamLock Handle	1/4" to 3/4"
-32-	SS Tee Handle & Nut	1/4" to 2"
-35-	PTFE Trim	1/4" to 2"
-45-	Less Lever & Nut	1/4" to 2"
-47-	SS Latch-Lock Oval Handle	1/2" to 2"
-48-	SS Oval Handle	1/4" to 2"
-49-	Assembled Dry	1/4" to 2"
-50-	2-1/4" Locking Stem Extension	1/4" to 3/4"
-57-	Cleaned For Gaseous Oxygen	1/4" to 2"
-58-	Horizontal Chain Lever	3/4" to 2"
-60-	Static Grounded Ball & Stem	1/4" to 2"
-61-	Grounded Ball & Stem and Assembled Dry	1/4" to 2"
-63-	Threaded x Socket Weld	1/2" to 2"
-P01-	BSPP (Parallel) Thread Connection	1/4" to 2"
-T01-	BSPT (Tapered) Thread Connection	1/4" to 2"

STAINLESS STEEL 3-PIECE BALL VALVE

NUMBER	SIZE	A	B	C	D	E	F	G	Wt.
85-101-01	1/4"	.43	1.28	2.56	1.81	3.87	N/A	N/A	1.02
85-102-01	3/8"	.50	1.28	2.56	1.81	3.87	N/A	N/A	.98
85-103-01	1/2"	.50	1.28	2.56	1.81	3.87	N/A	N/A	.97
85-104-01	3/4"	.62	1.38	2.75	1.93	4.87	N/A	N/A	1.35
85-105-01A	1"	.81	1.70	3.40	2.18	4.87	1.25	1/4-20	1.96
85-106-01A	1-1/4"	1.00	1.95	3.91	2.60	5.50	1.62	5/16-18	2.83
85-107-01A	1-1/2"	1.25	2.22	4.45	2.82	5.50	1.62	5/16-18	4.63
85-108-01A	2"	1.50	2.51	5.02	3.37	8.00	1.62	5/16-18	7.12

**For Pressure/Temperature Ratings,
 Refer to Page N-12, Graph No. 8**

Apollo® 85-200 Series

Stainless Steel 3-Piece Socket Weld Ball Valve

Standard Port Socket Weld, 1000 psig WOG, Cold Non-Shock. 150 psig Saturated Steam.

Vacuum Service to 29 inches Hg.

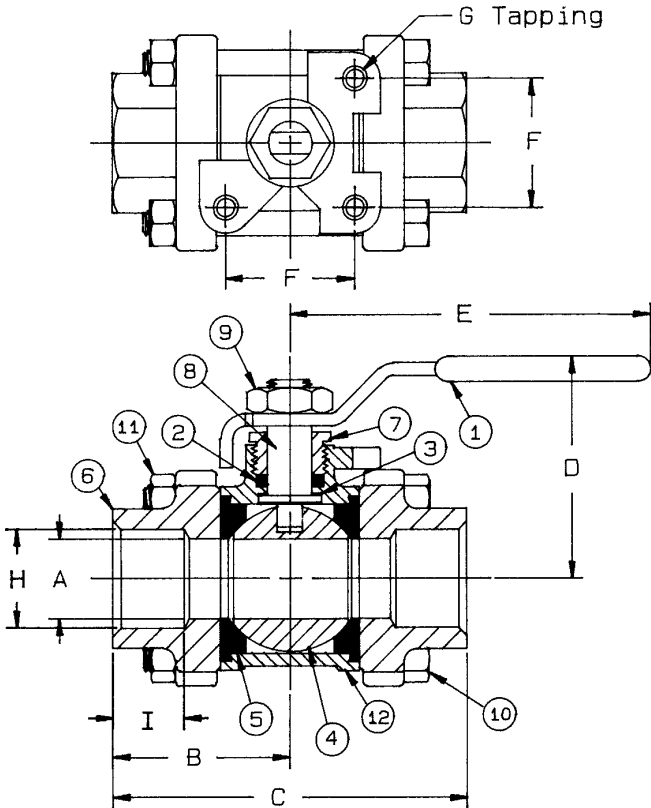
Federal Specification: WW-V-35C, Type: II, Composition: SS, Style: 1.

FEATURES

- Meets NACE MR-01-75
- Blow-out-proof stem design
- In-line repairable
- Adjustable packing gland
- Investment cast components
- Actuator mounting pad (1" to 2")
- RPTFE seats and seals

STANDARD MATERIAL LIST

1. Lever and grip	304 SS w/vinyl	7. Gland nut	A276-316
2. Stem packing	RPTFE	8. Stem	A276-316
3. Stem bearing	RPTFE	9. Lever nut	18-8 SS
4. Ball	A276-316	10. Body bolt (4)	18-8 SS
5. Seat (2)	RPTFE	11. Hex nut (4)	18-8 SS
6. End cap (2)	A351-CF3M	12. Body	A351-CF8M



OPTIONS AVAILABLE:

(SUFFIX)	OPTION	SIZES
-02-	Static Grounded	1/2" to 2"
-03-	1-1/4" Stem Extension	1/2" to 2"
-04-	2-1/4" Stem Extension	1/2" to 2"
-07-	Tee Handle	1/2" to 2"
-08-	90° Reversed Stem	1/2" to 2"
-10-	SS Lever & Nut	1/2" to 2"
-14-	Vented Ball (see page J-2)	1/2" to 2"
-15-	Round Handle	1/2" to 2"
-16-	Vertical Chain Lever	3/4" to 2"
-18-	Plain Yellow Grip	1/2" to 2"
-24-	Graphite Stem Packing	1/2" to 2"
-27-	Latch Lock Lever	1/2" to 2"
-30-	CamLock Handle	1/2" to 3/4"
-32-	SS Tee Handle & Nut	1/2" to 2"
-35-	PTFE Trim	1/2" to 2"
-45-	Less Lever & Nut	1/2" to 2"
-47-	SS Latch-Lock Oval Handle	1/2" to 2"
-48-	SS Oval Handle	1/2" to 2"
-49-	Assembled Dry	1/2" to 2"
-57-	Cleaned For Gaseous Oxygen	1/2" to 2"
-58-	Horizontal Chain Lever	3/4" to 2"
-60-	Static Grounded Ball & Stem	1/2" to 2"

**For Pressure/Temperature Ratings,
Refer to Page N-12, Graph No. 8**

STAINLESS STEEL 3-PIECE SOCKET WELD BALL VALVE

NUMBER	SIZE	A	B	C	D	E	F	G	H	I	Wt.
85-203-01	1/2"	.50	1.28	2.56	1.81	3.87	N/A	N/A	.855	.43	.97
85-204-01	3/4"	.62	1.38	2.75	1.93	4.87	N/A	N/A	1.065	.56	1.35
85-205-01A	1"	.81	1.70	3.40	2.18	4.87	1.25	1/4-20	1.330	.68	1.96
85-206-01A	1-1/4"	1.00	1.95	3.91	2.60	5.50	1.62	5/16-18	1.675	.81	2.83
85-207-01A	1-1/2"	1.25	2.22	4.45	2.82	5.50	1.62	5/16-18	1.915	.87	4.63
85-208-01A	2"	1.50	2.51	5.02	3.37	8.00	1.62	5/16-18	2.406	1.06	7.12

Apollo® 86-100 Series

Stainless Steel 3-Piece Full Port Ball Valve

Full Port Threaded, 1000 psig WOG, Cold Non-Shock. 150 psig Saturated Steam.

Vacuum Service to 29 inches Hg.

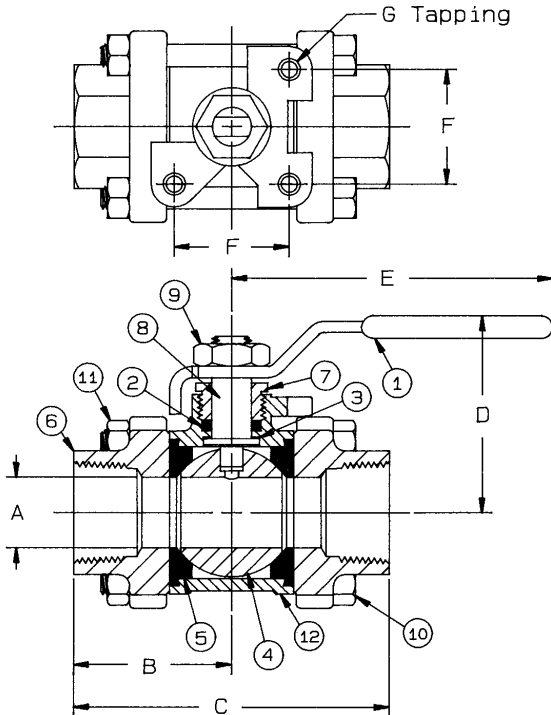
Federal Specification: WW-V-35C, Type: II, Composition: SS, Style: 1.

FEATURES

- AAR Approved
- Blow-out-proof stem design
- In-line repairable
- Adjustable packing gland
- Meets NACE MR-01-75
- Investment cast components
- Actuator mounting pad (3/4" to 2")
- RPTFE seats and seals
- Full port configuration

STANDARD MATERIAL LIST

1. Lever and grip	304 SS w/vinyl	7. Gland nut	A276-316
2. Stem packing	RPTFE	8. Stem	A276-316
3. Stem bearing	RPTFE	9. Lever nut	18-8 SS
4. Ball	A276-316	10. Body bolt (4)	18-8 SS
5. Seat (2)	RPTFE	11. Hex nut (4)	18-8 SS
6. End cap (2)	A351-CF3M	12. Body	A351-CF8M



OPTIONS AVAILABLE:

(SUFFIX)	OPTION	SIZES
-02-	Static Grounded	1/4" to 3"
-03-	1-1/4" Stem Extension	1/4" to 3"
-04-	2-1/4" Stem Extension	1/4" to 3"
-07-	Tee Handle	1/4" to 3"
-08-	90° Reversed Stem	1/4" to 3"
-14-	Vented Ball (see page J-2)	1/4" to 3"
-15-	Round Handle	1/4" to 3"
-16-	Vertical Chain Lever	1/2" to 3"
-18-	Plain Yellow Grip	1/4" to 3"
-19-	Lock Plate	1/4" to 3"
-21-	UHMWPE Seats (Non-PTFE)	1/4" to 3"
-23-	Tank Flange	2" ONLY
-24-	Graphite Stem Packing	1/4" to 3"
-27-	Latch Lock Lever	1/2" to 3"
-30-	CamLock Handle	1/2" ONLY
-32-	SS Tee Handle & Nut	1/4" to 3"
-35-	PTFE Trim	1/4" to 3"
-45-	Less Lever & Nut	1/4" to 3"
-48-	SS Oval Handle	1/4" to 2"
-49-	Assembled Dry	1/4" to 3"
-57-	Cleaned For Gaseous Oxygen	1/4" to 3"
-58-	Horizontal Chain Lever	1/2" to 3"
-60-	Static Grounded Ball & Stem	1/4" to 3"
-63-	Threaded x Socket Weld	3/8" to 3"
-P01-	BSPP (Parallel) Thread Connection	1/4" to 3"
-T01-	BSPT (Tapered) Thread Connection	1/4" to 3"

STAINLESS STEEL 3-PIECE FULL PORT BALL VALVE

NUMBER	SIZE	A	B	C	D	E	F	G	Wt.
86-101-01	1/4"	.43	1.28	2.56	1.81	3.87	N/A	N/A	1.02
86-102-01	3/8"	.50	1.28	2.56	1.81	3.87	N/A	N/A	.98
86-103-01	1/2"	.62	1.40	2.81	1.93	4.81	N/A	N/A	1.35
86-104-01A	3/4"	.81	1.71	3.43	2.18	4.81	1.25	1/4-20	1.89
86-105-01A	1"	1.00	1.93	3.87	2.62	5.50	1.62	5/16-18	2.95
86-106-01A	1-1/4"	1.25	2.37	4.75	2.87	5.50	1.62	5/16-18	5.00
86-107-01A	1-1/2"	1.50	2.62	5.25	3.37	8.00	1.62	5/16-18	7.36
86-108-01A	2"	2.00	3.01	6.03	3.68	8.00	1.62	5/16-18	12.73
86-100-01A	3"	3.00	4.00	8.00	5.62	9.75	N/A	N/A	41.15

**For Pressure/Temperature Ratings,
Refer to Page N-12, Graph No. 8**

Apollo® 86-200 Series

Stainless Steel 3-Piece Full Port Socket Weld Ball Valve

Socket Weld, 1000 psig WOG, Cold Non-Shock. 150 psig Saturated Steam.

Vacuum Service to 29 inches Hg.

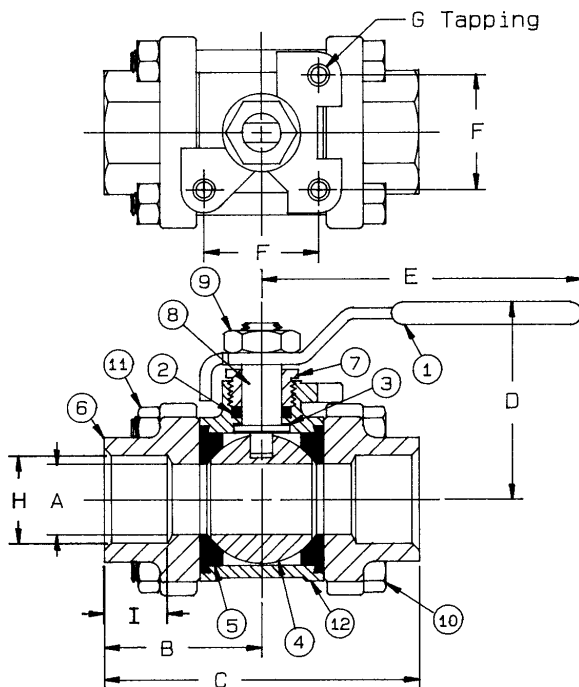
Federal Specification: WW-V-35C, Type: II, Composition: SS, Style: 1.

FEATURES

- AAR Approved
- Blow-out-proof stem design
- In-line repairable
- Adjustable packing gland
- Meets NACE MR-01-75
- Investment cast components
- Actuator mounting pad (3/4" to 2")
- RPTFE seats and seals
- Full port configuration

STANDARD MATERIAL LIST

1. Lever and grip	304 SS w/vinyl	7. Gland nut	A276-316
2. Stem packing	RPTFE	8. Stem	A276-316
3. Stem bearing	RPTFE	9. Lever nut	18-8 SS
4. Ball	A276-316	10. Body bolt (4)	18-8 SS
5. Seat (2)	RPTFE	11. Hex nut (4)	18-8 SS
6. End cap (2)	A351-CF3M	12. Body	A351-CF8M



OPTIONS AVAILABLE:

(SUFFIX)	OPTION	SIZES
-02-	Static Grounded	3/8" to 3"
-03-	1-1/4" Stem Extension	3/8" to 2"
-04-	2-1/4" Stem Extension	3/8" to 2"
-07-	Tee Handle	3/8" to 2"
-08-	90° Reversed Stem	3/8" to 3"
-14-	Vented Ball (see page J-2)	3/8" to 3"
-15-	Round Handle	3/8" to 2"
-16-	Vertical Chain Lever	1/2" to 2"
-18-	Plain Yellow Grip	3/8" to 2"
-19-	Lock Plate	3/8" to 2"
-21-	UHMWPE Seats (Non-PTFE)	3/8" to 3"
-23-	Tank Flange	2" ONLY
-24-	Graphite Stem Packing	3/8" to 3"
-27-	Latch Lock Lever	3/8" to 2"
-30-	CamLock Handle	1/2" ONLY
-32-	SS Tee Handle & Nut	3/8" to 2"
-35-	PTFE Trim	3/8" to 3"
-45-	Less Lever & Nut	3/8" to 3"
-48-	SS Oval Handle	3/8" to 2"
-49-	Assembled Dry	3/8" to 3"
-57-	Cleaned For Gaseous Oxygen	3/8" to 3"
-58-	Horizontal Chain Lever	1/2" to 3"
-60-	Static Grounded Ball & Stem	3/8" to 3"

**For Pressure/Temperature Ratings,
Refer to Page N-12, Graph No. 8**

STAINLESS STEEL 3-PIECE FULL PORT SOCKET
WELD BALL VALVE

NUMBER	SIZE	A	B	C	D	E	F	G	H	I	Wt.
86-202-01	3/8"	.50	1.28	2.56	1.81	3.37	N/A	N/A	.690	.56	.98
86-203-01	1/2"	.62	1.40	2.81	1.93	4.81	N/A	N/A	.855	.43	1.33
86-204-01A	3/4"	.81	1.71	3.43	2.18	4.81	1.25	1/4-20	1.065	.56	1.86
86-205-01A	1"	1.00	1.93	3.87	2.62	5.50	1.62	5/16-18	1.330	.68	2.76
86-206-01A	1-1/4"	1.25	2.37	4.75	2.87	5.50	1.62	5/16-18	1.675	.81	4.87
86-207-01A	1-1/2"	1.50	2.62	5.25	3.37	8.00	1.62	5/16-18	1.915	.87	7.18
86-208-01A	2"	2.00	3.01	6.03	3.68	8.00	1.62	5/16-18	2.406	1.06	12.42
86-200-01A	3"	3.00	4.00	8.00	5.62	9.75	N/A	N/A	3.540	1.37	40.36

Apollo® 86-500 Series

Stainless Steel 3-Piece High Pressure Full Port Ball Valve

Threaded, 1500 psig WOG, Cold Non-Shock. 150 psig Saturated Steam.

Vacuum Service to 29 inches Hg.

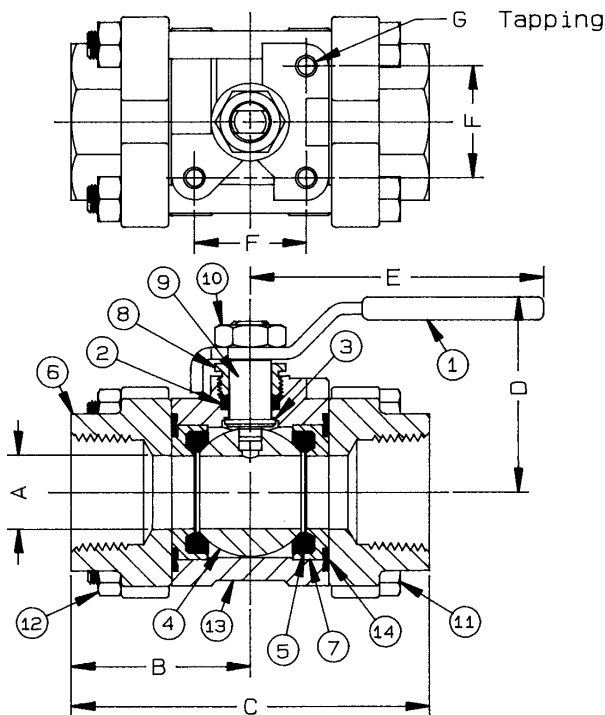
Federal Specification: WW-V-35C, Type: II, Composition: SS, Style: 1.

FEATURES

- Adjustable packing gland
- In-line repairable
- Blow-out-proof stem design
- (-29) Certified to API standard 607, 4th Edition, Class 600 burn
- Meets NACE MR-01-75
- Investment Cast Components
- Actuator mounting pad (3/4" to 2")
- RPTFE seats and seals

STANDARD MATERIAL LIST

1. Lever and grip	304 SS w/vinyl	8. Gland nut	A276-316
2. Stem packing	RPTFE	9. Stem	A276-316
3. Stem bearing	RPTFE	10. Lever nut	304 SS
4. Ball	A276-316	11. Body bolt (4)	18-8 SS
5. Seat (2)	RPTFE	12. Hex nut (4)	18-8 SS
6. End cap (2)	A351-CF3M	13. Body	A351-CF8M
7. Seat holder (2)	A276-316	14. Body seal (2)	RPTFE



OPTIONS AVAILABLE:

(SUFFIX)	OPTION	SIZES
-02-	Static Grounded	1/4" to 2"
-03-	1-1/4" Stem Extension	1/4" to 2"
-04-	2-1/4" Stem Extension	1/4" to 2"
-07-	Tee Handle	1/4" to 2"
-08-	90° Reversed Stem	1/4" to 2"
-14-	Vented Ball (see page J-2)	1/4" to 2"
-15-	Round Handle	1/4" to 2"
-16-	Vertical Chain Lever	1/2" to 2"
-18-	Plain Yellow Grip	1/4" to 2"
-27-	Latch Lock Lever	1/4" to 2"
-29-	Firesafe	1/4" to 2"
-32-	SS Tee Handle & Nut	1/4" to 2"
-38-	PEEK Seats and Bearing	1/4" to 2"
-45-	Less Lever & Nut	1/4" to 2"
-47-	SS Latch-Lock Oval Handle	1/4" to 2"
-48-	SS Oval Handle	1/4" to 2"
-49-	Assembled Dry	1/4" to 2"
-56-	Multifull Seats	1/4" to 2"
-57-	Cleaned for Gaseous Oxygen	1/4" to 2"
-58-	Horizontal Chain Lever	1/2" to 2"
-60-	Static Grounded Ball & Stem	1/4" to 2"
-63-	Threaded x Socket Weld	1/2" to 2"
-64-	250 Lb. Steam Trim	1/4" to 2"
-66-	NPT x Butt Weld	1/2" to 2"
-P01-	BSP (Parallel) Thread Connection	1/4" to 2"
-T01-	BSP (Tapered) Thread Connection	1/4" to 2"

STAINLESS STEEL 3-PIECE HIGH PRESSURE FULL PORT BALL VALVE

NUMBER	SIZE	A	B	C	D	E	F	G	Wt.
86-501-01	1/4"	.43	1.50	3.00	1.93	3.87	N/A	N/A	1.23
86-502-01	3/8"	.50	1.50	3.00	1.93	3.87	N/A	N/A	1.18
86-503-01	1/2"	.62	1.69	3.38	2.00	4.81	N/A	N/A	1.62
86-504-01A	3/4"	.81	1.93	3.87	2.18	4.81	1.25	1/4-20	2.27
86-505-01A	1"	1.00	2.25	4.50	2.62	5.50	1.62	5/16-18	3.54
86-506-01A	1-1/4"	1.25	2.43	4.87	2.87	5.50	1.62	5/16-18	6.00
86-507-01A	1-1/2"	1.50	2.62	5.25	3.35	8.00	1.62	5/16-18	8.84
86-508-01A	2"	2.00	3.12	6.25	3.75	8.00	1.62	5/16-18	15.28

For Pressure/Temperature Ratings, Refer to Page N-14, Graph No. 12

Apollo® 86-600 Series

Stainless Steel 3-Piece High Pressure Full Port Socket Weld Ball Valve

Socket Weld, 1500 psig WOG, Cold Non-Shock. 150 psig Saturated Steam.

Vacuum Service to 29 inches Hg.

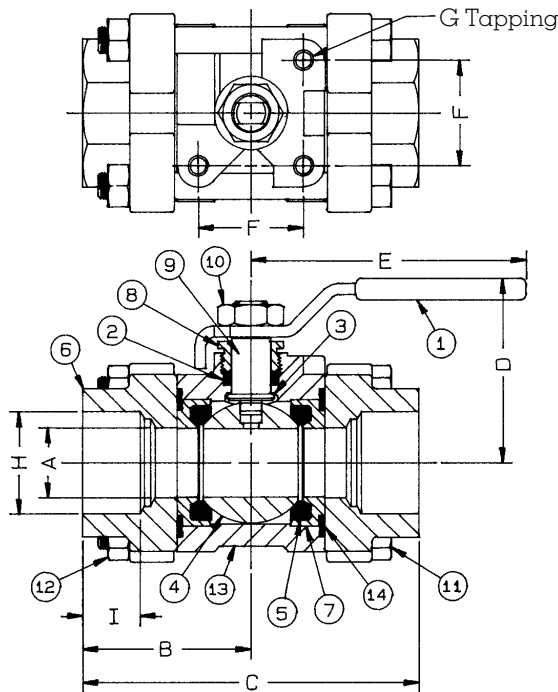
Federal Specification: WW-V-35C, Type: II, Composition: SS, Style: 1.

FEATURES

- Adjustable packing gland
- In-line repairable
- Blow-out-proof stem design
- (-29) certified to API 607 4TH ed. Class 600 burn
- Meets NACE MR-01-75
- Investment Cast Components
- Actuator mounting pad (3/4" to 2")
- RPTFE seats and seals

STANDARD MATERIAL LIST

1. Lever and grip	304 SS w/vinyl	8. Gland nut	A276-316
2. Stem packing	RPTFE	9. Stem	A276-316
3. Stem bearing	RPTFE	10. Lever nut	18-8 SS
4. Ball	A276-316	11. Body bolt (4)	18-8 SS
5. Seat (2)	RPTFE	12. Hex nut (4)	18-8 SS
6. End cap (2)	A351-CF3M	13. Body	A351-CF8M
7. Seat holder (2)	A276-316	14. Body seal (2)	RPTFE



OPTIONS AVAILABLE:

(SUFFIX)	OPTION	SIZES
-02-	Static Grounded	1/2" to 2"
-03-	1-1/4" Stem Extension	1/2" to 2"
-04-	2-1/4" Stem Extension	1/2" to 2"
-07-	Tee Handle	1/2" to 2"
-08-	90° Reversed Stem	1/2" to 2"
-14-	Vented Ball (see page J-2)	1/2" to 2"
-15-	Round Handle	1/2" to 2"
-16-	Vertical Chain Lever	1/2" to 2"
-18-	Plain Yellow Grip	1/2" to 2"
-27-	Latch Lock Lever	1/2" to 2"
-29-	Firesafe	1/2" to 2"
-32-	SS Tee Handle & Nut	1/2" to 2"
-38-	PEEK Seats and Bearing	1/2" to 2"
-45-	Less Lever & Nut	1/2" to 2"
-48-	SS Oval Handle	1/2" to 2"
-49-	Assembled Dry	1/2" to 2"
-56-	Multifill Seats	1/2" to 2"
-57-	Cleaned for Gaseous Oxygen	1/2" to 2"
-58-	Horizontal Chain Lever	1/2" to 2"
-60-	Static Grounded Ball & Stem	1/2" to 2"
-64-	250 Lb. Steam Trim	1/2" to 2"

**For Pressure/Temperature Ratings,
Refer to Page N-14, Graph No. 12**

STAINLESS STEEL 3-PIECE HIGH PRESSURE
FULL PORT SOCKET WELD BALL VALVE

NUMBER	SIZE	A	B	C	D	E	F	G	H	I	Wt.
86-603-01	1/2"	.62	1.69	3.38	2.00	4.81	N/A	N/A	.855	.43	1.60
86-604-01A	3/4"	.81	1.93	3.87	2.18	4.81	1.25	1/4-20	1.065	.56	2.24
86-605-01A	1"	1.00	2.25	4.50	2.62	5.50	1.62	5/16-18	1.330	.68	3.32
86-606-01A	1-1/4"	1.25	2.43	4.87	2.87	5.50	1.62	5/16-18	1.675	.81	5.85
86-607-01A	1-1/2"	1.50	2.62	5.25	3.35	8.00	1.62	5/16-18	1.915	.87	8.62
86-608-01A	2"	2.00	3.12	6.25	3.75	8.00	1.62	5/16-18	2.406	1.06	15.60

Apollo® 86-700 Series

Stainless Steel 3-Piece Full Port Butt-Weld Ball Valve

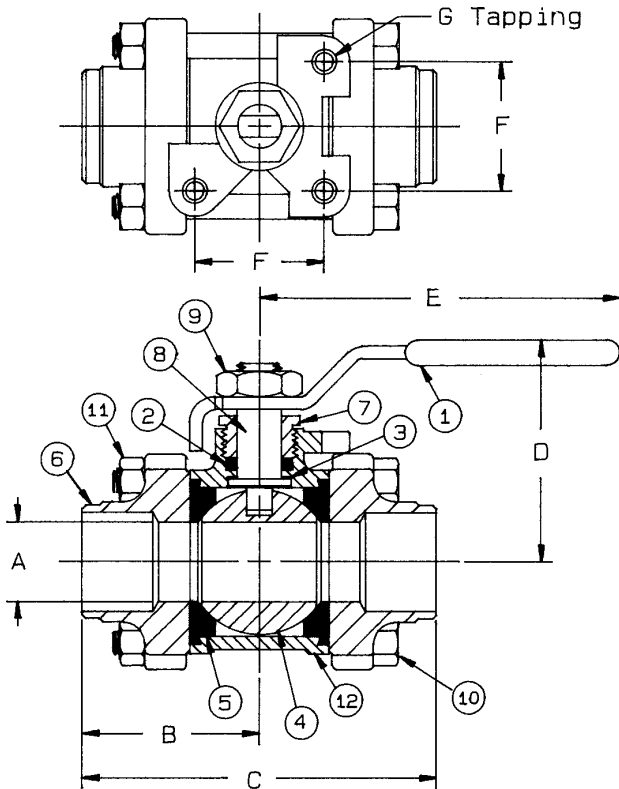
Schedule 10 Butt-Weld Ends, 1000 psig WOG, Cold Non-Shock. 150 psig Saturated Steam.
 Vacuum Service to 29 inches Hg.
 Federal Specification: WW-V-35C, Type: II, Composition: SS, Style: 1.

FEATURES

- AAR Approved
- Adjustable packing gland
- In-line repairable
- Blow-out-proof stem design
- Meets NACE MR-01-75
- Investment cast components
- Actuator mounting pad (3/4" to 2")
- RPTFE seats and seals
- Full port configuration

STANDARD MATERIAL LIST

1. Lever and grip	304 SS w/vinyl	7. Gland nut	A276-316
2. Stem packing	RPTFE	8. Stem	A276-316
3. Stem bearing	RPTFE	9. Lever nut	18-8 SS
4. Ball	A276-316	10. Body bolt (4)	18-8 SS
5. Seat (2)	RPTFE	11. Hex nut (4)	18-8 SS
6. End cap (2)	A351-CF3M	12. Body	A351-CF8M



OPTIONS AVAILABLE:

(SUFFIX)	OPTION	SIZES
-02-	Static Grounded	1/2" to 2"
-03-	1-1/4" Stem Extension	1/2" to 2"
-04-	2-1/4" Stem Extension	1/2" to 2"
-07-	Tee Handle	1/2" to 2"
-08-	90° Reversed Stem	1/2" to 2"
-14-	Vented Ball (see page J-2)	1/2" to 2"
-15-	Round Handle	1/2" to 2"
-16-	Vertical Chain Lever	1/2" to 2"
-18-	Plain Yellow Grip	1/2" to 2"
-21-	UHMWPE Seats (Non-PTFE)	1/2" to 2"
-23-	Tank Flange	2" ONLY
-24-	Graphite Stem Packing	1/2" to 2"
-27-	Latch Lock Lever	1/2" to 2"
-30-	CamLock Handle	1/2" ONLY
-32-	SS Tee Handle & Nut	1/2" to 2"
-35-	PTFE Trim	1/2" to 2"
-45-	Less Lever & Nut	1/2" to 2"
-48-	SS Oval Handle	1/2" to 2"
-49-	Assembled Dry	1/2" to 2"
-57-	Cleaned For Gaseous Oxygen	1/2" to 2"
-58-	Horizontal Chain Lever	1/2" to 2"
-60-	Static Grounded Ball & Stem	1/2" to 2"

STAINLESS STEEL 3-PIECE FULL PORT
 BUTT-WELD BALL VALVE

NUMBER	SIZE	A	B	C	D	E	F	G	Wt.
86-703-01	1/2"	.62	1.40	2.81	1.93	4.81	N/A	N/A	1.87
86-704-01A	3/4"	.81	1.71	3.43	2.18	4.81	1.25	1/4-20	1.98
86-705-01A	1"	1.00	1.93	3.87	2.62	5.50	1.62	5/16-18	2.90
86-707-01A	1-1/2"	1.50	2.62	5.25	3.37	8.00	1.62	5/16-18	7.00
86-708-01A	2"	2.00	3.01	6.03	3.68	8.00	1.62	5/16-18	13.08

**For Pressure/Temperature Ratings,
 Refer to Page N-12, Graph No. 8**

Apollo® 86-900 Series

Stainless Steel 3-Piece High Pressure Full Port Butt-Weld Ball Valve

Schedule 10 Butt-Weld, 1500 psig WOG, Cold Non-Shock. 150 psig Saturated Steam.
 Vacuum Service to 29 inches Hg.
 Federal Specification: WW-V-35C, Type: II, Composition: SS, Style: 1.

FEATURES

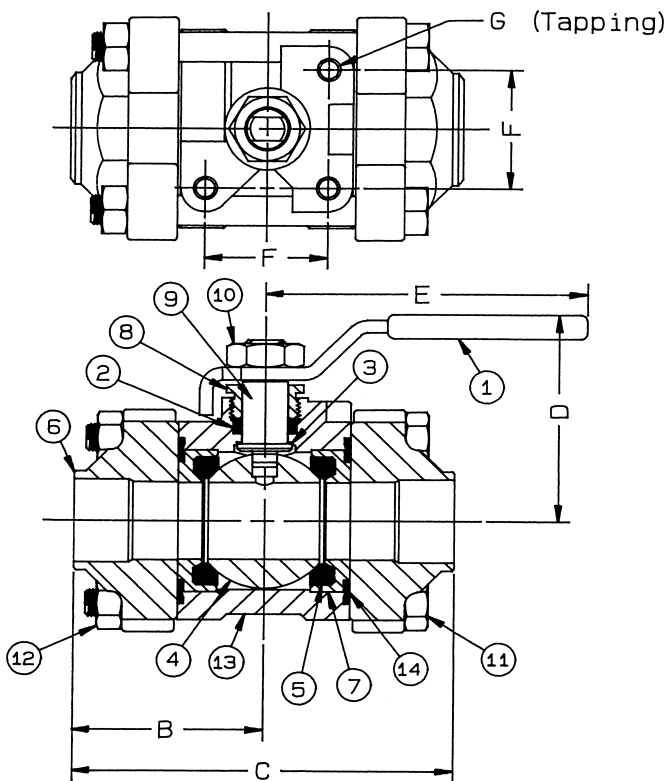
- Adjustable packing gland
- In-line repairable
- Blow-out-proof stem design
- (-29) Certified to API standard 607, 4th Edition, Class 600 burn
- Meets NACE MR-01-75-97
- Investment Cast Components
- Actuator mounting pad (3/4" to 2")
- RPTFE seats and seals

STANDARD MATERIAL LIST

1. Lever and grip	304 SS w/vinyl	8. Gland nut	A276-316
2. Stem packing	RPTFE	9. Stem	A276-316
3. Stem bearing	RPTFE	10. Lever nut	304 SS
4. Ball	A276-316	11. Body bolt (4)	18-8 SS
5. Seat (2)	RPTFE	12. Hex nut (4)	18-8 SS
6. End cap (2)	A351-CF3M	13. Body	A351-CF8M
7. Seat Holder (2)	A276-316	14. Body seal (2)	RPTFE

OPTIONS AVAILABLE:

(SUFFIX)	OPTION	SIZES
-02-	Static Grounded	1/2" to 2"
-03-	1-1/4" Stem Extension	1/2" to 2"
-04-	2-1/4" Stem Extension	1/2" to 2"
-07-	Tee Handle	1/2" to 2"
-08-	90° Reversed Stem	1/2" to 2"
-14-	Vented Ball (see page J-2)	1/2" to 2"
-15-	Round Handle	1/2" to 2"
-16-	Vertical Chain Lever	1/2" to 2"
-18-	Plain Yellow Grip	1/2" to 2"
-27-	Latch Lock Lever	1/2" to 2"
-29-	Firesafe	1/2" to 2"
-32-	SS Tee Handle & Nut	1/2" to 2"
-35-	PTFE Trim	1/2" to 2"
-38-	PEEK Seats and Bearing	1/2" to 2"
-45-	Less Lever & Nut	1/2" to 2"
-47-	SS Latch-Lock Oval Handle	1/2" to 2"
-48-	SS Oval Handle	1/2" to 2"
-49-	Assembled Dry	1/2" to 2"
-57-	Cleaned For Gaseous Oxygen	1/2" to 2"
-58-	Horizontal Chain Lever	1/2" to 2"
-60-	Static Grounded Ball & Stem	1/2" to 2"
-64-	250 lb. Steam Trim	1/2" to 2"



STAINLESS STEEL 3-PIECE HIGH PRESSURE FULL PORT BUTT-WELD BALL VALVE

NUMBER	SIZE	A	B	C	D	E	F	G	Wt.
86-903-01	1/2"	.62	1.69	3.38	2.00	4.81	N/A	N/A	1.60
86-904-01A	3/4"	.81	1.93	3.87	2.18	4.81	1.25	1/4-20	2.24
86-905-01A	1"	1.00	2.25	4.50	2.62	5.50	1.62	5/16-18	3.32
86-907-01A	1-1/2"	1.50	2.62	5.25	3.35	8.00	1.62	5/16-18	8.62
86-908-01A	2"	2.00	3.11	6.22	3.75	8.00	1.62	5/16-18	15.60

**For Pressure/Temperature Ratings,
 Refer to Page N-14, Graph No. 12**

Apollo® 401-100 Series

Alloy-20 3-Piece Full Port Ball Valve

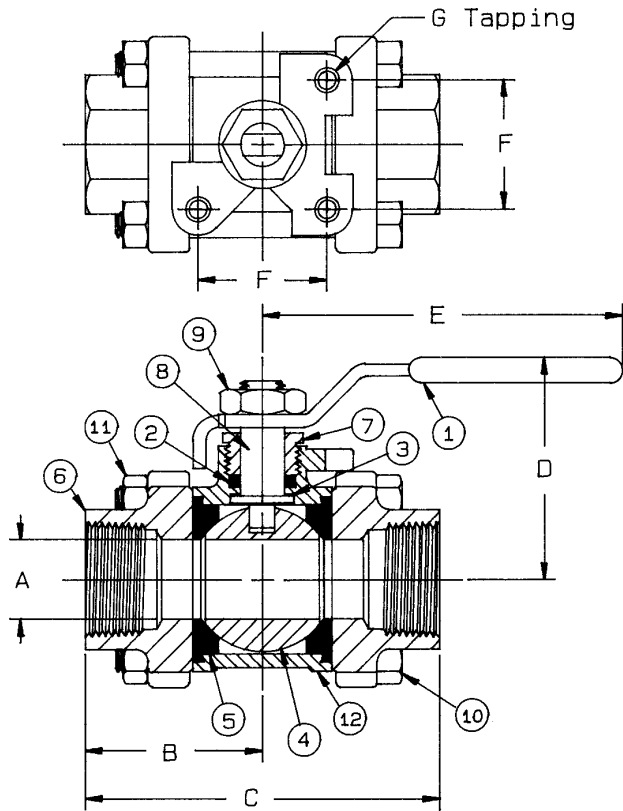
Threaded, 1000 psig WOG, Cold Non-Shock. 150 psig Saturated Steam.
 Vacuum Service to 29 inches Hg.
 Federal Specification: WW-V-35C, Type: II, Composition: SS, Style: 1.

FEATURES

- Blow-out-proof stem design
- In-line repairable
- Adjustable packing gland
- Meets NACE MR-01-75
- Investment cast components
- Actuator mounting pad (3/4" to 2")
- RPTFE seats and seals
- Full port configuration

STANDARD MATERIAL LIST

1. Lever and grip	304 SS w/vinyl	7. Gland nut	A276-316
2. Stem packing	RPTFE	8. Stem	B473-N08020
3. Stem bearing	RPTFE	9. Lever nut	18-8 SS
4. Ball	B473-N08020	10. Body bolt (4)	18-8 SS
5. Seat (2)	RPTFE	11. Hex nut (4)	18-8 SS
6. End cap (2)	A351-CN7M	12. Body	A351-CN7M



OPTIONS AVAILABLE:

(SUFFIX)	OPTION	SIZES
-02-	Static Grounded	1/2" to 2"
-03-	1-1/4" Stem Extension	1/2" to 2"
-04-	2-1/4" Stem Extension	1/2" to 2"
-07-	Tee Handle	1/2" to 2"
-08-	90° Reversed Stem	1/2" to 2"
-14-	Vented Ball (see page J-2)	1/2" to 2"
-15-	Round Handle	1/2" to 2"
-16-	Vertical Chain Lever	1/2" to 2"
-18-	Plain Yellow Grip	1/2" to 2"
-19-	Lock Plate	1/2" to 2"
-21-	UHMWPE Seats (Non-PTFE)	1/2" to 2"
-24-	Graphite Stem Packing	1/2" to 2"
-27-	Latch Lock Lever	1/2" to 2"
-30-	CamLock Handle	1/2" ONLY
-32-	SS Tee Handle & Nut	1/2" to 2"
-35-	PTFE Trim	1/2" to 2"
-45-	Less Lever & Nut	1/2" to 2"
-48-	SS Oval Handle	1/2" to 2"
-49-	Assembled Dry	1/2" to 2"
-57-	Cleaned For Gaseous Oxygen	1/2" to 2"
-58-	Horizontal Chain Lever	1/2" to 2"
-60-	Static Grounded Ball & Stem	1/2" to 2"
-63-	Female Threaded x Socket Weld	1/2" to 2"
-P01-	BSPP (Parallel) Thread Connection	1/2" to 2"
-T01-	BSPT (Tapered) Thread Connection	1/2" to 2"

ALLOY-20 3-PIECE FULL PORT BALL VALVE

NUMBER	SIZE	A	B	C	D	E	F	G	Wt.
401-103-01	1/2"	.62	1.40	2.81	1.93	4.81	N/A	N/A	1.40
401-104-01	3/4"	.81	1.71	3.43	2.18	4.81	1.25	1/4-20	1.94
401-105-01	1"	1.00	1.93	3.87	2.62	5.50	1.62	5/16-18	3.00
401-107-01	1-1/2"	1.50	2.62	5.25	3.37	8.00	1.62	5/16-18	7.41
401-108-01	2"	2.00	3.01	6.03	3.68	8.00	1.62	5/16-18	12.78

**For Pressure/Temperature Ratings,
 Refer to Page N-12, Graph No. 8**

Apollo® 401-200 Series

Alloy-20 3-Piece Full Port Socket Weld Ball Valve

Socket Weld, 1000 psig WOG, Cold Non-Shock. 150 psig Saturated Steam.

Vacuum Service to 29 inches Hg.

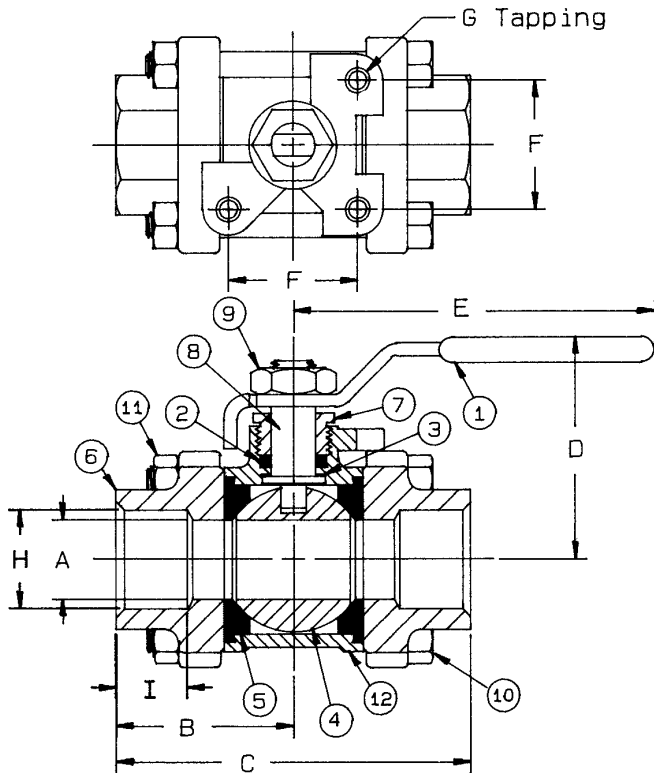
Federal Specification: WW-V-35C, Type: II, Composition: SS, Style: 1.

FEATURES

- Blow-out-proof stem design
- In-line repairable
- Adjustable packing gland
- Meets NACE MR-01-75
- Investment cast components
- Actuator mounting pad (3/4" to 2")
- RPTFE seats and seals
- Full port configuration

STANDARD MATERIAL LIST

1. Lever and grip	304 SS w/vinyl	7. Gland nut	A276-316
2. Stem packing	RPTFE	8. Stem	B473-N08020
3. Stem bearing	RPTFE	9. Lever nut	18-8 SS
4. Ball	B473-N08020	10. Body bolt (4)	18-8 SS
5. Seat (2)	RPTFE	11. Hex nut (4)	18-8 SS
6. End cap (2)	A351-CN7M	12. Body	A351-CN7M



OPTIONS AVAILABLE:

(SUFFIX)	OPTION	SIZES
-02-	Static Grounded	1/2" to 2"
-03-	1-1/4" Stem Extension	1/2" to 2"
-04-	2-1/4" Stem Extension	1/2" to 2"
-07-	Tee Handle	1/2" to 2"
-08-	90° Reversed Stem	1/2" to 2"
-14-	Vented Ball (see page J-2)	1/2" to 2"
-15-	Round Handle	1/2" to 2"
-16-	Vertical Chain Lever	1/2" to 2"
-18-	Plain Yellow Grip	1/2" to 2"
-19-	Lock Plate	1/2" to 2"
-21-	UHMWPE Seats (Non-PTFE)	1/2" to 2"
-24-	Graphite Stem Packing	1/2" to 2"
-27-	Latch Lock Lever	1/2" to 2"
-30-	CamLock Handle	1/2" ONLY
-32-	SS Tee Handle & Nut	1/2" to 2"
-35-	PTFE Trim	1/2" to 2"
-45-	Less Lever & Nut	1/2" to 2"
-48-	SS Oval Handle	1/2" to 2"
-49-	Assembled Dry	1/2" to 2"
-57-	Cleaned For Gaseous Oxygen	1/2" to 2"
-58-	Horizontal Chain Lever	1/2" to 2"
-60-	Static Grounded Ball & Stem	1/2" to 2"

**For Pressure/Temperature Ratings,
Refer to Page N-12, Graph No. 8**

ALLOY-20 3-PIECE FULL PORT SOCKET
WELD BALL VALVE

NUMBER	SIZE	A	B	C	D	E	F	G	H	I	Wt.
401-203-01	1/2"	.62	1.40	2.81	1.93	4.81	N/A	N/A	.855	.43	1.38
401-204-01	3/4"	.81	1.71	3.43	2.18	4.81	1.25	1/4-20	1.065	.56	1.92
401-205-01	1"	1.00	1.93	3.87	2.62	5.50	1.62	5/16-18	1.330	.68	2.98
401-207-01	1-1/2"	1.50	2.62	5.25	3.37	8.00	1.62	5/16-18	1.915	.87	7.39
401-208-01	2"	2.00	3.01	6.03	3.68	8.00	1.62	5/16-18	2.406	1.06	12.76