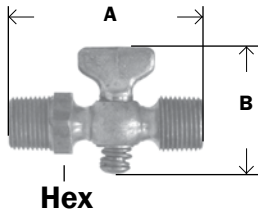


MIP X MIP

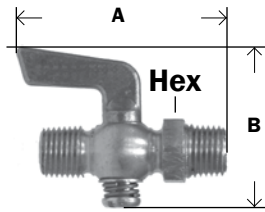
- tee handle
- hex



Part #	MIP X MIP	Ind. #	A	B	Hex	Approx. Wt. Lbs.	List Price
46-320	1/8"	18	1.81	1.51	0.75	0.14	23.81
46-321	1/4"	19	1.92	1.55	0.62	0.16	35.38
46-322	3/8"	20	2.34	1.55	0.75	0.19	24.95
46-323	1/2"	21	2.18	1.50	0.87	0.26	29.55

MIP X MIP

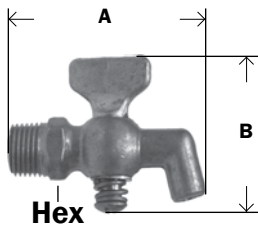
- lever handle
- hex



Part #	MIP X MIP	Ind. #	A	B	Hex	Approx. Wt. Lbs.	List Price
46-324	1/8"	22	2.09	1.69	0.56	0.14	30.95
46-325	1/4"	23	2.18	1.69	0.62	0.16	31.19
46-326	3/8"	24	2.26	1.72	0.75	0.20	27.76
46-327	1/2"	25	2.57	1.81	0.91	0.36	34.67

MIP X BIBB NOSE

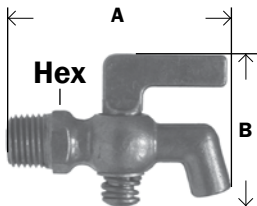
- tee handle
- hex



Part #	MIP X BIBB NOSE	Ind. #	A	B	Hex	Approx. Wt. Lbs.	List Price
46-330	1/8"	26	2.18	1.75	0.56	0.14	36.73
46-331	1/4"	27	2.11	1.57	0.56	0.16	38.06

MIP X BIBB NOSE

- lever handle
- hex

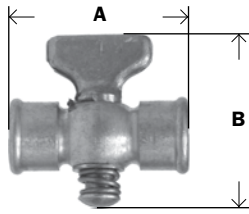


Part #	MIP X BIBB NOSE	Ind. #	A	B	Hex	Approx. Wt. Lbs.	List Price
46-335	1/8"	29	2.25	1.68	0.56	0.14	31.44
46-336	1/4"	30	2.20	1.67	0.56	0.17	31.90
46-337	3/8"	31	2.25	1.72	0.87	0.20	51.03
46-338	1/2"	32	2.31	1.71	0.87	0.22	61.86



FIP X FIP

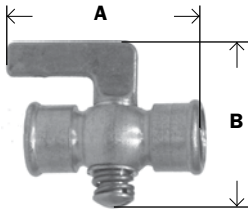
- tee handle
- no hex



Part #	FIP X FIP	Ind. #	A	B	Approx. Wt. Lbs.	List Price
46-340	1/8"	37	1.62	1.50	0.14	21.04
46-341	1/4"	38	1.93	1.56	0.16	24.98
46-342	3/8"	39	2.00	1.55	0.20	31.40

FIP X FIP

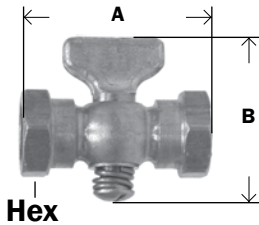
- lever handle
- no hex



Part #	FIP X FIP	Ind. #	A	B	Approx. Wt. Lbs.	List Price
46-345	1/8"	43	1.94	1.68	0.14	27.10
46-346	1/4"	44	2.10	1.71	0.16	27.37
46-347	3/8"	45	2.14	1.69	0.20	35.19

FIP X FIP

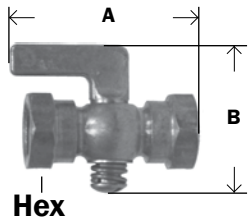
- tee handle
- hex



Part #	FIP X FIP	Ind. #	A	B	Hex	Approx. Wt. Lbs.	List Price
46-350	1/8"	55	1.62	1.54	0.75	0.17	25.52
46-351	1/4"	56	1.94	1.55	0.75	0.18	34.58
46-352	3/8"	57	1.99	1.58	0.81	0.20	29.82

FIP X FIP

- lever handle
- hex



Part #	FIP X FIP	Ind. #	A	B	Hex	Approx. Wt. Lbs.	List Price
46-355	1/8"	58	1.97	1.70	0.56	0.15	26.20
46-356	1/4"	59	2.10	1.71	0.75	0.18	26.49
46-357	3/8"	60	2.10	1.69	0.81	0.20	44.61
46-358	1/2"	60A	2.50	2.02	1.00	0.36	46.80

A CARTOONIST WAS FOUND DEAD IN HIS HOME. DETAILS ARE SKETCHY.



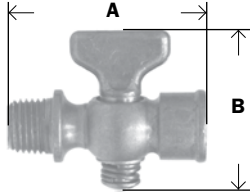
BRASS AIR COCKS

BRASS FITTINGS

BRASS

MIP X FIP

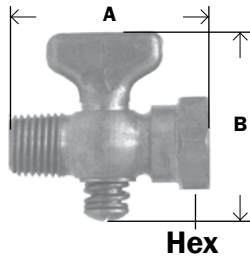
- tee handle
- no hex



Part #	MIP X FIP	Ind. #	A	B	Approx. Wt. Lbs.	List Price
46-360	1/8"	40	1.70	1.55	0.14	22.11
46-361	1/4"	41	1.94	1.55	0.16	26.16
46-362	3/8"	42	2.06	1.50	0.20	33.45

MIP X FIP

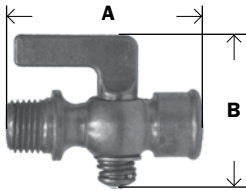
- tee handle
- hex



Part #	MIP X FIP	Ind. #	A	B	Hex	Approx. Wt. Lbs.	List Price
46-370	1/8"	49	1.81	1.55	0.56	0.14	32.61
46-371	1/4"	50	2.06	1.55	0.75	0.20	28.56
46-372	3/8"	51	2.12	1.53	0.81	0.22	30.22
46-373	1/2"	51A	2.13	1.62	1.00	0.30	49.66

MIP X FIP

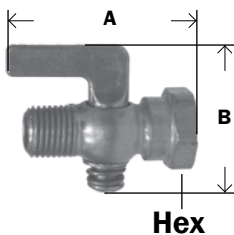
- lever handle
- no hex



Part #	MIP X FIP	Ind. #	A	B	Approx. Wt. Lbs.	List Price
46-365	1/8"	46	1.94	1.72	0.14	26.10
46-366	1/4"	47	2.10	1.65	0.16	29.41
46-367	3/8"	48	2.20	1.81	0.24	36.94
46-368	1/2"	48A	2.50	1.95	0.42	39.36

MIP X FIP

- lever handle
- hex



Part #	MIP X FIP	Ind. #	A	B	Hex	Approx. Wt. Lbs.	List Price
46-375	1/8"	52	1.93	1.69	0.56	0.16	26.49
46-376	1/4"	53	2.06	1.76	0.75	0.20	33.98
46-377	3/8"	54	2.13	1.71	0.81	0.22	32.75
46-378	1/2"	54A	2.65	1.96	1.00	0.28	39.22

Dimension data can change without notice. Please call us when dimensions are critical.



NEEDLE VALVES

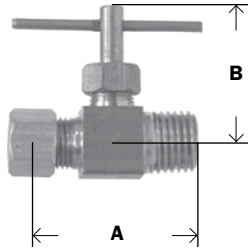
Made with either pin handle or pressed on handle.
Please specify if you have a preference.

- Used on instrumentation, hydraulic, and pneumatic systems.
- Designed for a maximum working pressure of 150 PSI.

- Provided with steel handles and metal-to-metal seats with fine-thread screwdown.
- Not designed for natural gas, LPG, nuclear or aircraft applications.
- Always install with pressure against the seat.

BRASS

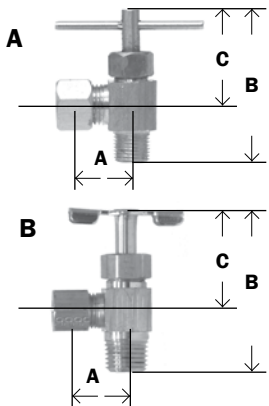
COMP X MALE PIPE



NV106C 820
2205 3068

Part #	Comp X Male Pipe	Ind. #	A	B	Approx. Wt. Lbs.	List Price
46-001	3/16" x 1/8"	M-133-C	1.16	0.88	0.06	42.23
46-002	1/4" x 1/8"	M-101-C	1.29	1.12	0.07	20.36
46-002X	Heavy Pattern	M-101-C	1.19	0.88	0.09	16.50
46-003	1/4" x 1/4"	M-101-C	1.27	1.14	0.10	9.36
46-004	5/16" x 1/8"	M-102-C	1.50	1.25	0.14	18.35
46-005	3/8" x 1/4"	M-143-C	1.53	1.22	0.18	14.39

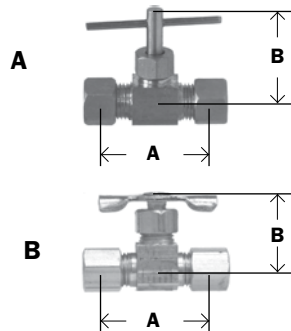
COMP X MALE PIPE-ANGLE



NV104C 821
2203 3069

Part #	Comp X Male Pipe	Handle	Ind. #	A	B	C	Approx. Wt. Lbs.	List Price
46-010	3/16" x 1/8"	B	M-33-C	0.50	1.50	0.82	0.07	25.11
46-011	1/4" x 1/8"	A		0.56	1.48	0.93	0.08	6.36
46-011X	Heavy Pattern	B		0.53	1.53	0.83	0.08	17.89
46-012	1/4" x 1/4"	B		0.62	1.67	0.90	0.13	16.91
46-013	5/16" x 1/8"	B		0.63	1.63	0.95	0.10	22.49
46-014	5/16" x 1/4"	B		0.69	1.73	0.92	0.14	55.52
46-016	3/8" x 1/4"	A		0.65	1.71	0.92	0.16	14.02

COMP X COMP

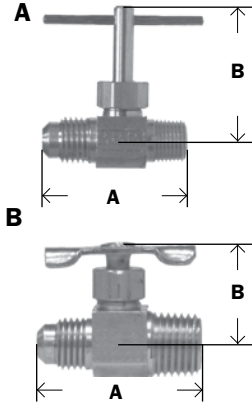


NV105C 2201
3062 822

Part #	Comp X Comp	Handle	Ind. #	A	B	Approx. Wt. Lbs.	List Price
46-020	3/16"	B	M-105-C	1.06	0.88	0.08	31.50
46-021	1/4"	A	M-106-C	1.17	1.12	0.10	7.27
46-022	5/16"	A	M-107-C	1.22	1.08	0.12	16.27
46-023	3/8"	B	M-113-C	1.31	1.15	0.13	10.09



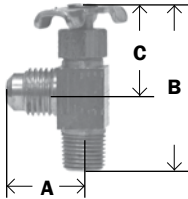
FLARE X MALE PIPE



Part #	Male Flare X Male Pipe	Handle	Ind. #	A	B	Approx. Wt. Lbs.	List Price
46-028	1/4" x 1/8"	A	M-104-SAE	1.35	1.12	0.07	18.65
46-029	1/4" x 1/4"	B	M-1040-SAE	1.38	0.88	0.09	25.62
46-031	3/8" x 1/4"	B	M-108-SAE	1.73	1.22	0.18	27.96

NV103F
2405
823
3048

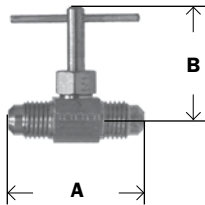
FLARE X MALE PIPE



Part #	Male Flare X Male Pipe	Ind. #	A	B	C	Approx. Wt. Lbs.	List Price
46-036	1/4" x 1/8"	M-103-SAE	0.68	1.54	0.86	0.08	13.16
46-038	5/16" x 1/8"	M-203-SAE	0.88	1.59	0.94	0.11	30.17
46-039	5/16" x 1/4"	M-204-SAE	0.90	1.94	1.00	0.14	19.79
46-040	3/8" x 1/4"	M-303-SAE	0.97	1.84	0.90	0.17	49.27

NV101F 824
2403 3049

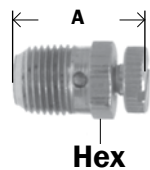
FLARE X FLARE



Part #	Male Flare X Male Flare	Ind. #	A	B	Approx. Wt. Lbs.	List Price
46-045	1/4"	M-110-SAE	1.48	1.20	0.18	5.39
46-046	3/8"	M-115-SAE	1.79	1.19	0.20	21.64

NV102F
3042
825
2401

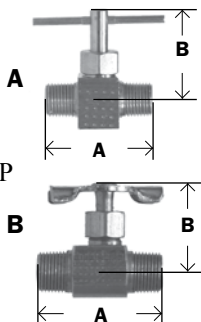
MULTI-PURPOSE AIR VENT



Part #	Male Pipe	A	Hex	Approx. Wt. Lbs.	List Price
46-048	1/8"	0.78	0.43	0.02	3.56

705

MALE PIPE TO MALE PIPE

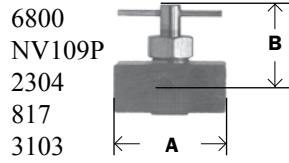


Part #	Male Pipe X Male Pipe	Handle	Ind. #	A	B	Approx. Wt. Lbs.	List Price
46-050	1/8"	A	M-108-P	1.25	1.09	0.08	23.24
46-050X	1/8"	B	M-108-P	1.38	0.66	0.08	15.26
46-051	1/4"	A	M-110-P	1.69	1.00	0.16	17.81

NV107P
2301
826
3122



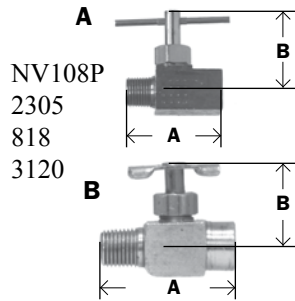
FEMALE PIPE X FEMALE PIPE



Part #	Female Pipe X Female Pipe	Ind. #	A	B	Approx. Wt. Lbs.	List Price
46-055*	1/8"	M-304-P	1.12	0.88	0.18	21.20
46-056	1/4"	M-3044-P	1.60	1.24	0.21	9.66
46-056P*	1/4" Heavy	M-3044-P	1.62	2.53	0.20	14.83

* Pressed on handle

MALE X FEMALE PIPE

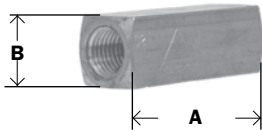


Part #	Male Pipe X Female Pipe	Handle	Ind. #	A	B	Approx. Wt. Lbs.	List Price
46-060	1/8"	A	M-305-P	1.18	1.09	0.10	6.68
46-061	1/4"	A	M-3055-P	1.60	1.14	0.18	10.26
46-061L	1/4" Light Pattern	B	M-3055-P	1.88	1.09	0.21	21.38

FLOW CONTROL NEEDLE & CHECK VALVES

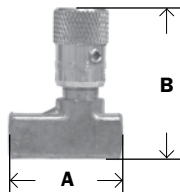
- Precision calibrated dial to determine and allow a return to required flow settings.
- Safe positive stop for needle travel.
- Positive no-leak stem seal.
- 2PSI cracking pressure.
- 1000 PSI maximum operating pressure.
- One piece forged housing.
- Nickel Plated available.
- Suitable for natural gas.

CHECK VALVE



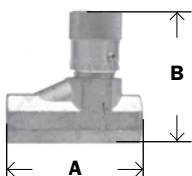
Part #	Size	A	B	Approx. Wt. Lbs.	List Price
20-473	1/4"	1.94	0.68	0.20	97.74

FLOW CONTROL



Part #	Size	A	B	Approx. Wt. Lbs.	List Price
20-485	1/8"	1.47	1.48	0.18	129.83
20-487	1/4"	1.94	1.92	0.27	130.99

NEEDLE VALVE



Part #	Size	A	B	Approx. Wt. Lbs.	List Price
20-501	1/8"	1.47	1.80	0.18	98.71
20-503	1/4"	1.94	2.00	0.28	117.85



NEEDLE VALVES

SCREW STEM SHUT-OFF VALVES
NEEDLE VALVES

NEEDLE VALVES are constructed to meter fluids and gases. They are **O-RING SEALED** to eliminate valve maintenance. The O-ring is positioned between the actuating threads and the seat, and seals the closely fitted cylinder to give the lowest possible internal volume and protect threads from contamination.

NEEDLE VALVES have a medium tipped stem (37°) to offer RAPID SHUT OFF, FULL FLOW and a SEMI-METERING FUNCTION.

The standard construction is a forged brass body, brass stem, thrust washer, cap and a BUNA "N" 'O' - RING seal. This valve is rated for 1,000 p.s.i.g. service from -40° to 250° F.

FACTORY MUST BE CONSULTED WHEN VALVES ARE TO BE USED WITH FLAMMABLE FLUIDS IN ORDER TO DETERMINE WORKING PRESSURE AND O-RING COMPATIBILITY.

COMPRESSION AND FLARE ENDS CAN BE SUBSTITUTED FOR PIPE ENDS IN MOST CASES.

(Price on application)



MIP X FIP STRAIGHT

Part #	Pipe Thread Inlet Outlet	Style	Maximum Orifice	List Price
46-768	1/8 Male x 1/8 Female	Regular	0.141	50.78
46-769	1/8 Male x 1/8 Female	Panel	0.141	67.94
46-770	1/4 Male x 1/4 Female	Regular	0.188	48.72
46-771	1/4 Male x 1/4 Female	Panel	0.188	66.27

FIP X FIP STRAIGHT

Part #	Pipe Thread Inlet Outlet	Style	Maximum Orifice	List Price
46-780	1/8 Female x 1/8 Female	Regular	0.172	46.72
46-781	1/8 Female x 1/8 Female	Panel	0.172	65.01
46-782	1/4 Female x 1/4 Female	Regular	0.188	48.71
46-783	1/4 Female x 1/4 Female	Panel	0.188	63.76

BRASS FITTINGS



MIP X FIP ANGLE

Part #	Pipe Thread Inlet Outlet	Style	Maximum Orifice	List Price
46-786	1/8 Male x 1/8 Female	Regular	0.188	49.06
46-787	1/8 Male x 1/8 Female	Panel	0.188	66.00
46-788	1/4 Male x 1/4 Female	Regular	0.281	49.25

MIP X MIP ANGLE

Part #	Pipe Thread Inlet Outlet	Style	Maximum Orifice	List Price
46-792	1/8 Male x 1/8 Male	Regular	0.188	60.19
46-793	1/8 Male x 1/8 Male	Panel	0.188	60.00
46-794	1/4 Male x 1/4 Male	Regular	0.281	54.09
46-795	1/4 Male x 1/4 Male	Panel	0.281	67.28

FIP X FIP ANGLE

Part #	Pipe Thread Inlet Outlet	Style	Maximum Orifice	List Price
46-798	1/8 Female x 1/8 Female	Regular	0.188	43.08
46-799	1/8 Female x 1/8 Female	Panel	0.188	60.72
46-800	1/4 Female x 1/8 Female	Regular	0.281	48.10
46-801	1/4 Female x 1/4 Female	Panel	0.281	61.90

SELF PIERCING SADDLE VALVES



FITS 3/8" OD
THRU 3/4" OD

SELF PIERCING

NEEDLE VALVE KIT #M-104-VSP

- INDIVIDUALLY BAGGED WITH NEEDLE VALVE
- SADDLE CLAMP
- 2 NUTS
- 2 BOLTS & WASHERS

Has brass sleeve for copper tube installation & delrin sleeve & brass insert for plastic tube installation.

Part #	Tube O.D.	Min Pkg Qty	List Price
46-090A	1/4"	1	5.97

SPECIAL VERSIONS

Many special versions of these valves have been produced for other services. If your application is not described here or covered by our recommendations, please contact us. It is quite possible that one of these valve types can be economically adapted to your requirements.

MICRO-METERING VALVES

MICRO-METERING VALVES offer PRECISE FLUID CONTROL through a full metering tip (5°) and lubricated micrometer threads. Our O-ring seal arrangement eliminates contamination of system media by the thread lubricant.

The standard construction is forged brass body, brass stem and cap, a CELCON® thrust bearing and a BUNA “N” ‘O’-RING seal. It is rated for 3,500 p.s.i.g. service from -40° to 150° F.

Many variations and modifications have been made in these valves to accommodate customer applications. It is quite possible they can be economically adapted to your requirements.



MIP X FIP STRAIGHT

Part #	Pipe Thread Inlet Outlet	Style	Maximum Orifice	List Price
46-741	1/8 Male x 1/8 Female	Regular	0.102	53.38
46-742	1/8 Male x 1/8 Female	Panel	0.102	71.18
46-743	1/4 Male x 1/4 Female	Regular	0.172	61.90
46-744	1/4 Male x 1/4 Female	Panel	0.175	67.94

MIP X MIP STRAIGHT

Part #	Pipe Thread Inlet Outlet	Style	Maximum Orifice	List Price
46-747	1/4 Male x 1/4 Male	Regular	0.172	61.90
46-748	1/4 Male x 1/4 Male	Panel	0.172	72.46

FIP X FIP STRAIGHT

Part #	Pipe Thread Inlet Outlet	Style	Maximum Orifice	List Price
46-752	1/8 Female x 1/8 Female	Regular	0.141	52.43
46-753	1/8 Female x 1/8 Female	Panel	0.141	71.18
46-754	1/4 Female x 1/4 Female	Regular	0.172	60.37
46-755	1/4 Female x 1/4 Female	Panel	0.172	67.94

Dimension data can change without notice. Please call us when dimensions are critical.



MIP X FIP ANGLE

Part #	Pipe Thread Inlet Outlet	Style	Maximum Orifice	List Price
46-756	1/8 Male x 1/8 Female	Regular	0.182	56.18
46-757	1/8 Male x 1/8 Female	Panel	0.182	69.32
46-758	1/4 Male x 1/4 Female	Regular	0.182	60.24

MIP X MIP ANGLE

Part #	Pipe Thread Inlet Outlet	Style	Maximum Orifice	List Price
46-761	1/8 Male x 1/8 Male	Panel	0.182	75.35
46-762	1/4 Male x 1/4 Male	Regular	0.182	57.63
46-763	1/4 Male x 1/4 Male	Panel	0.182	70.60

FIP X FIP ANGLE

Part #	Pipe Thread Inlet Outlet	Style	Maximum Orifice	List Price
46-765	1/8 Female x 1/8 Female	Panel	0.182	76.43
46-766	1/4 Female x 1/4 Female	Regular	0.182	55.42
46-767	1/4 Female x 1/4 Female	Panel	0.182	65.37

COMPRESSION AND FLARE ENDS CAN BE SUBSTITUTED FOR PIPE ENDS IN MOST CASES

Some valves only available on made-to-order basis.



TOGGLE COCKS

TOGGLE VALVES

TOGGLE SHUT OFF VALVES are constructed to INSTANTANEOUSLY OPEN and CLOSE the flow of fluids and gases. It is ideally suited for use in gas sampling and analysis systems as well as test equipment.

This valve is O-RING SEALED to eliminate leakage and maintenance. The O-ring is positioned between the operating mechanism and the seat, and seals the closely fitted cylinder to give the lowest possible internal volume and protect the mechanism from contamination.

The standard construction is forged brass body, brass cylinder, cap and lever, Viton seat, BUNA "N" 'O' RING seal, steel spring, and stainless steel lever pin.

This valve is rated for 200 p.s.i.g. service from -40° to 250° F and is available in the angle and straight pattern, both of which are available for panel or bracket mounting.



MIP X FIP STRAIGHT

Part #	Pipe Thread Inlet Outlet	Style	Maximum Orifice	List Price
46-804	1/8 Male x 1/8 Female	Regular	0.102	50.19
46-805	1/8 Male x 1/8 Female	Panel	0.102	67.94

MIP X MIP STRAIGHT

Part #	Pipe Thread Inlet Outlet	Style	Maximum Orifice	List Price
46-809	1/8 Male x 1/8 Male	Panel	0.102	62.50
46-810	1/4 Male x 1/4 Male	Regular	0.172	51.66
46-811	1/4 Male x 1/4 Male	Panel	0.172	63.76

FIP X FIP STRAIGHT

Part #	Pipe Thread Inlet Outlet	Style	Maximum Orifice	List Price
46-812	1/8 Female x 1/8 Female	Regular	0.141	52.82
46-813	1/8 Female x 1/8 Female	Panel	0.141	63.25
46-814	1/4 Female x 1/4 Female	Regular	0.172	54.36
46-815	1/4 Female x 1/4 Female	Panel	0.172	59.79

BRASS FITTINGS



MIP X FIP ANGLE

Part #	Pipe Thread Inlet Outlet	Style	Maximum Orifice	List Price
46-818	1/4 Male x 1/4 Female	Regular	0.182	45.89
46-819	1/4 Male x 1/4 Female	Panel	0.182	67.28

MIP X MIP ANGLE

Part #	Pipe Thread Inlet Outlet	Style	Maximum Orifice	List Price
46-820	1/8 Male x 1/8 Male	Regular	0.182	49.06
46-822	1/4 Male x 1/4 Male	Regular	0.182	50.23
46-823	1/4 Male x 1/4 Male	Panel	0.182	67.28

FIP X FIP ANGLE

Part #	Pipe Thread Inlet Outlet	Style	Maximum Orifice	List Price
46-824	1/8 Female x 1/8 Female	Regular	0.182	48.51
46-825	1/8 Female x 1/8 Female	Panel	0.182	63.08
46-826	1/4 Female x 1/4 Female	Regular	0.182	47.94

COMPRESSION AND FLARE ENDS CAN BE SUBSTITUTED FOR PIPE ENDS IN MOST CASES

Some valves only available on made-to-order basis



BRASS FITTINGS**INDUSTRIAL INSTRUMENTATION BALL VALVES****INDUSTRIAL INSTRUMENTATION BALL VALVES**

• With Double O-RING STEM SEALS provide 20,000 leak-free performance cycles without leakage. Valves also have an exclusive stem seal design that never needs tightening and can be panel mounted for instrumentation applications. For systems with working pressures up to 1,500 p.s.i.g.

- TEFLON ® Ball Seats
- Blow Out Proof Stem Seal
- Double O-Ring
- Up to 1,500 P.S.I.

**FEMALE X FEMALE**

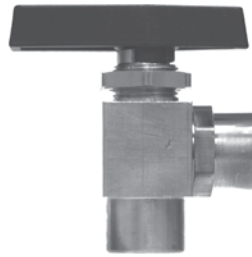
Part #	Size	List Price
46-830	1/8 x 1/8	83.52
46-832	1/4 x 1/4	88.82
46-833	3/8 x 3/8	185.43
46-834	1/2 x 1/2	210.88

FEMALE X MALE

Part #	Size	List Price
46-835	1/8 x 1/8	90.36
46-838	1/4 x 1/4	90.51
46-840	1/2 x 1/2	229.22

MALE X MALE

Part #	Size	List Price
46-841	1/8 x 1/8	104.86
46-843	1/4 x 1/4	97.33
46-845	3/8 x 3/8	195.10
46-846	1/2 x 1/2	239.75

INDUSTRIAL INSTRUMENTATION ANGLE BALL VALVES**FEMALE X FEMALE**

Part #	Size	List Price
46-875	1/8 x 1/8	84.71
46-876	1/8 x 1/4	94.11
46-877	1/4 x 1/8	94.31
46-878	1/4 x 1/4	79.88

INDUSTRIAL INSTRUMENTATION 3-WAY BALL VALVES

Part #	Size	List Price
46-951	1/8 FPT	81.83
46-956	1/4 FPT	86.16
46-959	3/8 FPT	216.45
46-960	1/2 FPT	207.69

Some valves only available on made-to-order basis



I have been in many places, but I've never been in Cahoots. Apparently, you can't go alone. You have to be in Cahoots with someone.

I've also never been in Cognito. I hear no one recognizes you there.

I have, however, been in Sane. They don't have an airport; you have to be driven there. I have made several trips there, thanks to my friends, family and work.

I would like to go to Conclusions, but you have to jump, and I'm not too much on physical activity anymore.

I have also been in Doubt. That is a sad place to go and I try not to visit there too often.

I've been in Flexible, but only when it was very important to stand firm.

Sometimes I'm in Capable and I go there more often as I'm getting older.

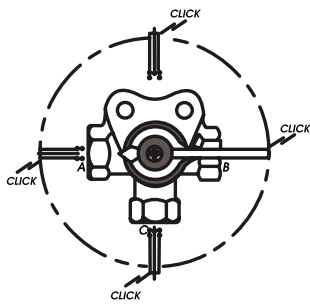
And, sometimes I think I am in Vincible but life shows me I am not!

SPECIALTY VALVES

**THREE AND FOUR-WAY
SELECTOR VALVES**

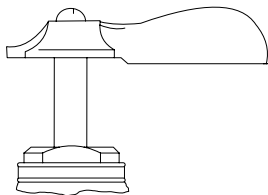
NON-LUBRICATED PLUG VALVES are designed to operate in systems where INSTANTANEOUS PORT SELECTION is desired. Since LUBRICANTS ARE NOT USED, relubrication is not required. There is no lubricant to freeze and lock the valve or to contaminate fine fluids. The O-RING SEALED CAP and STEM eliminate leakage to atmosphere. The mating BRASS BODY and CELCON PLUG produce a fine seal that WILL NOT SEIZE OR GALL.

Designed for PANEL or BRACKET MOUNTING. They are generally recommended for operation in GASOLINE, OIL, AIR, WATER and DETERGENT systems from minus 40° to 180°F, at a maximum operating pressure of 30 p.s.i.g. The fluid port size is 9/32 (.281) diameter for 1/8 and 1/4 sizes, 5/16 (.312) diameter for the 3/8 size. **(Consult factory for applications requiring a higher pressure).**



Type 1 (Standard)

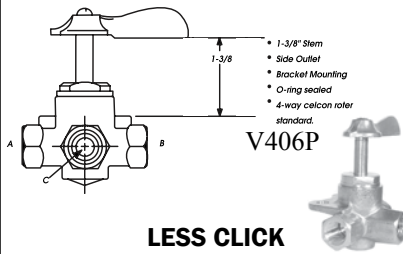
A pronounced "click" may be felt at each position. Handle travel is not restricted.



PANEL MOUNTING AVAILABLE

BRASS FITTINGS

**THREE-WAY VALVES
(Side Outlet)**



LESS CLICK

Part #	A-B-C Female Pipe Thread	Length of Stem	List Price
46-247	1/4	1-3/8"	35.71
46-248	3/8	1-3/8"	42.08

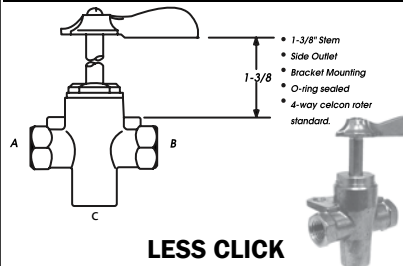
M-108-MID WITH CLICK 360°

Part #	A-B-C Female Pipe Thread	Length of Stem	List Price
46-250	1/8	1-3/8"	37.19
46-251	1/4	1-3/8"	36.35
46-252	3/8	1-3/8"	42.78

Openings:

- Handle Pointer over A..... Valve Open A-C
- Handle Pointer over C..... Valve Open B-C
- Handle Pointer over B..... Valve "OFF"
- Handle Pointer over Bracket..... Valve "OFF"

**THREE-WAY VALVES
(Bottom Outlet)**



LESS CLICK

Part #	A-B-C Female Pipe Thread	Length of Stem	List Price
46-241	1/4	1-3/8"	37.25

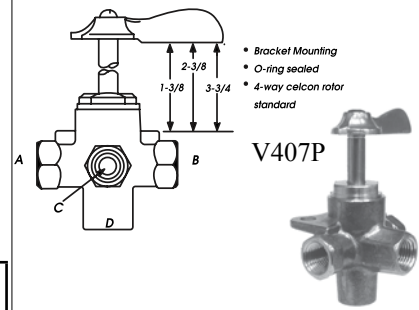
WITH CLICK 360°

Part #	A-B-C Female Pipe Thread	Length of Stem	List Price
46-243	1/8	1-3/8"	43.35
46-244	1/4	1-3/8"	38.96

Openings:

- Handle Pointer over A Valve Open A-C
- Handle Pointer over C Valve Open B-C

FOUR-WAY VALVES



LESS CLICK

Part #	A-B-C-D Female Pipe Thread	Length of Stem	List Price
46-257	1/4	1-3/8"	33.57

M-114-MID WITH CLICK (360°)

Part #	A-B-C-D Female Pipe Thread	Length of Stem	List Price
46-255	1/4	1-3/8"	39.50
46-256	3/8	1-3/8"	47.15

WITH 2-3/8" LONG STEM M-115-MID

Part #	A-B-C-D Female Pipe Thread	Length of Stem	List Price
46-260	1/4	2-3/8"	39.93

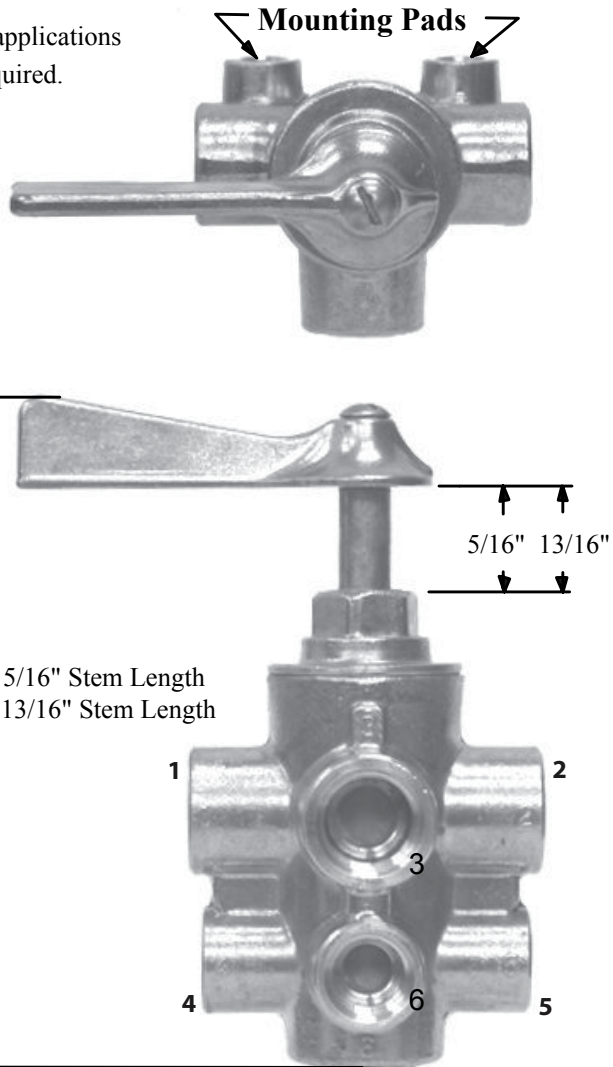
Openings:

- Handle Pointer over A..... Valve Open A-D
- Handle Pointer over C..... Valve Open C-D
- Handle Pointer over B..... Valve Open B-D
- Handle Pointer over Bracket..... Valve "OFF"



SIX PORT VALVES

- Designed primarily for diesel engine applications where a fuel return or spill back is required.



Maximum Handle Travel 180° Mounting Pads for Bolt Mounting

Openings

- With Handle Lever over 1:
(All Ports Closed)
- With Handle Lever over 2:
(Open: 2-3 and 5-6, Closed: 1 and 4)
- With Handle Lever over 3:
(Open: 1-3 and 4-6, Closed: 2 and 5)

Part #	Ind. #	Female Pipe Thread of 1-2-3 4-5-6	Stem	Length Type	List Price
46-238	SK-1036	1/2 x 3/8	13/16	1	667.98

More sizes available...just ask!



SPECIALTY VALVES

BRASS TRUCK VALVES

200 PSI



404V

HOSE TO MALE PIPE

Part #	Size	List Price
46-450	3/8 x 3/8	17.90
46-451	5/8 x 3/8	17.89



404V

HOSE TO MALE PIPE

Part #	Size	List Price
46-455	5/8 x 1/2	35.78
46-457	3/4 x 3/8	44.59
46-456	3/4 x 1/2	37.69



405V

FEMALE TO MALE PIPE

Part #	Size	List Price
46-465	3/8 x 3/8	22.46
46-466	3/8 x 1/2	45.32
46-467	1/2 x 1/2	30.00



409V

FLARE TO MALE PIPE

Part #	Size	List Price
46-475	1/2 x 1/2	63.80
46-476	5/8 x 1/2	30.07



412V

MALE PIPE TO FLARE

Part #	Size	List Price
46-485	1/2 x 5/8	24.24

SOLID BOTTOM VALVES

- Designed for instantaneous on-off operation.
- 360° rotation standard.
- 30 PSI
- Packed with grease.

1035D

M-70-SBV



**O-RING SEALED
MIP X FIP**

Part #	Size	List Price
46-400	1/8	29.19
46-401	1/4	26.78
46-402	3/8	29.60

- Good for Propane

8875



**#M-72-SBV
FIP x FIP**

Part #	Size	List Price
46-411	1/4	31.71



**#M-75-SBV
MIP x FLARE**

Part #	Size	List Price
46-429	1/4 x 3/8	29.25

BRASS FITTINGS

SOLID BOTTOM FUEL VALVES

- Approved for use on Motorcraft fuel lines.
- Pointer lever.
- 90° turn stop mechanism to assure positive location of the on and off positions.
- Corrosion proofed internal construction assures maximum salt atmosphere protection.
- Port hole is 1/4 (.250) diameter.
- UL listed for use in fuel oils no. 1 & no. 2, LP gas and utility gas.



8980

PIPE

MALE X FEMALE

Part #	Size	List Price
46-400M	1/8 x 1/8	49.23
46-401M	1/4 x 1/4	36.40
46-402M	3/8 x 3/8	43.20



8990

PIPE

MALE x MALE

Part #	Size	List Price
46-406M	1/4 x 1/4	44.95

- Good for Propane

8975



PIPE

FEMALE X FEMALE

Part #	Size	List Price
46-411M	1/4 x 1/4	43.79



8948

MALE PIPE X FLARE

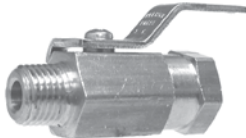
Part #	Size	List Price
46-429M	1/4 x 3/8	41.00
46-430M	3/8 x 3/8	61.15



BRASS FITTINGS

BRASS DOMESTIC MINIATURE BALL VALVES

- Working Pressure up to 1000 P.S.I.G.
- ASTM B-16 Corrosion Resistant Brass Body.
- Non-Adjusting Viton O-Ring Stem Seal Design Never Needs Tightening.
- Highly Inert Teflon Seats.
- Long Life Nickel Plated Brass Ball.
- Blow-Out Proof Stem for Safety.
- Temperature: -40°F to 300°F
- 1/4 Turn Instantaneous On-Off Operation.
- Quarter Turn Handle Design.
- Water, Oil, and Air Pressure Systems.
- Ideal for tight, confined areas, or when routing aesthetics are desired. Applications include instrumentation, gas sampling systems, high pressure gauges, test stands, hydraulic and pneumatic service lines on capital equipment.
- Not good for steam.
- Good for propane.



MALE X FEMALE

Part #	Size	List Price
46-900	1/8 x 1/8	25.15
46-903	1/4 x 1/4	25.13



MALE X MALE

Part #	Size	List Price
46-910	1/8 x 1/8	27.86
46-912	1/4 x 1/4	27.19



MALE PIPE X HOSE BARB

Part #	Size	List Price
47-042	1/8 x 1/4	31.36
46-980	1/4 x 1/4	25.36
46-981	1/4 x 3/8	23.77

46-920
46-921
46-922



46-922A
46-923



46-924



46-925



FEMALE X FEMALE

Part #	Size	List Price
46-920	1/8 x 1/8	25.78
46-921	1/8 x 1/4	29.04
46-922	1/4 x 1/4	25.01
46-922A	1/4 x 1/4	18.16
46-923	3/8 x 3/8	29.93
46-924	1/2 x 1/2	48.17
46-925	3/4 x 3/4	51.50

U.L. TWO WAY VALVES

- Buna-N Seal, Teflon Seat
- Plated metal handle, plated brass ball.
- 250 PSI Working Pressure



**U.L. TWO WAY VALVES
FNPT X FNPT**

Part #	Size	List Price
46-440	1/4 x 1/4	24.97



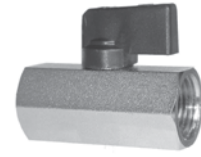
**U.L. TWO WAY VALVES
MNPT X FNPT**

Part #	Size	List Price
46-443	1/4 x 1/4	24.97

MINIATURE BALL VALVES

MINI BALL VALVES

- See p. 172 for specifications



FEMALE X FEMALE

Part #	Size	List Price
46-920 I	1/8	15.16
46-922 I	1/4	15.16
46-923 I	3/8	15.16
46-924 I	1/2	17.52

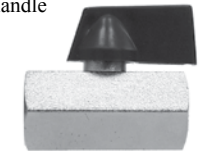


MALE X FEMALE

Part #	Size	List Price
46-900 I ⁵	1/8	14.84
46-903 I	1/4	14.84
46-904 I ⁵	3/8	14.84
46-905 I ³	1/2	16.45

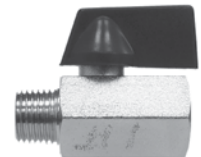
ECONOMY MINI BALL VALVES

- Max Working Pressure: 450psi
- Maximum Temperatures: 356°F at 142 psi
212°F at 355 psi
- 1/4 Turn Handle



FEMALE X FEMALE

Part #	Size	List Price
46-935	1/4	7.56
46-936	3/8	8.27



MALE X FEMALE

Part #	Size	List Price
46-930	1/8	6.87
46-931	1/4	7.56
46-932	3/8	7.11

*See more mini valves on page 176
For Stainless Steel see page 189*



CHECK VALVES/ MARINE FITTINGS

BRASS FITTINGS

BRASS CHECK VALVES

MAX. 2500 PSI
Cracking Pressure 1/3-3 PSI

- Opening diameter .187
- 180° max operating temp.
- SS ball and spring



MNPT X MNPT

Part #	Size	Opening Dia.	List Price
46-500	1/4 x 1/4	0.187	22.96

MAX. 2500 PSI

- Flo direction ->
- Opening diameter .187
- 180° max operating temp.
- Buna Seal
- SS ball and spring



MNPT X FNPT

Part #	Size	Opening Dia.	List Price
46-505	1/4 x 1/4	0.187	21.91

MAX. 1200 PSI

- O-Ring poppet seal Bubble tight operation
- 180°F max operating temp.



FNPT X FNPT

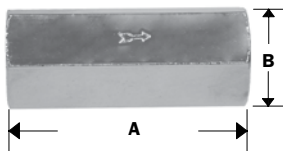
Part #	Size	Opening Dia.	List Price
46-510	1/4 x 1/4	0.25	25.54
46-511	3/8 x 3/8	0.375	30.78
46-512	1/2 x 1/2	0.437	40.35

PNEUMATIC CHECK VALVES

- Max Operating Pressure: 220 psi
- Working Pressure: 14.5-145 psi
- Cracking Pressure: 2.8 psi
- Maximum Temperatures: 140° F

Materials

Body	Chrome plated Brass
Spring	Steel
O-Ring	NBR Rubber



NPT- Inlet NPSM - Outlet

Part #	Size	Dimensions (In.)		List Price
		A	B	
46-200	1/4	1.97	0.67	18.03
46-201	3/8	1.97	0.83	17.77
46-202	1/2	2.48	0.98	38.69

HIGH PRESSURE CHECK VALVES

- Operates in any position, and is available in mixed or matched end combinations.
- Standard cracking pressure 1 p.s.i with a maximum operating pressure of 3000 p.s.i. and a maximum operating temperature of 180°F using Buna-N seals.
- Buna-N seals standard, other seals available.
- Guided 316 stainless steel ball + spring.
- Fixed ringed seat prevents extrusion of seal.
- Opening diameter .28
- Approximate CV 1.2
- Water G.P.M. @ 10 p.s.i. is 4.0
- Good for air



FEMALE X FEMALE

Part #	Size	List Price
46-513	1/4	48.47
46-517	3/8	53.88

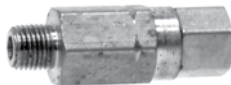
- Flo direction ->



FEMALE X MALE

Part #	Size	List Price
46-514	1/4	48.47
46-518	3/8	53.88

- Flo direction ->



MALE X FEMALE

Part #	Size	List Price
46-516	1/4	48.47
46-539	3/8	53.88



MALE X MALE

Part #	Size	List Price
46-515	1/4	48.47
46-519	3/8	53.88

MARINE FITTINGS

- Calibrated to support 30" column of gasoline.



ANTI-SIPHON VALVES

NPT X NPT

Part #	Size	List Price
46-520	1/4 x 1/4	18.56
46-521	3/8 x 3/8	30.97

- Flo direction <-



ANTI-SIPHON VALVES

BARB X NPT

Part #	Size	List Price
46-530	5/16 x 1/4	17.93
46-531	3/8 x 1/4	16.37
46-532	3/8 x 3/8	30.05
46-533	1/2 x 3/8	30.05

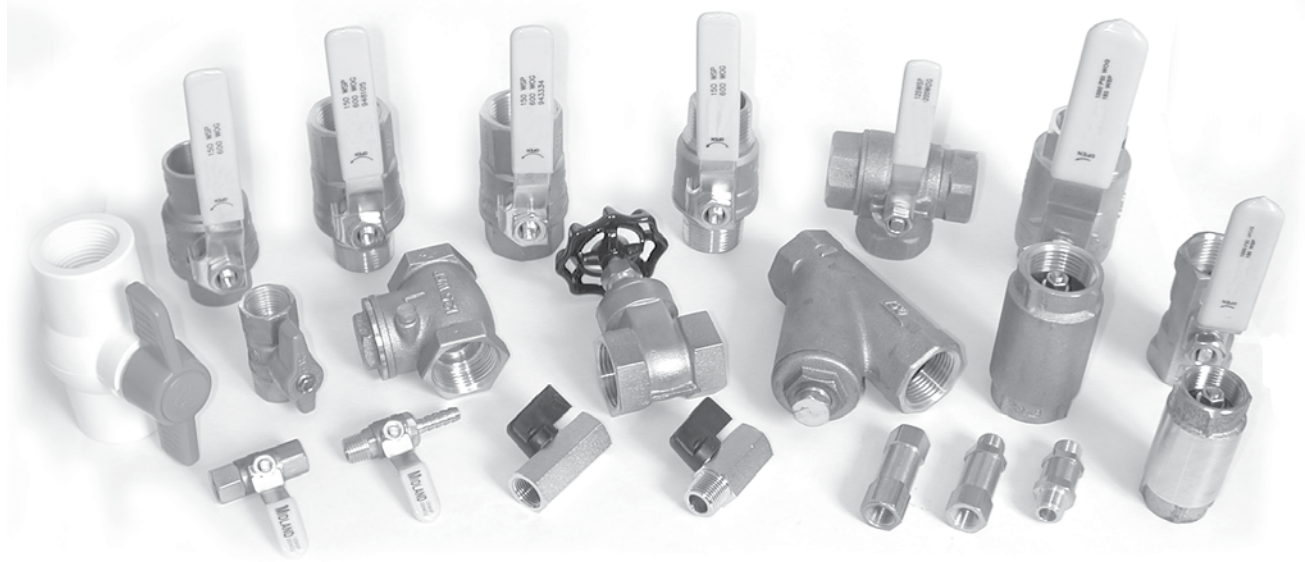


BULKHEAD FITTINGS

Part #	Size	List Price
46-540	5/16	12.97
46-541	3/8	12.64

If 4 out of 5 people SUFFER from diarrhea...does that mean that one out of five enjoys it?





BRASS BALL VALVES

Full Port Ball Valves 166
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 MxF FP 600 WOG 171
 MxF FP 600 WOG 172
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BALL VALVE PRIVATE LABEL PROGRAM



We will put your company name and logo on our ball valve handle for FREE. Simply place a minimum blanket order of 10 cases per size and we will stock them under a special part # for your access only. Please allow 90-120 days for delivery on the first shipment only: Then have them delivered as you need them!



FULL PORT 600WOG FORGED BRASS BALL VALVE

1/2" - 2" Sizes Gas Approved



ISO 9002 Manufacturer FEATURES

1/4"-2" 600 PSI non-shock cold water, gas, oil - 150 PSI saturated steam

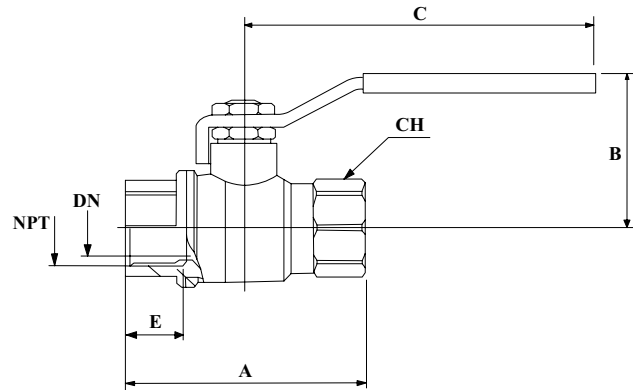
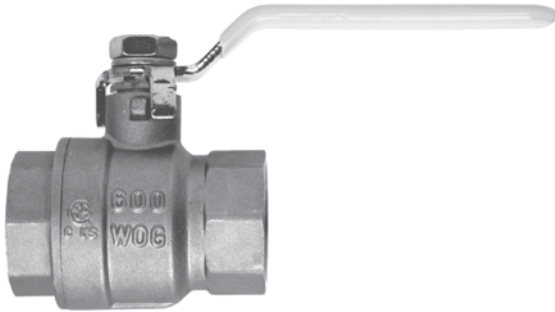
2-1/2"- 4" 400 PSI non-shock cold water, gas, oil

Made in China

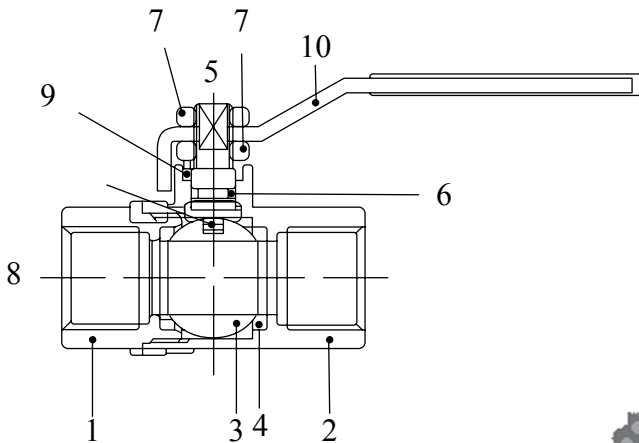
- Suitable for full range of liquids and gases
- Minimal pressure drop due to large full size ports
- Bottom loaded, pressure retaining stem
- Pressure rated for 1/4"-2" at 600psi (42 bars) and 2-1/2"-4" at 400 psi WOG (non-shock) and 150 WSP (10.34 bars) saturated steam. Virgin PTFE stem packing seal, thrust washer and seats
- Yellow vinyl insulator on heavy duty plated carbon steel handles
- Fast 1/4 turn open or close operation

- Low operating torque
- Adjustable stem packing gland
- Maximum operating temperature: 302°F (150°C)
- Minimum operating temperature: -22°F (-30°C)
- Each valve individually tested
- Forged Brass - for more strength
- Threaded ends to ANSI B1.20.1
- Hard chromium plated solid ball
- Bottom entry, blow-out proof stem
- Deeper threads - for better connections

VALVES



Part#	Size	Dimension Inches						Min. Order		List Price
	NPT	DN	A	B	C	E	CH	Box	Case	
940-171	1/4"	0.39	1.75	1.27	3.54	0.46	0.78	70	140	9.08
940-172	3/8"	0.41	1.75	1.27	3.54	0.46	0.78	70	140	9.08
940-173	1/2"	0.58	2.05	1.92	3.54	0.52	0.98	50	100	10.89
940-174	3/4"	0.75	2.36	2.08	3.78	0.56	1.20	30	60	15.95
940-175	1"	0.94	2.75	2.56	4.52	0.66	1.50	20	40	24.82
940-176	1-1/4"	1.26	3.30	2.95	4.52	0.70	1.82	12	24	36.53
940-177	1-1/2"	1.57	3.66	3.34	5.51	0.72	2.09	9	18	54.16
940-178	2"	1.97	4.18	3.68	5.51	0.74	2.62	6	12	84.72
940-179	2-1/2"	2.52	5.38	4.76	8.66	1.01	3.36	4	8	213.21
940-180	3"	2.95	6.04	5.08	8.66	1.11	3.86	2	4	249.34
940-181	4"	3.89	7.38	5.86	9.00	1.22	4.89	1	2	471.55



POS	Components	Materials	N
1	Body	Forged Brass	1
2	End Connection	Forged Brass	1
3	Ball	CP Brass	1
4	Ball Seat	P.T.F.E.	2
5	Stem	Brass	1
6	Gland	Brass	1
7	Nut	Steel	1
8	Spring Inseat	Steel	1
9	Stem Seal	P.T.F.E.	1
10	Handle	Steel	1

• Not AB1953 Compliant



LOCKING HANDLE BALL VALVE

• BRASS • 600WOG • FULL PORT

1/2" - 2" Sizes Gas Approved



UL842, UL258, UL125, FM

ISO 9002 Manufacturer FEATURES

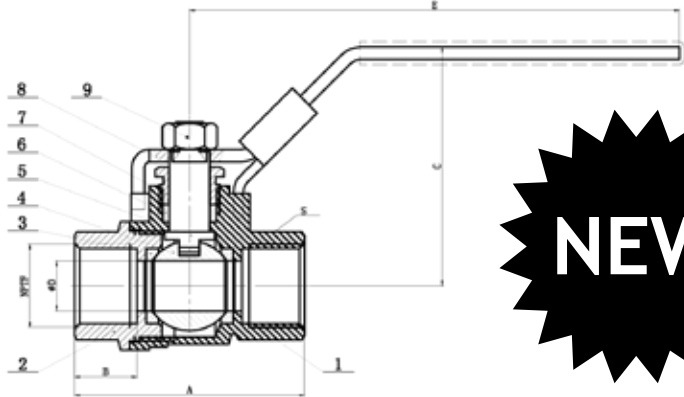
1/4-2" 600 PSI non-shock cold water, gas, oil - 150 PSI saturated steam

2-1/2"- 4" 400 PSI non-shock cold water, gas, oil
Made in China

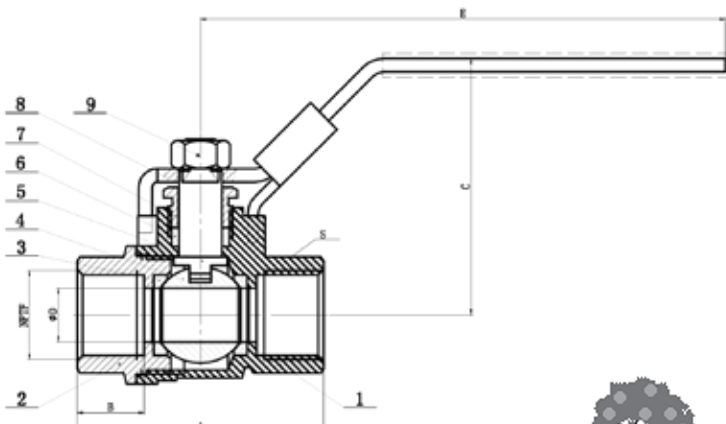
- Suitable for full range of liquids and gases
- Minimal pressure drop due to large full size ports
- Bottom loaded, pressure retaining stem
- Pressure rated for 1/4"-2" at 600psi (42 bars) and 2-1/2"-4" at 400 psi WOG (non-shock) and 150 WSP (10.34 bars) saturated steam. Virgin PTFE stem packing seal, thrust washer and seats
- Yellow vinyl insulator on heavy duty plated carbon steel handles
- Fast 1/4 turn open or close operation

- Low operating torque
- Adjustable stem packing gland
- Maximum operating temperature: 302°F (150° C)
- Minimum operating temperature: -22°F (-30°C)
- Each valve individually tested
- Forged Brass - for more strength
- Threaded ends to ANSI B1.20.1
- Hard chromium plated solid ball
- Bottom entry, blow-out proof stem
- Deeper threads - for better connections

VALVES



Part#	Size NPTF	Dimension Inches						Min. Order		List Price
		DN	A	B	C	E	CH	Box	Case	
940-171L	1/4"	0.31	1.73	1.84	3.15	0.49	0.71	70	140	10.50
940-172L	3/8"	0.39	1.81	1.88	3.86	0.49	0.79	70	140	10.50
940-173L	1/2"	0.58	2.23	2.09	3.86	0.61	0.98	50	100	12.24
940-174L	3/4"	0.75	2.48	2.24	4.06	0.62	1.20	30	60	18.60
940-175L	1"	0.94	2.95	2.67	4.73	0.73	1.50	20	40	27.80
940-176L	1-1/4"	1.26	3.42	3.05	4.73	0.77	1.81	12	24	42.30
940-177L	1-1/2"	1.57	3.78	3.51	5.71	0.78	2.09	9	18	64.92
940-178L	2"	1.97	4.18	3.84	5.71	0.75	2.60	6	12	93.00



POS	Components	Materials	N
1	Body	Forged Brass	1
2	End Connection	Forged Brass	1
3	Ball	CP Brass	1
4	Ball Seat	P.T.F.E.	2
5	Stem	Brass	1
6	Gland	Brass	1
7	Nut	Steel	1
8	Spring Inseat	Steel	1
9	Stem Seal	P.T.F.E.	1
10	Handle	Steel	1

• Not AB1953 Compliant



FULL PORT FEMALE X FEMALE 600WOG FORGED BRASS BALL VALVE

1/2" - 3/4" Sizes Gas Approved



ISO 9002 Manufacturer FEATURES

1/4-3/4" 600 PSI non-shock cold water, gas, oil
- 150 PSI saturated steam

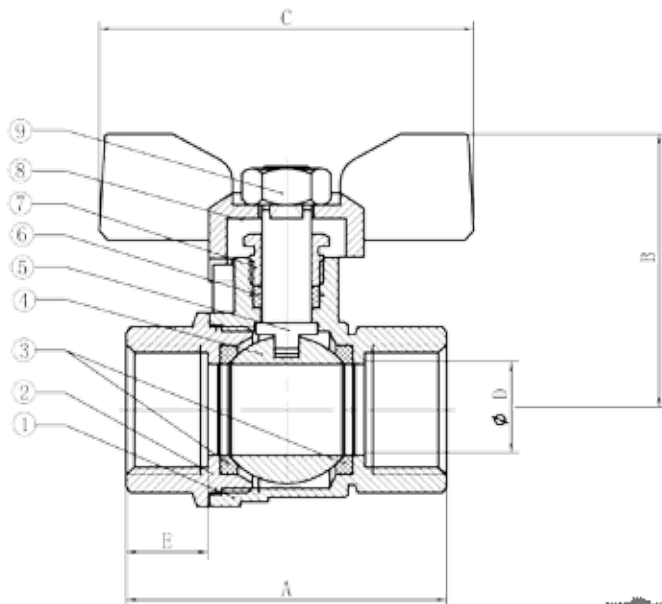
Made in China

- Suitable for full range of liquids and gases
- Minimal pressure drop due to large full size ports
- Bottom loaded, pressure retaining stem
- Pressure rated for 1/4"-3/4" at 600psi (42 bars) and 150 WSP (10.34 bars) saturated steam. Virgin PTFE stem packing seal, thrust washer and seats
- Fast 1/4 turn open or close operation
- Low operating torque
- Adjustable stem packing gland
- Maximum operating temperature: 302°F (150° C)
- Minimum operating temperature: -22°F (-30°C)
- Each valve individually tested
- Forged Brass - for more strength
- Threaded ends to ANSI B1.20.1
- Hard chromium plated solid ball
- Bottom entry, blow-out proof stem
- Deeper threads - for better connections

VALVES



Part#	Size NPT						Min. Order		List Price
		A	B	C	D	E	Box	Case	
940-171T	1/4"	1.677	1.488	1.831	0.315	0.457	70	140	10.50
940-172T	3/8"	1.756	1.488	1.831	0.394	0.457	70	140	10.50
940-173T	1/2"	2.047	1.756	2.394	0.583	0.520	50	100	12.24
940-174T	3/4"	2.362	1.921	2.394	0.748	0.563	30	60	18.60



POS	Components	Materials
1	Body	C37700
2	End Cap	C37700
3	Ball Seat	PTFE
4	Ball	C37700
5	Stem	C37700
6	Stem Packing	PTFE
7	Packing Nut	C37700
8	Lever Handle	ZL102
9	Stem Nut	A570

• Not AB1953 Compliant



FULL PORT 600WOG FORGED BRASS BALL VALVE



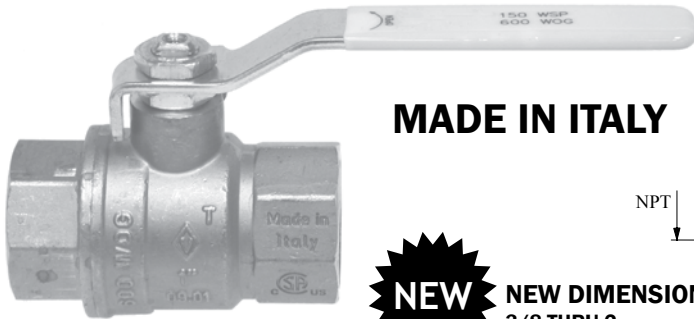
ISO 9002 Manufacturer FEATURES

600 PSI non-shock cold water, gas, oil
- 150 PSI saturated steam

CSA AGA 3.88 5 PSIG IAMPO IGC 157 - 2004b

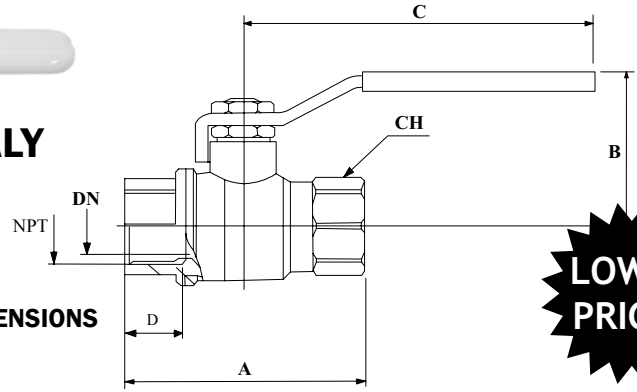
- **SOLID CHROME PLATED BRASS BALL**
- Suitable for full range of liquids and gases
- Minimal pressure drop due to large full size ports
- Bottom loaded, pressure retaining stem
- Pressure rated at 600psi (42 bars) WOG (non-shock) and 150 WSP (10.34 bars) saturated steam. Virgin TFE stem packing seal, thrust washer and seats.
- Yellow vinyl insulator on heavy duty plated carbon steel handles.
- Fast 1/4 turn open or close operation
- Low operating torque
- Flow can go both directions

- Adjustable stem packing gland
- Maximum operating temperature: 248°F (120° C) at 600 PSI
- Minimum operating temperature: -20°F (-40°C)
- Each valve individually tested
- Forged Brass - for more strength
- Threaded ends to ANSI B1.20.1
- Hard chromium plated solid ball
- Bottom entry, blow-out proof stem
- Deeper threads - for better connections
- **REVERSIBLE HANDLES**



MADE IN ITALY

NEW NEW DIMENSIONS
3/8 THRU 2



LOWER PRICES

Female x Female

Part#	Size	Dimension Inches							Box	Case	List Price
	NPT	DN	A	B	C	D	CH				
943-200	1/4"	.31	1.96	1.57	3.43	.43	.74	24	96	16.37	
943-201	3/8"	.39	1.97	1.54	3.33	.41	.83	20	80	16.70	
943-202	1/2"	.57	2.20	1.64	3.33	.53	.98	20	80	13.99	
943-203	3/4"	.74	2.36	1.79	3.33	.55	1.22	10	40	22.22	
943-204	1"	.94	3.04	2.13	4.72	.66	1.50	5	20	35.22	
943-205	1-1/4"	1.24	3.46	2.35	4.72	.68	1.89	4	16	55.12	
943-206	1-1/2"	1.49	3.92	2.97	6.36	.68	2.12	2	8	82.18	
943-207	2"	1.85	4.44	3.25	6.36	.69	2.63	2	8	120.28	
942-208	2-1/2"	2.48	5.94	4.17	7.48	1.06	3.30	---	5	341.12	
942-209	3"	2.99	6.85	5.47	9.84	1.14	3.89	---	3	408.19	
942-210	4"	3.54	7.67	5.88	9.84	1.50	4.80	---	2	840.99	

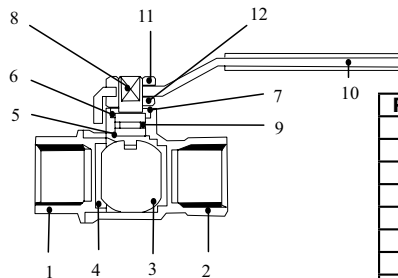
HANDLE OPTIONS

TEE HANDLES

Part #	Valve Size	List Price
43-200T	1/4" - 3/4"	2.51
43-204T	1"	4.07

LOCKING HANDLES

Part #	Valve Size	List Price
43-200L	1/4" - 3/4"	16.05
43-204L	1" - 1 1/4"	28.75
43-206L	1 1/2" - 2"	48.31



POS	Components	Materials	N
1	Body	Forged Brass	1
2	End Connection	Forged Brass	1
3	Ball	CP Brass	1
4	Ball Stems	P.T.F.E.	2
5	Stem Antif. Seat	P.T.F.E.	1
6	Stem Seat	P.T.F.E.	1
7	Brass Ring	Brass	1
8	Stem	Brass	1
9	O-Ring	NBR 80	1
10	Handle	Steel	1
11	Nut	Steel	1
12	Nut	Brass	1

• Not AB1953 Compliant

Fax: 772-569-6362



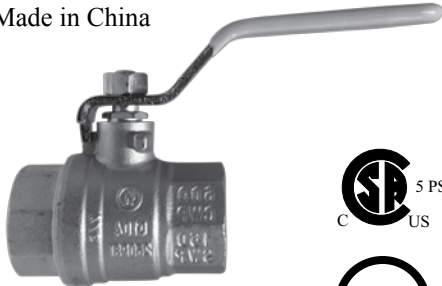
www.grovetwelders.com

VALVES

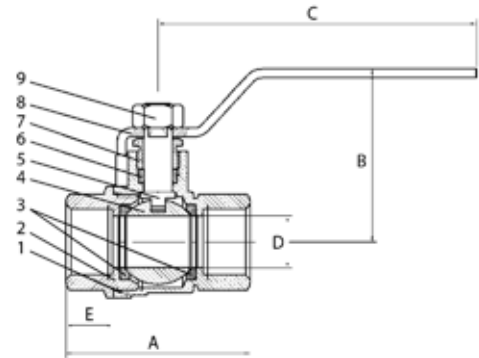
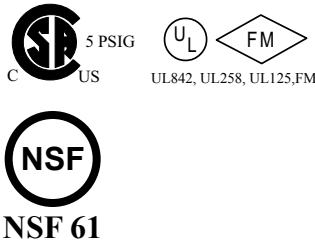
NSF 61 FULL PORT 600WOG FORGED BRASS BALL VALVE

- Two-Piece Body - Full Port - Blowout-Proof Stem - PTFE Seats
- 1/4" - 2" 600 PSI WOG, 2-1/2"-4" 400 PSI WOG, 1/4"-4" 150 PSI WSP
- NSF/ANSI 61-8
- CSA - ANSI Z21.15/CGA 9.1, ASME B16.44, CGA CR 91-002
- CAN/CGA 3.16, ASME B16.33 & ASME B16.38 (Threaded Only)
- UL Guides YQNZ, YRBX, YRPV & YSDT
- FM Approved (1/4"-2")
- Not AB1953 compliant
- Made in China

VALVES



Female x Female



POS	Components	Materials	N
1	BODY	BRASS	1
2	END CAP	BRASS	1
3	BALL SEAT	PTFE	1
4	BALL	BRASS	2
5	STEM	BRASS	1
6	STEM PACKING	PTFE	1
7	PACKING NUT	BRASS	1
8	LEVER HANDLE	CHROME PLATING STEEL	1
9	STEM NUT	NICKEL PLATING STEEL	1

Part#	DIMENSIONS						List Price
	Size	A	B	C	D	E	
943-101	1/4"	1.667	1.689	2.756	0.315	0.457	10.22
943-102	3/8"	1.756	1.732	3.543	0.394	0.457	10.22
943-103	1/2"	2.047	1.921	3.543	0.583	0.520	14.07
943-104	3/4"	2.362	2.087	3.780	0.748	0.563	21.14
943-105	1"	2.756	2.559	4.528	0.945	0.630	33.39
943-106	1-1/4"	3.307	2.953	4.528	1.260	0.709	50.12
943-107	1-1/2"	3.661	3.346	5.512	1.575	0.717	77.21
943-108	2"	4.181	3.681	5.512	1.969	0.748	113.19

NSF 61 FULL PORT 600 WOG FORGED BRASS BALL VALVE - *CLOSE-OUT ONCE STOCK IS GONE*

NSF 61 Approved Part#	Size	Dimension Inches						Box	Case	NSF 61 List Price
		DN	A	B	C	E	CH			
943-220	1/4"	.31	1.96	1.57	3.43	.43	.74	24	96	19.61
943-221	3/8"	.39	1.96	1.57	3.43	.43	.86	24	96	20.79
943-222	1/2"	.59	2.40	1.77	3.43	.59	1.06	20	80	22.40
943-223	3/4"	.78	2.72	1.77	3.43	.64	1.26	14	56	32.12
943-224	1"	.98	3.28	2.20	4.72	.75	1.59	6	24	54.23
943-225	1-1/4"	1.25	3.86	2.36	4.72	.84	1.96	4	16	82.55
943-226	1-1/2"	1.57	4.25	3.12	6.33	.84	2.16	2	8	134.73
943-227	2"	1.96	5.03	3.12	6.33	1.01	2.76	1	4	205.97

Gas Approved



UL842, UL258, UL125, FM

CSA AGA 3.88 5 PSIG

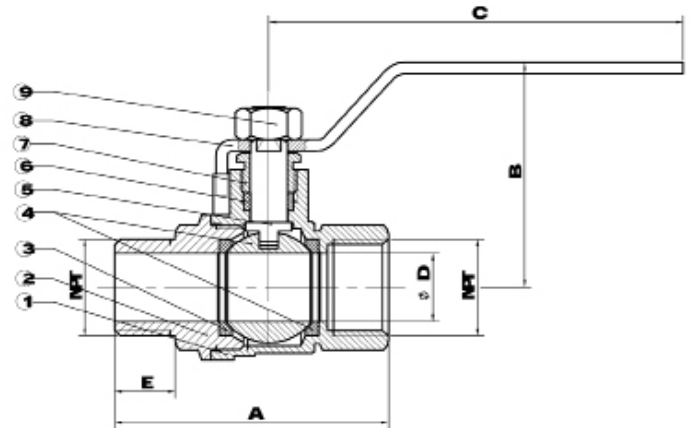
Made in China

FULL PORT 600WOG FORGED BRASS BALL VALVE

- Solid chrome plated brass ball
- Suitable for full range of liquids and gases.
- Minimal pressure drop due to large full size ports.
- Bottom loaded, pressure retaining stem.
- Pressure rated at 600psi (42 bars) WOG (non-shock) and 150psi (10.34 bars) saturated steam. Virgin TFE stem packing seal, thrust washer and seats.
- Yellow vinyl insulator on heavy duty plated carbon steel handles.
- Fast 1/4 turn open or close operation.
- Flow both directions.
- Low operating torque.
- Adjustable stem packing gland.

- Maximum operating temperature: 248°F (120°C)
- Minimum operating temperature: -20°F (-40°C)
- Each valve individually tested.
- Forged Brass - for more strength.
- Threaded ends to ANSI B1.20.1
- Hard chromium plated solid ball
- Bottom entry, blow-out proof stem.

POS	Components	Materials
1	Body	C37700
2	End Cap	CS7700
3	Ball Seat	PTFE
4	Ball	CS7700
5	Stem	CS7700
6	Stem Reducing	PTFE
7	Reducing Nut	CS7700
8	Lever Handle	1008
9	Stem Nut	A570 Gr.A



Part#	Size	NPT	A	B	C	D	E	Box	Case	List Price
948-170	1/4	1/4 - 18	2.016	1.689	2.756	0.315	0.457	70	140	9.75
948-171	3/8	3/8 - 18	2.094	1.732	3.543	0.394	0.457	70	140	10.01
948-172	1/2	1/2 - 14	2.343	1.941	3.543	0.583	0.520	50	100	12.17
948-173	3/4	3/4 - 14	2.618	2.106	3.780	0.748	0.563	30	60	18.13
948-174	1	1 - 11.5	3.000	2.579	4.528	0.945	0.630	20	40	26.81
948-175	1-1/4	1-1/4 - 11.5	3.563	2.953	4.528	1.260	0.709	12	24	39.24
948-176	1-1/2	1-1/2 - 11.5	3.965	3.346	5.512	1.575	0.717	9	18	58.37
948-177	2	2 - 11.5	4.496	3.681	5.512	1.969	0.748	6	12	84.55

Note: Locking and Tee handles available in case quantity and extended delivery.

• Not AB1953 Compliant

FULL PORT 600WOG FORGED BRASS BALL VALVE

Gas Approved



CSA AGA 3.88 5 PSIG Made in Italy

ISO 9002 Manufacturer FEATURES

- Solid chrome plated brass ball
- Suitable for full range of liquids and gases.
- Minimal pressure drop due to large full size ports.
- Bottom loaded, pressure retaining stem.
- Pressure rated at 600psi (42 bars) WOG (non-shock) and 150psi (10.34 bars) saturated steam. Virgin TFE stem packing seal, thrust washer and seats.
- Yellow vinyl insulator on heavy duty plated carbon steel handles.
- Fast 1/4 turn open or close operation.

- Low operating torque.
- Adjustable stem packing gland.
- Maximum operating temperature: 248°F (120°C) at 600 p.s.i
- Minimum operating temperature: -20°F (-40°C)
- KV: Pressure drop m³/h.
- Each valve individually tested.
- Forged Brass - for more strength.
- Threaded ends to ANSI B1.20.1
- Hard chromium plated solid ball
- Bottom entry, blow-out proof stem.
- Deeper threads - for better connections.

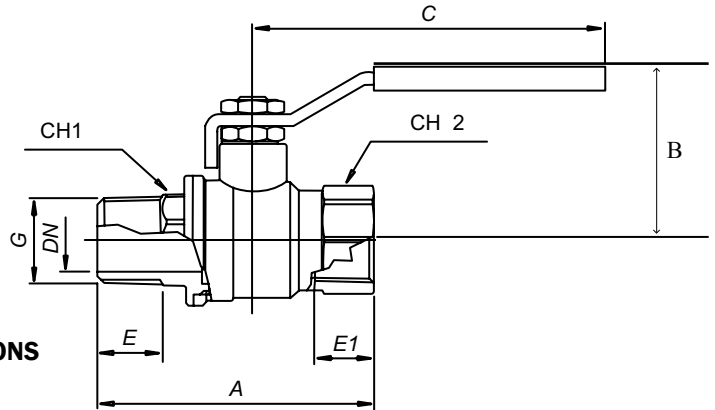


VALVES

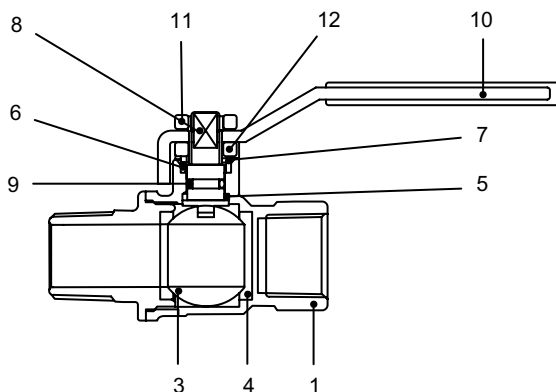


MIP x FIP

MADE IN ITALY



Part#	Size	DN	A	B	C	E	E1	CH1	CH2	Box	Case	List Price
948-101	1/4	.31	2.28	1.49	3.35	.46	.51	.55	.74	24	96	16.73
948-102	3/8	.39	2.37	1.57	3.35	.46	.51	.71	.86	24	96	18.20
948-103	1/2	.57	2.62	1.64	3.33	.54	.53	.87	.98	14	56	17.89
948-104	3/4	.74	2.83	1.79	3.33	.55	.55	1.10	1.22	12	48	27.44
948-105	1	.94	3.39	2.13	4.72	.69	.66	1.38	1.50	6	24	41.99
948-106	1-1/4	1.24	3.88	2.35	4.72	.71	.68	1.69	1.89	4	16	69.78
948-107	1-1/2	1.49	4.19	2.97	6.36	.72	.68	2.13	2.12	2	8	95.50
948-108	2	1.85	4.90	3.25	6.36	.76	.69	2.40	2.63	1	4	153.78



POS	Components	Materials	N
1	Body	CW617N Forged Brass	1
2	End Connection	CW617N Forged Brass	1
3	Ball	CW617N CP Brass	1
4	Ball Stems	P.T.F.E.	2
5	Stem Antif. Seat	P.T.F.E.	1
6	Stem Seat	P.T.F.E.	1
7	Brass Ring	CW617N Brass	1
8	Stem	CW617N Brass	1
9	O-Ring	NBR 80	1
10	Handle	UNI EN 10025 Steel	1
11	Nut	UN 5771 Steel	1
12	Nut	CW617N Brass	1

• See additional handle options on pg 169

• Not AB1953 Compliant

FULL PORT 600WOG FORGED BRASS BALL VALVE

- 600 PSI non-shock cold water, gas, oil
- 150 PSI saturated steam (WSP)

ISO 9002 Manufacturer FEATURES



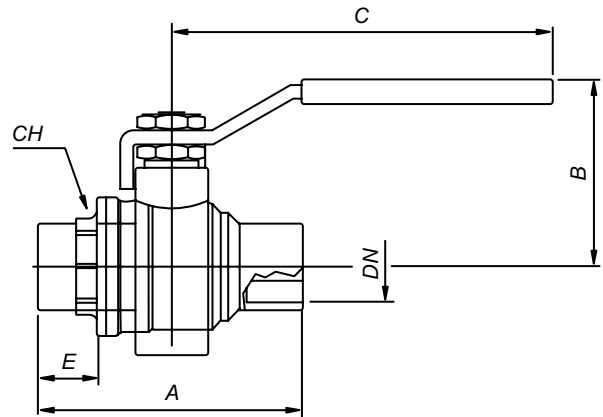
Made in China

- Minimal pressure drop due to large full size ports.
- Bottom loaded, pressure retaining stem.
- Pressure rated at 600psi (42 bars) WOG (non-shock) and 150psi (10.34 bars) saturated steam. Virgin TFE stem packing seal, thrust washer and seats.
- Vinyl insulator on heavy duty plated carbon steel handles.
- Fast 1/4 turn open or close operation
- Low operating torque
- Adjustable stem packing gland.

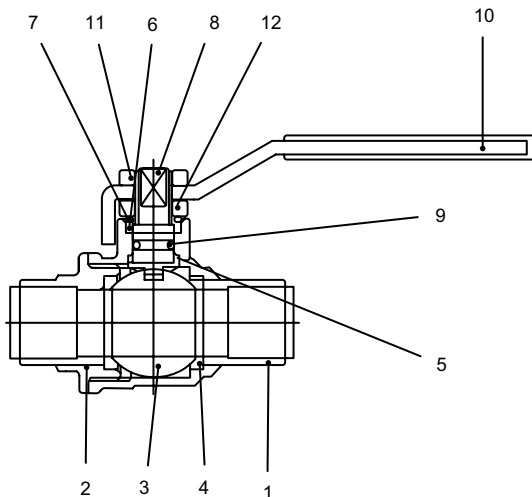
- Maximum operating temperature: 248°F (120° C) at 600 psi.
- Minimum operating temperature: -20°F (-40°C)
- Each valve individually tested.
- Forged Brass - for more strength.
- Tube ends to ANSI B16.22.
- Hard chromium plated solid ball.
- Bottom entry, blow-out proof stem.
- Use with ASTM B88 copper water tubing.



SWT x SWT



Part#	Size	Dimension Inches						Box	Case	List Price
	SWT	DN	A	B	C	E	CH			
940-212	1/2	0.58	2.04	1.84	3.54	0.43	0.80	50	100	19.27
940-213	3/4	0.74	2.74	1.99	3.78	0.63	1.05	30	60	24.44
940-214	1	0.94	3.22	2.44	4.52	0.75	1.33	20	40	35.16
940-215	1-1/4	1.26	3.81	2.85	4.52	0.83	1.60	12	24	54.88
940-216	1-1/2	1.57	4.42	3.16	5.51	0.90	1.90	9	18	90.33
940-217	2	1.97	5.31	3.44	5.51	1.30	2.37	6	12	132.32



POS	Components	Materials	N
1	Body	Forged Brass	1
2	End Connection	Forged Brass	1
3	Ball	CP Brass	1
4	Ball Seats	P.T.F.E.	2
5	Stem	Brass	1
6	O-Ring	NBR 80	1
7	Brass Ring	Brass	1
8	Nut	UNI 5771 Steel	1
9	Stem Seat	P.T.F.E.	1
10	Handle	Steel	1
11	Stem Seat	P.T.F.E.	1
12	Nut	Brass	1

• Not AB1953 Compliant



FORGED BRASS BALL VALVE - STANDARD PORT

1/2" Gas Approved



CSA A308.1 5 PSIG



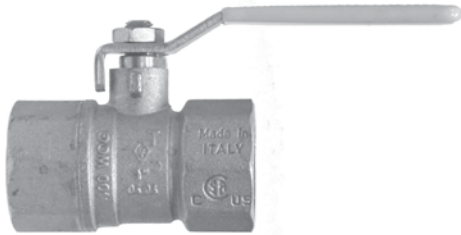
UL842, UL258, UL125, FM

ISO 9002 Manufacturer FEATURES

- 400 PSI non-shock cold water, gas, oil
- 150 PSI saturated steam (WSP)
- Solid chrome plated brass ball
- Threaded ends to ANSI B1.20.1
- Each valve individually tested
- Hard chromium plated solid ball
- Bottom entry, blow-out proof stem
- Double stem packing, Teflon seats.

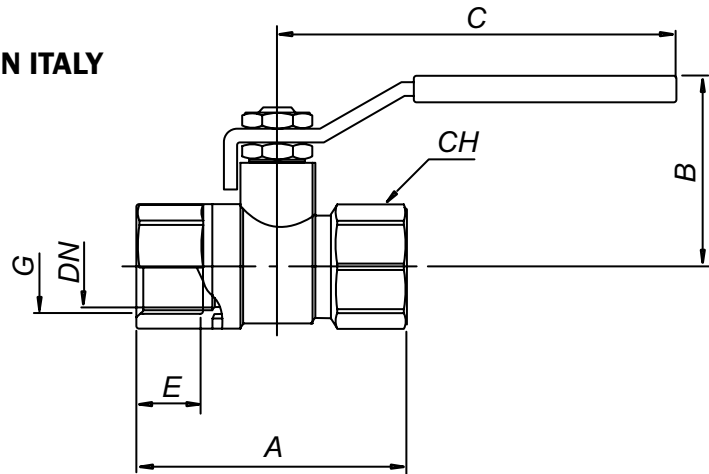
VALVES

Yellow Handle



FIP x FIP

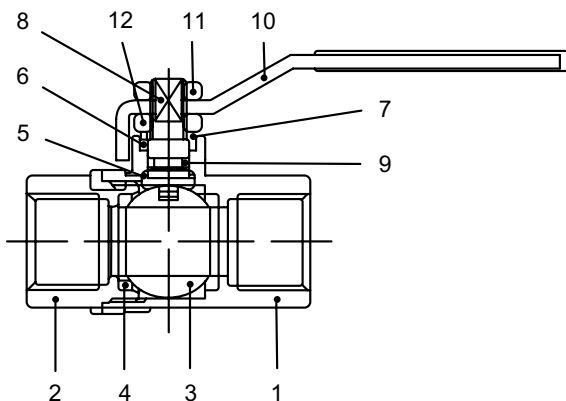
MADE IN ITALY



FORGED BRASS BALL VALVE IPS SCREWED ENDS

Part#	Size	Dimension Inches						Box	Case	List Price
	G	DN	A	B	C	E	CH			
940-241	1/2	0.47	2.26	1.51	3.27	0.61	0.98	20	80	20.23
940-242	3/4	0.59	2.50	1.59	3.27	0.63	1.22	14	56	26.42
940-243	1	0.78	2.87	1.88	3.74	0.75	1.49	10	40	38.33
940-244	1-1/4	0.98	3.46	2.08	4.61	0.77	1.89	4	16	65.86
940-245	1-1/2	1.26	3.52	2.45	4.61	0.77	2.13	4	16	91.51
940-246	2	1.57	4.05	2.65	4.61	0.79	2.64	1	4	132.86

See additional handle options on page 169



POS	Components	Materials	N
1	Body	Forged Brass	1
2	End Connection	Forged Brass	1
3	Ball	CP Brass	1
4	Ball Stems	P.T.F.E.	2
5	Stem Antif. Seat	P.T.F.E.	1
6	Stem Seat	P.T.F.E.	1
7	Brass Ring	Brass	1
8	Stem	Brass	1
9	O-Ring	NBR 80	1
10	Handle	Steel	1
11	Nut	Steel	1
12	Nut	Brass	1

• Not AB1953 Compliant



GAS BALL VALVES

**ISO 9002 Manufacturer
FEATURES**



Manual Valve
UL LISTED
Threaded NPT
UL 842, UL 258, UL 125

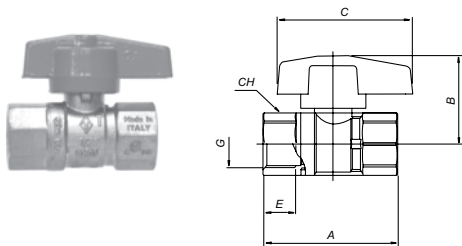
Made in Italy

- Solid chrome plated brass ball
- Bottom entry
- Blow out proof design.
- Double viton o-rings stem seals
- Teflon seats for durability.
- Forged construction for greater strength.
- Larger ports for increased flow capacity.
- For use with natural, manufactured, mixed liquified petroleum and LP gas-air mixtures.

- Deeper thread connections. Smooth quarter-turn.
- Manufactured to ANSI Z21.15, C.G.A. 9.1-M81, 9.2-M88, 1/2 psig. 372 also to A.G.A. 3-8, C.G.A. CR91-002, 2 psig.
- Red Reversible handle.
- May be used with water 400 WOG.

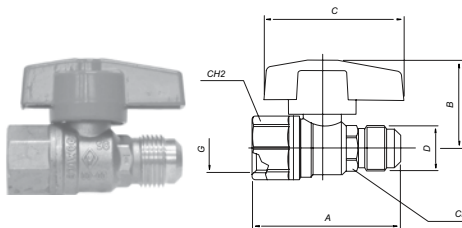
VALVES

**GAS BALL VALVES
FEMALE x FEMALE**



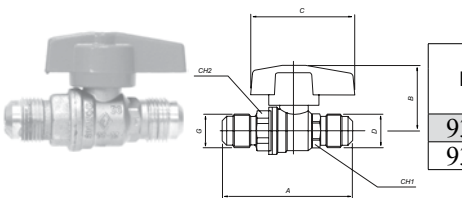
Part#	Size	Dimension Inches							PN in psi	Box	Case	List Price
	G	DN	A	B	C	E	CH					
943-212	1/2"	.31	1.96	1.57	3.43	.43	.98	600	20	80	13.57	
943-213	3/4"	.39	1.96	1.57	3.43	.43	1.22	600	14	56	19.69	

**APPLIANCE CONNECTOR VALVES
FEMALE X FLARE**

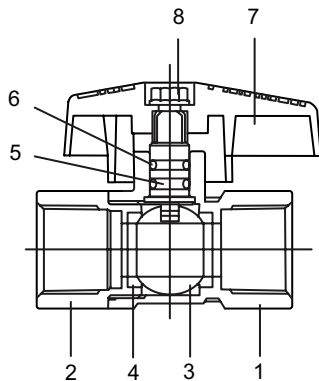


Part#	Size	Dimension Inches							PN in psi	Box	Case	List Price
	G	DN	A	B	C	CH1	CH2					
935-122	1/2 x 3/8	0.27	2.41	1.45	2.28	0.67	0.98	20	80	17.51		
935-123	1/2 x 1/2	0.39	2.44	1.45	2.28	0.67	0.98	20	80	19.48		
935-124	3/4 x 5/8	0.47	2.50	1.48	2.28	-	1.22	20	80	21.74		

FLARE x FLARE



Part#	Size	Dimension Inches							PN in psi	Box	Case	List Price
	G	DN	A	B	C	CH1	CH2					
935-129	3/8 x 3/8	0.27	2.79	1.45	2.28	0.67	0.83	363	20	80	23.58	
935-130	1/2 x 1/2	0.39	2.87	1.45	2.28	0.67	0.83	363	20	80	20.37	



	Components	Materials
1	Body	Forged Brass
2	End Connection	Forged Brass
3	Ball	Forged Brass
4	Ball Seats	P.T.F.E.
5	Stem	Brass
6	O-Ring	NBR
7	Butterfly	Steel
8	Screw	UNI 5771 Steel



CHROME PLATED BRASS MINI BALL VALVE

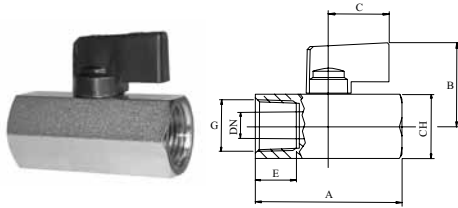
Made in Italy

ISO 9002 Manufacturer

FEATURES

- Solid chrome plated brass ball
- Max working pressure 235 psi will handle 300psi@75° F
- Longer body style for longer, deeper thread connections
- One piece drawn sand blasted chrome plated body.
- Each valve is seal tested for maximum safety.
- Double seal system allows valve to be operated in both directions making installation easier.
- Blowout-proof brass stem.
- NPT taper ANSI B1.20.1 threads.
- 32°F to +176°F temperature.
- 1/4 Turn Nylon handle with mechanical stop.
- NSF Approved valves available upon request!
- Also available in Stainless Steel.

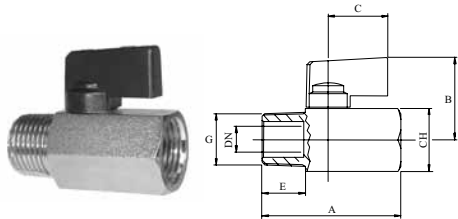
Female x Female



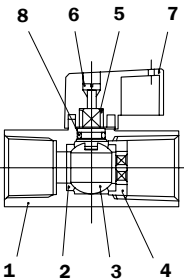
Part#	Size		Dimension Inches								List Price
	G	DN	A	B	C	E	CH	BOX	CASE		
46-920 I	1/8"	0.24	1.51	1.2	0.9	0.31	0.83	50	200	15.16	
46-922 I	1/4"	0.31	1.88	1.2	0.9	0.51	0.83	50	200	15.16	
46-923 I	3/8"	0.31	1.88	1.2	0.9	0.51	0.83	50	200	15.16	
46-924 I	1/2"	0.39	2.18	1.28	0.9	0.61	0.96	40	160	17.52	

Made in Italy

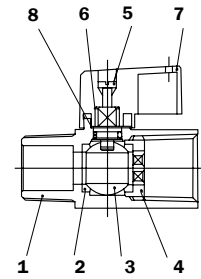
Male x Female



Part#	Size		Dimension Inches								List Price
	G	DN	A	B	C	E	CH	BOX	CASE		
46-900 I	1/8"	0.24	1.5	1.2	0.9	0.34	0.83	50	200	14.84	
46-903 I	1/4"	0.31	1.77	1.2	0.9	0.48	0.83	50	200	14.84	
46-904 I	3/8"	0.31	1.81	1.2	0.9	0.49	0.83	50	200	14.84	
46-905 I	1/2"	0.39	2.15	1.28	0.9	0.65	0.96	40	160	16.45	



POS	Components	Materials	N
1	Body	CW517N Forged Brass	1
2	Ball Seats	P.T.F.E	2
3	Ball	CW517N CP Brass	1
4	Ring Unit	CW614N Brass	1
5	Stem	CW614N Brass	1
6	Screw	UNI 5771 Steel	1
7	Handle	Nylon	1
8	O-Ring	NBR 80	1



ECONOMY MINI BALL VALVES

- Max Working Pressure: 450psi
- Maximum Temperatures: 356°F at 142 psi
212°F at 355 psi
- 1/4 Turn Handle

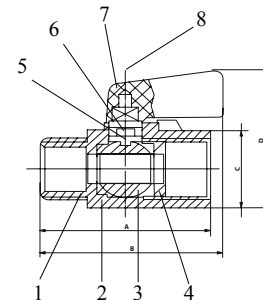
Send us your volume quotes!

FEMALE X FEMALE

Part #	Size	Dimensions (In)				List Price
		A	B	C	D	
46-935	1/4	1.57	1.69	0.78	1.46	7.56
46-936	3/8	1.57	1.69	0.78	1.46	8.27

MALE X FEMALE

Part #	Size	Dimensions (In)				List Price
		A	B	C	D	
46-930	1/8	1.67	1.69	0.78	1.46	6.87
46-931	1/4	1.57	1.69	0.78	1.46	7.56
46-932	3/8	1.57	1.69	0.78	1.46	7.11



Pos	Components	Materials	N
1	Body	CP Forged Brass	1
2	Ball Seats	P.T.F.E	2
3	Ball	CP Brass	1
4	Ring Unit	Brass	1
5	Stem	Brass	1
6	O-Ring	NBR 80	1
7	Handle	ABS	1
8	Screw	Steel	1

See page 189 for stainless steel mini ball valves

BRASS VALVES

MINI BALL VALVES

FORGED BRASS MINI-BALL VALVES

- 180° operational handle, blow out proof stem. Stem with double "O" Rings - *90° Operational handle.
- 200 WOG
- 125SWSP

NO	Part Name	Material	QTY
1	Nut	Steel	1
2	Handle	Steel	1
3	Cover	PVC	1
4	O-Ring	NBR	2
5	Stem	Brass	1
6	Body	Brass	1
7	Seat	Teflon	2
8	Ball Disc	Brass	1
9	End Plug	Brass	1



FEMALE x FEMALE

Part #	Size	List Price
* 944-116	1/4X1/4	10.81
944-118	1/4X1/2	10.12

* 90° Operational handle.



MALE x FEMALE

Part #	Size	List Price
944-106	1/8X1/8	10.12
944-100	1/8X1/4	13.70
944-101	1/4X1/4	11.99
944-102	1/4X3/8	10.12



MALE x MALE

Part #	Size	List Price
944-108	1/8X1/4	7.61
944-111	1/4X1/2	10.12
944-112	1/2X1/2	12.87



HOSE BARB x MALE

Part #	Size	List Price
944-138 *	1/4X1/4	8.00
944-128	3/8X1/4	7.51

* 90° Operational handle.



HOSE BARB x HOSE BARB

Part #	Size	List Price
* 944-142	1/4X1/4	10.73
* 944-134	3/8X3/8	10.88

* 90° Operational handle.



FEMALE x HOSE BARB

Part #	Size	List Price
944-135	1/8X1/8	10.30
944-121	1/4X5/16	10.30
944-136	1/4X1/4	9.07

NP MINI BALL VALVES

- With and without internal check valve.
- * Nickel Plated



MALE PIPE x BARB w/ CHECK

Part #	Size	List Price
944-051	1/4 x 1/4	14.78
944-052	3/8 x 1/4	15.14

MALE PIPE x BARB WITHOUT CHECK

Part #	Size	List Price
944-012	3/8 x 1/4	14.29



MIP x FLARE w/ CHECK VALVE

Part #	Size	List Price
944-060	1/4 x 1/4	14.78

FLARE x MIP WITHOUT CHECK VALVE

Part #	Size	List Price
944-026	1/4 x 1/4	16.90



BARB x BARB NO CHECK

Part #	Size	List Price
944-005	1/4	14.99
944-013	3/8	14.99

- Plain Brass



MIP x FLARE WITH CHECK

Part #	Size	List Price
10-256WC	1/4 x 1/4	2.80

Private label handle available on volume purchases.

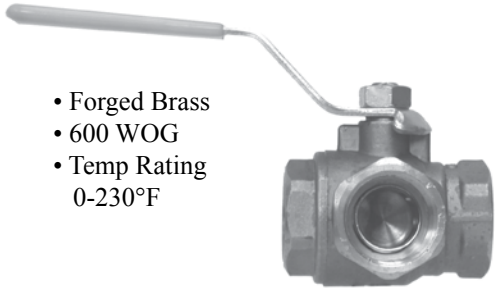
3 WAY BALL VALVES

BRASS VALVES

SIDE OUTLET 3 WAY BALL VALVE

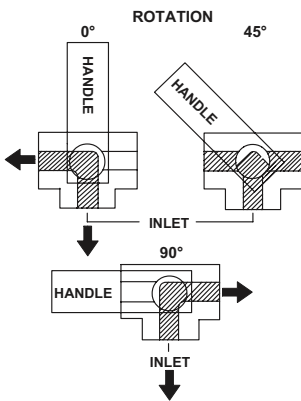
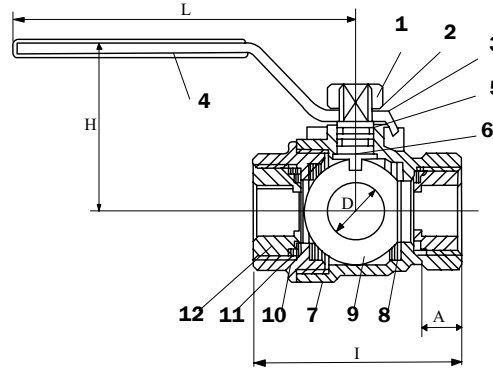
• 600 WOG

VALVES



- Forged Brass
- 600 WOG
- Temp Rating 0-230°F

• Side outlet



- Full Port
- Blow-out proof stem
- double o-ring stem packing
- PTFE Seal

Nomenclature & Materials

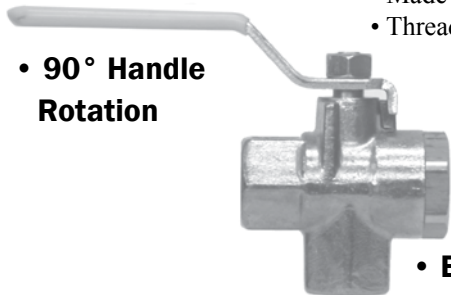
NO	Part Name	Material	Qty
1	Nut	Steel	1
2	Spring Washer	Steel	1
3	Handle	Steel	1
4	Cover	PVC	1
5	O-Ring	NBR	2
6	Stem	Brass	1
7	Body	Forged Brass	1
8	Seat	Teflon	2
9	Ball Disc	Brass	1
10	End Plug	Brass	1
11	O-Ring	NBR	3
12	Socket	Brass	3

Part#	Size	I	H	D	L	A	Box	Case	List Price
940-464	1/4"	1.89	1.73	0.39	3.35	0.47	50	100	42.45
940-465	3/8"	1.89	1.73	0.39	3.35	0.47	50	100	44.17
940-461	1/2"	2.11	1.80	0.50	3.35	0.51	30	60	35.20
940-462	3/4"	2.56	2.16	0.74	4.41	0.55	20	40	57.18

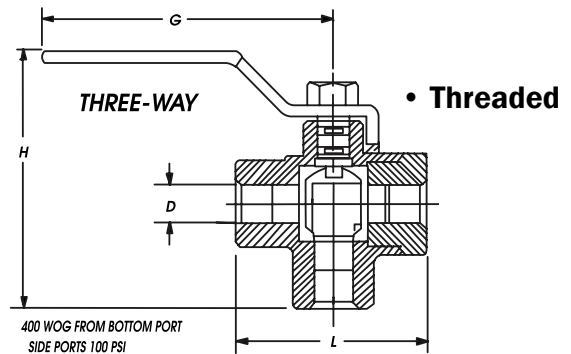
BOTTOM OUTLET 3 WAY BALL VALVE

- Forged Brass
- Double O-Ring Seal
- Blow out proof stem
- Made in USA
- Threaded ports

• 90° Handle Rotation



• Bottom outlet



Part#	Size	D	G	H	L	Cv	List Price
940-121	1/4"	.44	3.50	3.12	2.25	5.2	58.45
940-122	3/8"	.50	3.50	3.12	2.25	5.5	54.10
940-123	1/2"	.50	3.50	3.12	2.25	5.5	61.36



BRASS VALVES

MISC. VALVES

EXHAUST VALVES

AUTOMATIC DRAIN & LATCH LOCK HANDLE

Full port hot forged brass ball valve, blow-out proof stem, downstream automatic vent with lockable handle in compliance with OSHA requirements.

- Maximum working pressure: 200 PSI (CWP).
- Temperature rating: -4°F through +350°F.



Valve - open position.
Drain vent shut off.

Part#	Size	List Price
948-131	1/4"	54.96
948-132	3/8"	53.98
948-133	1/2"	56.39
948-134	3/4"	77.26
948-135	1"	85.26

Valve - closed and draining occurs. Upstream seat prevents air flow. Downstream system is vented to atmosphere.

ANGLE SILLCOCKS

3/4" Hose Thread Outlet

- Notched flange for convenient installation.
- Heavy brass construction.
- Cast Iron handle.



FEMALE IPS

Part #	Size	Box	List Price
942-142	1/2	12	10.27

HOSE BIBBS

3/4" Hose Thread Outlet



IPS

Part #	Size	Box	List Price
942-170	1/2 (1/2"C)	12	11.91
942-171	3/4	12	16.10

DRUM & BARREL FAUCET VALVE

- Die cast body w/ nylon seat and steel spring.
- For use with all petroleum products except trichlorethylene.
- Lockable handle.

G261N



Not suitable for potable water.

SELF-CLOSING DRUM & BARREL FAUCET

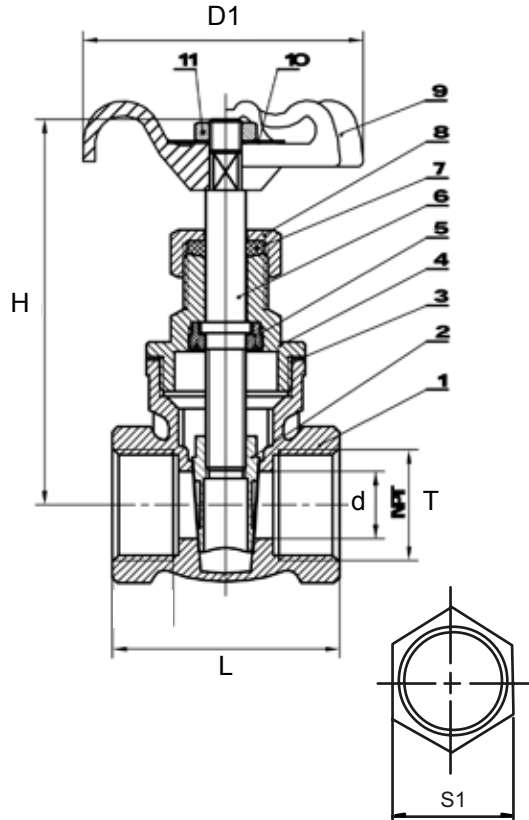
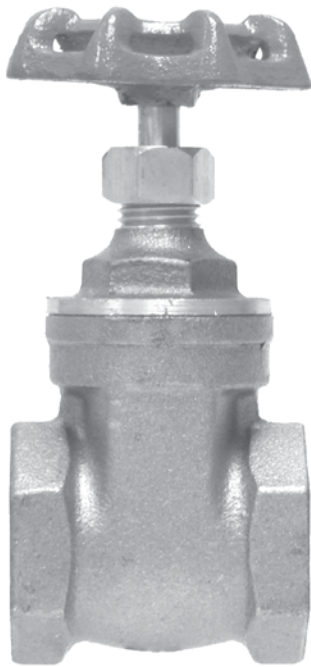
Part #	Size	List Price
46-270	3/4"	12.87



FULL PORT BRASS GATE VALVE

VALVES

- 200 WOG (cold water, oil, gas).
- 125 WSP (Saturated Steam).
- Full-port design for a better water flow.
- Screw-in Bonnet - Non-Rising Stem - Solid Wedge
- NPT Threaded ends to ANSI B1.20.1
- Cast iron handle.
- Forged Brass Body for 1/2" - 1"
- Cast brass body for 1-1/4" - 4".
- Each valve individually air tested under water.



NO	Description	Material
1	Body	C37700
2	Disk	C37700
3	Seat	PTFE
4	Cap	C37700
5	Packing	C37700
6	Stem	C37700
7	Rubber Seat	NBR
8	Packing Nut	C37700
9	Handle	HT200
10	Nameplate	AL
11	Stem Nut	A570 Gr.A

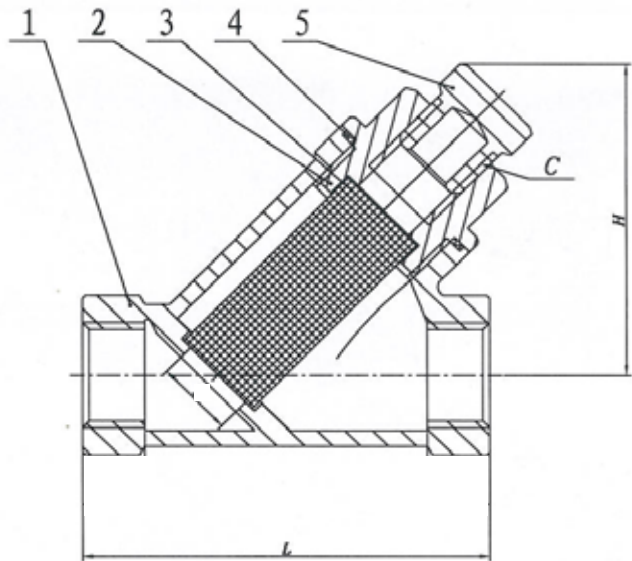
BRASS GATE VALVES IPS

Part#	Size	L	H	D1	d	T	S1	Box	Case	List Price
940-130	1/4	1.57	2.91	2.09	.24	1/4-18 NPT	.85	10	120	21.10
940-131	3/8	1.61	2.91	2.09	.39	3/8-18 NPT	.85	10	120	22.00
940-132	1/2	1.575	2.874	2.087	0.50	1/2-14 NPT	1.03	10	100	14.01
940-133	3/4	1.752	3.228	2.087	0.748	3/4-14 NPT	1.26	5	60	18.82
940-134	1	1.984	3.661	2.283	0.984	1-11.5 NPT	1.51	5	40	25.80
940-135	1-1/4	2.165	4.567	2.835	1.22	1-1/4-11.5 NPT	1.89	5	30	46.76
940-136	1-1/2	2.283	4.98	3.11	2.496	1-1/2-11.5 NPT	2.17	4	24	59.85
940-137	2	2.677	5.846	3.819	1.85	2-11.5 NPT	2.60	2	16	78.75
940-138	2-1/2	3.661	7.638	4.252	2.48	2-1/2-8 NPT	3.27	2	8	136.78
940-139	3	3.819	8.839	4.961	2.835	3-8 NPT	3.86	1	6	204.34
940-140	4	4.567	10.189	4.961	3.661	4-8 NPT	4.88	1	3	329.01



CLASS 150 BRASS Y-PATTERN STRAINER

- Forged Brass body, size 1/4"-3".
- Pressure rating: 150 WOG (water, oil, gas)/PN25
150 WSP (Saturated Stem)
- NPT Threaded ends to ANSI B1.20.1
- Protects regulators, pumps, meters and other controls from damage due to sediment scale, metal chips or other foreign materials.
- Screwed cap is threaded & gasketed.
- Tapped drain plug opening in cap.
- 304 stainless steel screen #20 mesh.
- Self cleaning.
- Self cleaning can be accomplished by opening the valve or plug connected to the blow-off outlet.



Part#	Size	L	H	C	List Price
940-521	1/4"	2.60	1.67	NPT 1/4	36.32
940-522	3/8"	2.60	1.67	NPT 1/4	38.30
940-523	1/2"	3.13	2.33	NPT 1/4	28.60
940-524	3/4"	3.43	2.17	NPT 1/4	41.46
940-525	1"	4.09	2.66	NPT 1/2	71.96
940-526	1-1/4"	4.90	3.24	NPT 1/2	98.67
940-527	1-1/2"	5.59	3.51	NPT 1/2	130.54
940-528	2"	6.69	4.34	NPT 1/2	215.16
940-529	2-1/2"	8.26	5.61	NPT 3/4	500.00
940-530	3"	9.37	6.69	NPT 3/4	716.11

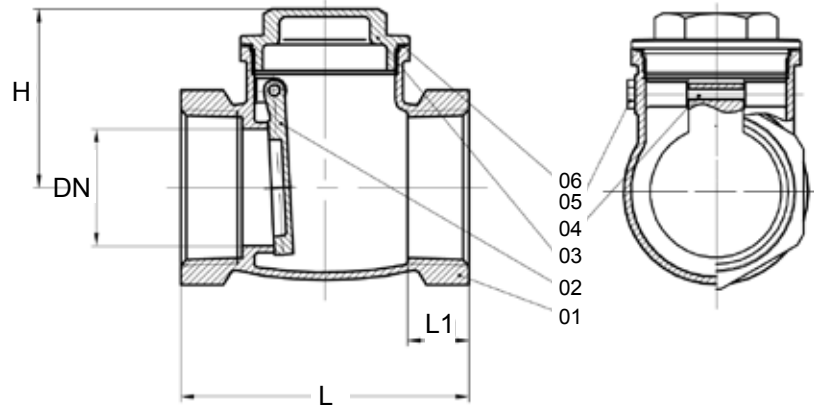
NO	Name	Material
1	BODY	BRASS
2	BONNET	BRASS
3	STRAINER	S.S.
4	SPRING SEAL	PTFE
5	END CAP	BRASS

BRASS SWING CHECK VALVES

- Working pressure non-shock: 200 psi W.O.G. (cold water, oil, gas) 125 psi WSP (saturated steam)
- Swing type disc.
- Screwed Cap.
- Hard Seat.

- 90° Straight Pattern.
- Used to prevent reverse flow in commercial and industrial applications.
- Threaded ends to ANSI B1.20.1
- Integral seat.
- Temp range -5° - 150F°

VALVES



NO	Description	Material
1	Body	C37700
2	Disc	C37700
3	Cap	C37700
4	Brass Bar	C37700
5	Screw	C37700
6	Gasket	PTFE

CAST BRASS SWING CHECK VALVES IPS SCREWED ENDS

Part #	Size	L	H	L1	DN	Box	Case	List Price
940-352	1/2	2.071	1.299	0.531	0.512	10	120	15.83
940-353	3/4	2.382	1.417	0.579	0.728	10	80	17.81
940-354	1	2.835	1.614	0.748	0.925	5	60	25.51
940-355	1-1/4	3.228	1.969	0.748	1.201	4	36	40.26
940-356	1-1/2	3.740	2.244	0.846	1.417	4	24	55.54
940-357	2	4.212	2.638	0.886	1.772	4	16	83.39
940-358	2-1/2	5.591	3.346	1.063	2.224	2	8	157.73
940-359	3	6.024	3.504	1.102	2.579	1	6	221.86
940-360	4	7.008	4.212	1.102	3.602	1	4	360.38

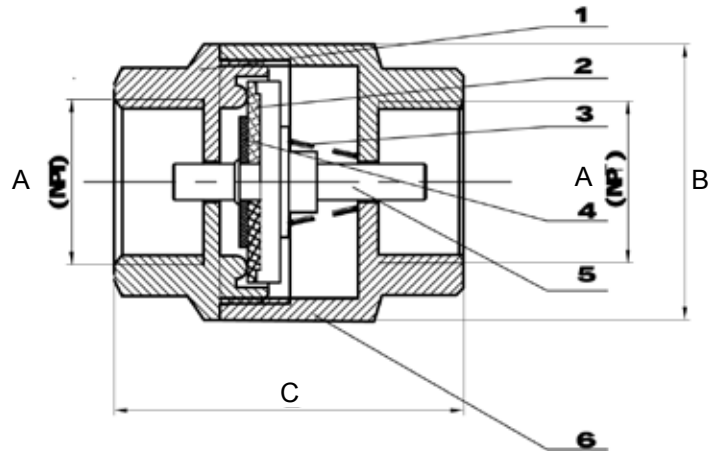
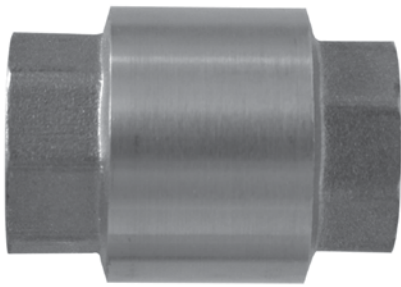


BRASS CHECK VALVES

S.S. SPRING LOADED BRONZE POPPET
 For positive sealing & self-cleaning.
 Insures against leakage.

- Inline Lift Type - Resilient Discs - Spring Actuated - Threaded.
- Pressure rating: 200 WOG (water, oil, gas)
 125 WSP (Saturated Steam)
- Spring in stainless steel AISI 304.
- Resilient washer hold/ disc in brass.
- Forged Brass Body for 1/2"-2"
- Corrosion resistant material.
- Can be used vertically or horizontally.
- Opens & Closes with flow of media.
- No cracking pressure.

Temp Range
 -10°C - 110°C
 14°F - 248°F



Brass Check Valve (Inches)

Part#	Size	Enters Pipe Size	A NPT	B	C	Box	Case	List Price
944-428	1/4"	-	1/4"	1.26	2.28	24	192	16.49
944-429	3/8"	-	3/8"	1.50	2.28	21	168	19.30
944-430	1/2"	1-1/4"	1/2"	1.299	1.89	10	100	15.13
944-431	3/4"	1-1/4"	3/4"	1.594	2.126	10	100	22.49
944-432	1"	2"	1"	1.85	2.303	10	60	30.14
944-433	1-1/4"	2-1/2"	1-1/4"	2.205	2.52	10	40	43.95
944-434	1-1/2"	3"	1-1/2"	2.618	2.717	5	30	54.27
944-435	2"	3-1/2"	2"	3.091	3.071	2	20	84.90

See more Check Valves on page 164

NO	Part	Material
1	Cap	C37700
2	Gasket	NBR
3	Spring	Stainless Steel
4	Positioning Seat	BRASS
5	Screw	BRASS
6	Body	C37700



BRASS IN-LINE CHECK VALVES

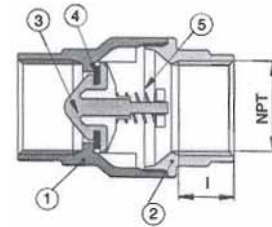
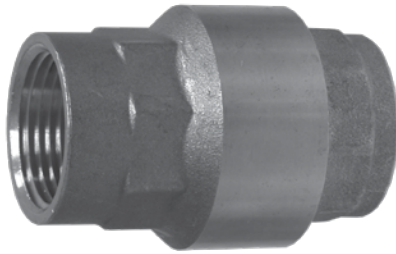
High Capacity, Size 1/4"-2" 400 WOG, 2 1/2"-4" 175 WOG

- Soft Seat for Bubble Tight Shutoff, Spring Loaded for Fast Seating Action.
- Compact design.
- Low Cracking Pressure 1/2 psi.
- Flow Profile Designed to Minimize Head Loss.
- Perfect Seating both at High and Low Pressure, Wide Temperature Range: +10° to 210°F.
- Polyetherimide Disc to ensure the Best Resistance For Corrosion and Abrasion.
- Patented Disc Guide to Prevent Any Side Loading.
- Connection: FNPT x FNPT.

NBR for water, oils and general purpose.

With VITON® Seal for fuels and hydrocarbons. Max working TEMPERATURE 325°F/125 psi steam

Add V to part# for Viton®



Brass In-Line Check

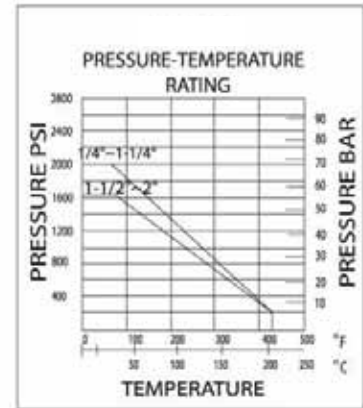
Part#	Size	I	psi	Lbs	NBR List	Viton List
944-401	1/4"	0.39	400	0.22	20.27	20.27
944-402	3/8"	0.40	400	0.37	20.27	20.88
944-403	1/2"	0.53	400	0.32	22.37	23.28
944-404	3/4"	0.55	400	0.49	30.52	32.70
944-405	1"	0.66	400	0.68	40.12	42.17
944-406	1-1/4"	0.68	400	1.13	63.05	67.25
944-407	1-1/2"	0.68	400	1.61	94.90	99.81
944-408	2"	0.69	400	2.28	128.37	133.88
944-409	2-1/2"	0.93	175	4.83	293.75	304.59
944-410	3"	1.01	175	6.70	397.82	411.02
944-411	4"	1.09	175	12.43	640.09	648.12

NO	Part	Material	PCS
1	BODY	BRASS	1
2	END CONNECTION	BRASS	1
3	DISC	POLYETHERIMIDE	1
4	SEAT	100002 NBR	1
		100003 Viton	1
5	SPRING	STAINLESS STEEL	1



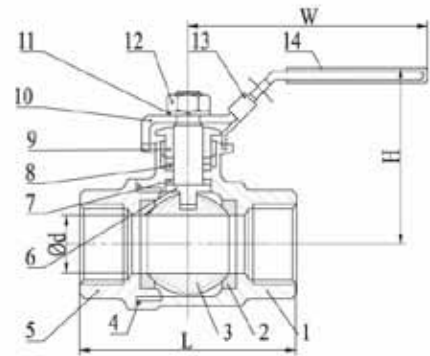
2-PC BALL VALVE, FULL PORT, THREADED END, 2000 WOG

- Investment Castings for body and cap.
- Internal Entry blow-out proof stem.
- Pressure rating: 2000PSI.
- Threaded Ends: ANSI B2,1
- Material: CF8M, CF8, CF3M, WCB
- Pressure test: API 598



VALVES

NO	Part	Material	QTY
1	BODY	CF8M	1
2	BALL SEAT	PTFE	2
3	BALL	CF8M	1
4	BODY SEAL	PTFE	1
5	CAP	CF8M	1
6	STEM	SS316	1
7	THRUST WASHER	PTFE	1
8	PACKING	PTFE	1
9	GLAND NUT	SS304	1
10	HANDLE	SS304	1
11	WASHER	SS304	1
12	NUT	SS304	1
13	LOCK DEVICE	SS304	1
14	HANDLE COVER	PLASTIC	1



Part#	Size	D	L	H	W	N.M	lbs/ pc	List Price
949-171	1/4"	.492	2.224	1.89	4.134	.157	.616	34.14
949-172	3/8"	.492	2.224	1.89	4.134	.157	.616	34.14
949-173	1/2"	.591	2.579	2.087	4.331	.197	.946	43.92
949-174	3/4"	.787	3.051	2.441	5.315	.315	1.298	60.48
949-175	1"	.984	3.504	2.953	5.906	.394	2.332	90.72
949-176	1-1/4"	1.26	4.094	2.854	5.906	.551	3.30	134.64
949-177	1-1/2"	1.496	4.803	3.583	6.969	.709	5.258	187.32
949-178	2"	1.969	4.901	4.016	7.205	.984	7.48	260.46



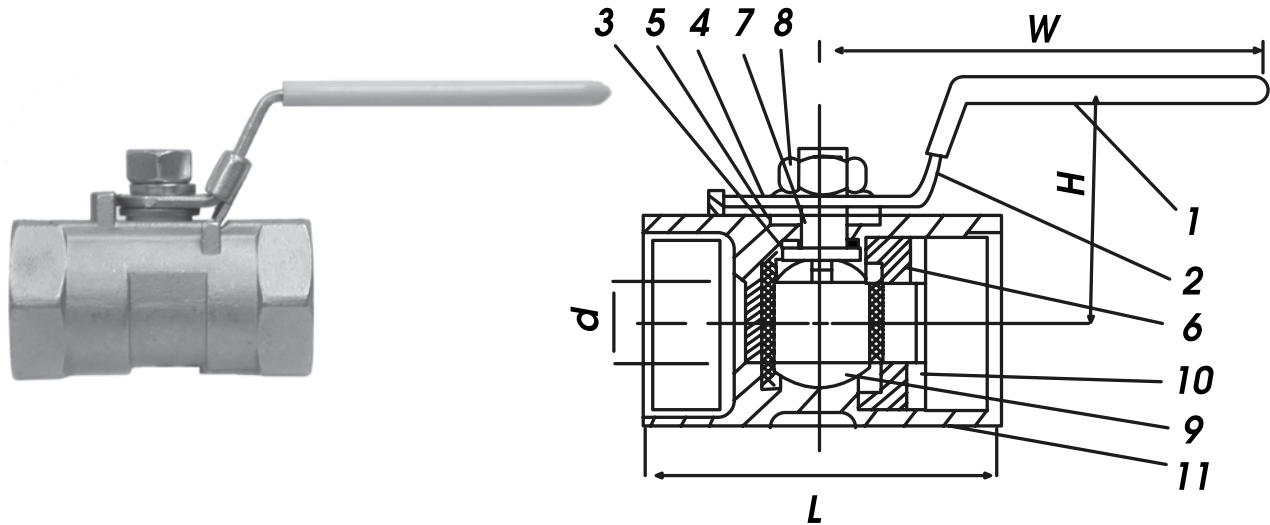
ONE PIECE STANDARD PORT BALL VALVE

316 Stainless Steel

1000 PSI

Yellow locking handle now standard

VALVES



Valves will accept a pad-lock on the handle.

dimensions (inches)

Part#	Size	D	L	H	W	List Price
949-101	1/4"	.18	2.24	1.54	3.15	32.68
949-102	3/8"	.27	2.24	1.73	3.15	33.15
949-103	1/2"	.36	2.48	2.20	3.62	36.82
949-104	3/4"	.49	2.95	2.32	3.62	43.10
949-105	1"	.59	3.50	2.80	4.13	55.21
949-106	1-1/4"	.79	4.13	3.07	4.13	96.48
949-107	1-1/2"	.98	4.65	3.27	5.08	98.29
949-108	2"	1.26	5.35	3.94	5.08	139.91

Larger sizes available on special order basis

*Private Label handles available.
See Page 165 for details*

Item	Parts	Material
1	Plastic Cover	Plastic
2	Handle	AISI 304 SS
3	Thrust Washer	PTFE
4	Packing Ring	AISI 304 SS
5	Stem Packing	PTFE
6	Seat	PTFE
7	Seat	AISI 316 SS
8	Stem Nut	AISI 304 SS
9	Ball	316SS ASTM-A351 CF8M
10	Cap	316SS ASTM-A351 CF8M
11	Body	316SS ASTM-A351 CF8M

SS = Stainless Steel



1000 PSI 2 PC FULL PORT STAINLESS STEEL VALVE

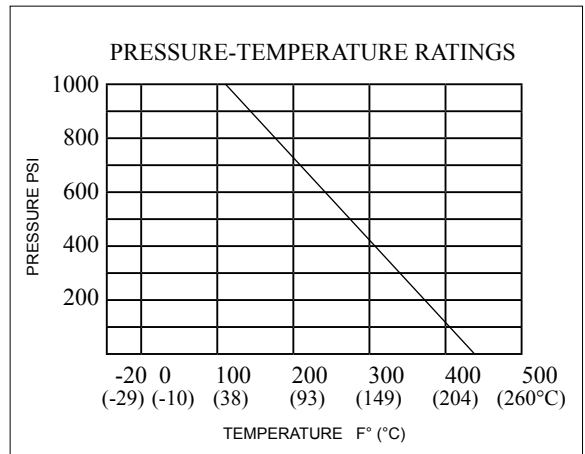
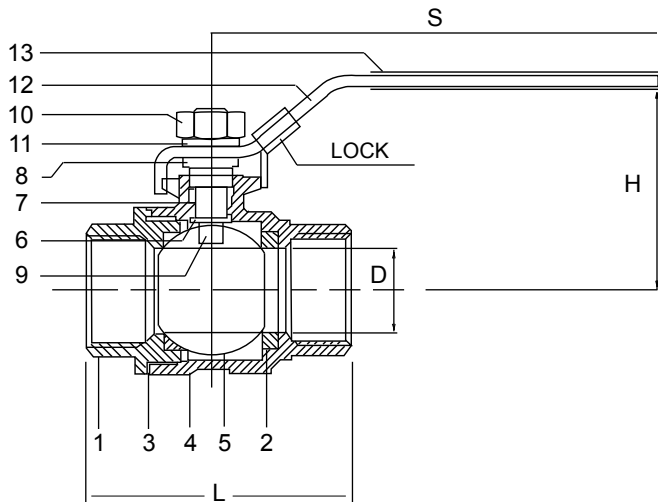
Materials: CFM8M (SS316), DIN 1.4408

Features:

- Investment Casting body
- Working pressure 1000 psi for W.O.G.
- Adjustable stem packing
- Pure teflon seals and seats
- Temperature range: -60 to 450°F
- Blow-out proof stem and safe pressure-reducing hole
- 100% leakage tested at 100 psi air under water
- Hydrostatic test pressure: 1500 psi
- Locking handle w/ yellow generic sleeve



VALVES



Valves will accept a pad-lock on the handle.

NO.	NAME	MATERIAL	QTY
1	CAP	316 SS	1
2	BALL SEAT	PTFE	2
3	JOINT GASKET	PTFE	1
4	BODY	316 SS	1
5	BALL	316 SS	1
6	THRUST WASHER	PTFE	1
7	STEM PACKING	PTFE	1
8	GLAND NUT	304 SS	1
9	STEM	316 SS	1
10	STEM NUT	304 SS	1
11	SPRING WASHER	304 SS	1
12	HANDLE	304 SS	1
13	PLASTIC SLEEVE	PVC	1

Part #	Size	D	L	H	S	Approx. Wt. Lbs.	List Price
949-181	1/4"	0.46	1.84	1.89	4.06	0.44	37.81
949-182	3/8"	0.46	1.91	1.89	4.06	0.55	38.45
949-183	1/2"	0.59	2.28	1.89	4.06	0.66	41.79
949-184	3/4"	0.79	2.56	2.05	4.84	0.77	49.75
949-185	1"	0.98	3.03	2.45	4.84	1.43	74.23



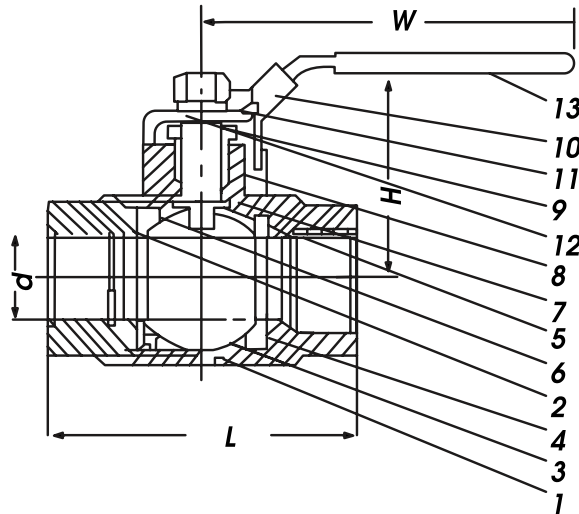
TWO PIECE FULL PORT BALL VALVE

316 Stainless Steel

1000 PSI

Yellow locking handle now standard!

VALVES



Valves will accept a pad-lock on the handle.

dimensions (inches)

Part#	Size	D	L	H	W	List Price
949-161	1/4"	.46	2.24	1.93	4.13	57.03
949-162	3/8"	.50	2.24	1.93	4.13	47.93
949-163	1/2"	.59	2.48	2.01	4.13	64.71
949-164	3/4"	.78	2.95	2.28	5.12	68.66
949-165	1"	.98	3.50	2.76	5.71	86.86
949-166	1-1/4"	1.26	4.13	2.87	5.71	133.89
949-167	1-1/2"	1.50	4.65	3.29	7.48	176.42
949-168	2"	2	5.35	3.62	7.48	211.07

Larger sizes available on special order basis

*Private Label handles available.
See Page 165 for details*

Item	Parts	Material
1	Body	316SS ASTM-A351 CF8M
2	Body Cap	316SS ASTM-A351 CF8M
3	Ball	316SS ASTM-A351 CF8M
4	Seat	Reinforced PTFE
5	Stem	AISI 316 SS
6	Seal	Reinforced PTFE
7	Thrust Washer	Reinforced PTFE
8	Packing	Reinforced PTFE
9	Gland Nut	AISI 304SS
10/11	Nut & Washer	AISI 304SS
12	Handle	AISI 304SS
13	Plastic Cover	Plastic

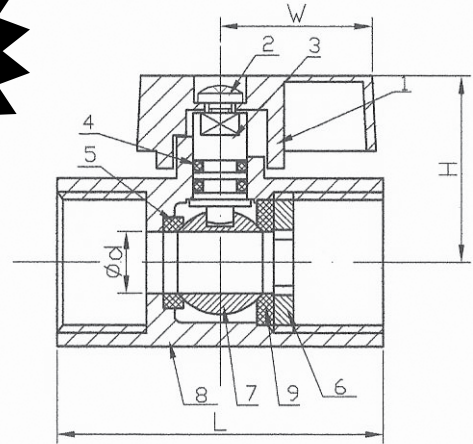
SS = Stainless Steel



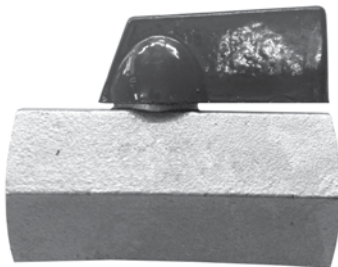
- 316 Stainless Steel
- Working pressure 400PSI
- Working Temperature -10°C to 150°C



NO	Part	Material	QTY
1	LEVER	ALUMINIUM ALLOY	1
2	BOLT	304	1
3	STEM	304/ 316	1
4	"O" RING	NBR	1~2
5	BALL SEAT (A)	PTFE	1
6	CAP	CF8/ CF8M	1
7	BALL	CF8/ CF8M	1
8	BODY	CF8/ CF8M	1
9	BALL SEAT (B)	PTFE	1

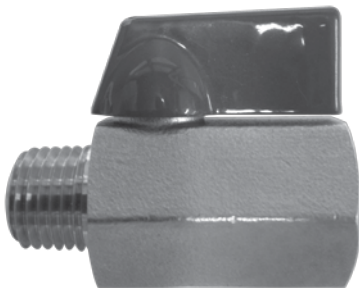


VALVES



FEMALE PIPE x FEMALE PIPE

Part#	Size	W	D	H	L	List Price
46934SS	1/8"	.898	.197	.985	1.693	19.50
46935SS	1/4"	.898	.276	.984	1.693	19.50
46936SS	3/8"	.898	.276	.984	1.693	20.46
46937SS	1/2"	.898	.362	1.114	1.811	25.19



MALE PIPE x FEMALE PIPE

Part#	Size	W	D	H	L	List Price
46930SS	1/8"	.898	.197	.985	1.693	18.53
46931SS	1/4"	.898	.276	.984	1.693	18.53
46932SS	3/8"	.898	.276	.984	1.693	19.44
46933SS	1/2"	.898	.362	1.114	1.811	24.56

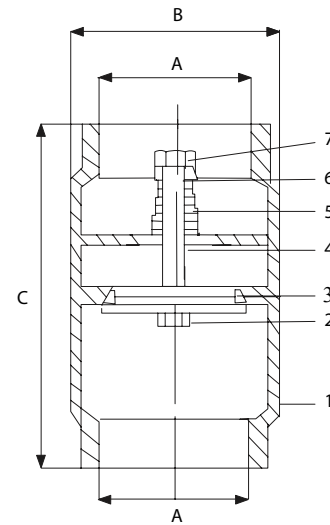
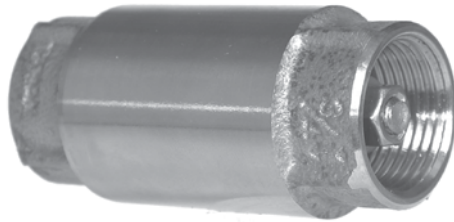
YOU DON'T HAVE A SOUL.
 YOU ARE A SOUL.
 YOU HAVE A BODY.
 C. S. LEWIS



**STAINLESS STEEL
CHECK VALVE**

- No Lead.
- Water wells need a check valve installed above the pumps between lengths of drop pipes.
- Opens & Closes with flow of media.
- No cracking pressure.**
- **Working pressure unavailable.**

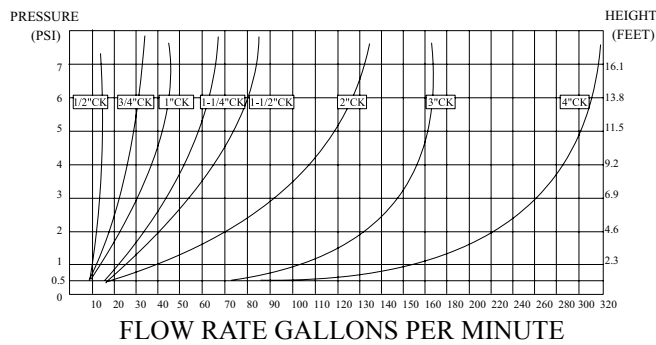
VALVES



Dimensions (Inches)

Part#	Size	A NPT	B	C	Box	Case	List Price
949-430	1/2"	1/2"	1.26	2.43	10	100	37.68
949-431	3/4"	3/4"	1.50	2.72	10	80	52.04
949-432	1"	1"	1.77	3.23	10	60	65.24

More sizes available on a special order basis.



NO	Part	Material
1	Body	S.S 304
2	Stopper	S.S 304
3	O-Ring	Viton
4	Washer	PE
5	Spring	S.S 304
6	Cap	S.S 304
7	Nut	S.S 304

See more Check Valves on page 164

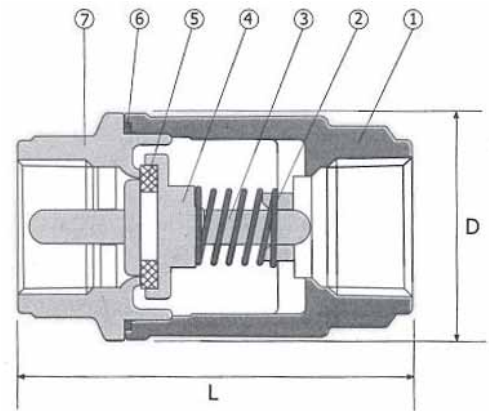


STAINLESS STEEL IN-LINE CHECK VALVE

High Capacity, Size 1/4"-2" 800 WOG

- Soft PTFE Seat for Bubble Tight Shutoff, Spring Loaded for Fast Seating Action
- Low Cracking Pressure 1/2 psi.
- Flow Profile Designed to Minimize Head Loss.
- Perfect Seating both at High and Low Pressure, Wide Temperature Range: +10° to 450°F.
- Corrosion Resistant-Excellent for use on Chemicals.
- ASTM A351-CF8M Investment Casting.
- Connection: FNPT x FNPT.
- 125WSP Saturated Steam.
- ANSI B1.20.1 Threads.
- Dual Guided Stem & Disc.

VALVES



Stainless Steel In-Line Check

Part#	Size	D	L	psi	Lbs	List
949-401	1/4"	1.35	2.31	800	0.42	145.00
949-402	3/8"	1.35	2.31	800	0.42	145.00
949-403	1/2"	1.35	2.31	800	0.40	157.50
949-404	3/4"	1.81	2.87	800	0.85	215.00
949-405	1"	2.13	3.50	800	1.30	248.75
949-406	1-1/4"	2.46	4.18	800	2.50	496.88
949-407	1-1/2"	2.88	4.93	800	3.40	690.63
949-408	2"	3.56	6.00	800	6.0	1012.75

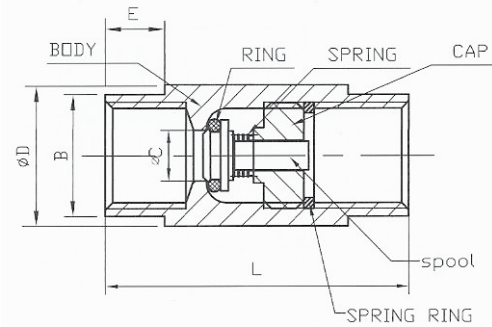
NO	Part	Material	PCS
1	BODY	ASTM A351-CF8M	1
2	SPRING	SS316	1
3	CENTER GUIDE	ASTM A351-CF8M	1
4	DISC	ASTM A351-CF8M	1
5	SEAT	PTFE	1
6	GASKET	PTFE	1
7	END CAP	ASTM A351-CF8M	1

“NOW AND THEN IT’S GOOD TO PAUSE IN OUR PURSUIT OF AND JUST BE HAPPY.”
 - GUILLAUME APOLLINAIRE



SPRING CHECK VALVE

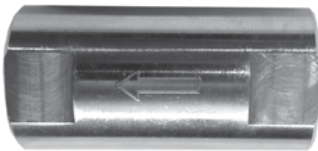
- Working Pressure: 1500PSI (PN100)
- Working Temperature: -10 -150°C
- Opening Pressure: 2~3PSI
- Suitable Medium: W.O.G.
- Threaded End: NPT



NO	Part	Material	QTY
1	BODY	316	1
2	RING	VITON	1
3	SPRING	304	1
4	CAP	CF8M	1
5	SPOOL	316	1
6	SPRING RING	304	1

VALVES

FEMALE PIPE x FEMALE PIPE



Part#	Size	L	C	D	B	E	lbs/ pc	List Price
949-451	1/4"	2.165	.217	.748	.699	.394	.176	30.24
949-452	3/8"	2.165	.295	.866	.787	.394	.22	30.24
949-453	1/2"	2.165	.413	1.063	.945	.472	.286	34.92
949-454	3/4"	2.677	.591	1.417	1.26	.472	.638	50.70
949-455	1"	3.268	.787	1.693	1.496	.591	1.056	68.28

MALE PIPE x FEMALE PIPE

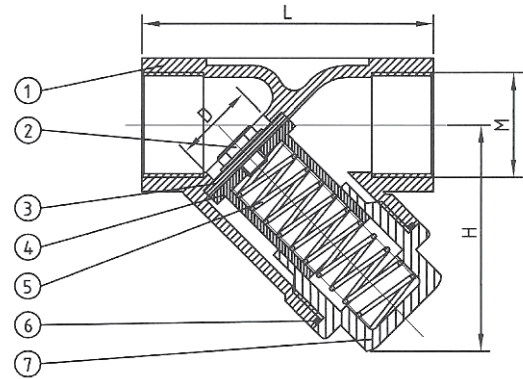
Part#	Size	L	C	D	B	E	lbs/ pc	List Price
949-471	1/4"	2.165	.217	.748	.699	.394	.176	30.24
949-472	3/8"	2.165	.295	.866	.787	.394	.22	30.24
949-473	1/2"	2.165	.413	1.063	.945	.472	.286	34.92
949-474	3/4"	2.677	.591	1.417	1.26	.472	.638	50.70
949-475	1"	3.268	.787	1.693	1.496	.591	1.056	68.28

IF PLAN A DIDN'T WORK, DON'T WORRY.
THE ALPHABET HAS 25 MORE LETTERS!

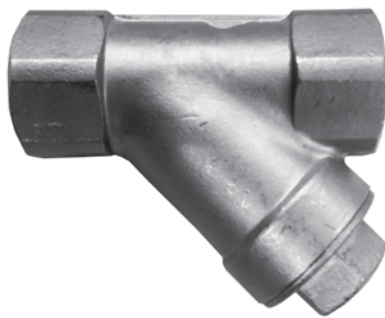


Y-SPRING CHECK VALVE

- Working Pressure: 800PSI (PN55)
- Working Temperature: -10 -150°C
- Opening Pressure: 1.5PSI
- Suitable Medium: W.O.G.



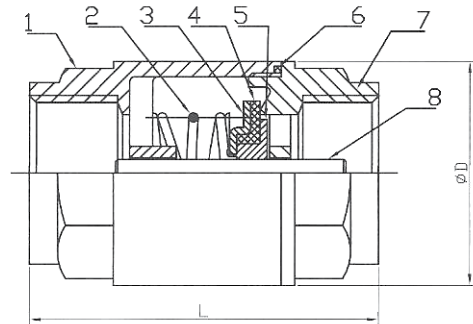
NO	Part	Material	QTY
1	BODY	CF8M/ CF8	1
2	BOLT	304	1
3	SEAT	PTFE	1
4	DISC	304	1
5	SPRING	316/ 304	1
6	GASKET	PTFE	1
7	CAP	CF8M/ CF8	1



Part#	Size	L	H	D	lbs/ pc	Case	List Price
949-481	1/4"	2.559	1.661	.472	.572	200	35.10
949-482	3/8"	2.559	1.661	.472	.528	200	35.10
949-483	1/2"	2.559	1.634	.591	.528	300	39.00
949-484	3/4"	3.15	2.067	.787	.946	300	63.42
949-485	1"	3.543	2.657	.984	1.76	200	102.42
949-486	1-1/4"	4.134	2.795	1.26	2.20	100	117.06
949-487	1-1/2"	4.724	3.169	1.575	2.234	100	156.06
949-488	2"	5.512	3.74	1.969	5.214	100	224.34

2PC BARREL TYPE SPRING CHECK VALVE

- Working Pressure: 300PSI (PN20)
- Working Temperature: -10 -120°C
- Opening Pressure: 2PSI
- Suitable Medium: W.O.G.
- Threaded end: NPT



NO	Part	Material	QTY
1	BODY	CF8M/ CF8	1
2	BOLT	304	1
3	SEAT	PTFE	1
4	DISC	304	1
5	SPRING	316/ 304	1
6	GASKET	PTFE	1
7	CAP	CF8M/ CF8	1



Part#	Size	L	D	Case	List Price
949-441	1/4"	2.008	1.142	200	30.24
949-442	3/8"	2.008	1.142	200	30.24
949-443	1/2"	2.244	1.28	300	34.92
949-444	3/4"	2.441	1.594	300	45.84
949-445	1"	2.953	1.89	200	66.30
949-446	1-1/4"	3.228	2.362	100	81.90
949-447	1-1/2"	3.465	2.756	100	113.16
949-448	2"	3.937	3.425	100	175.56



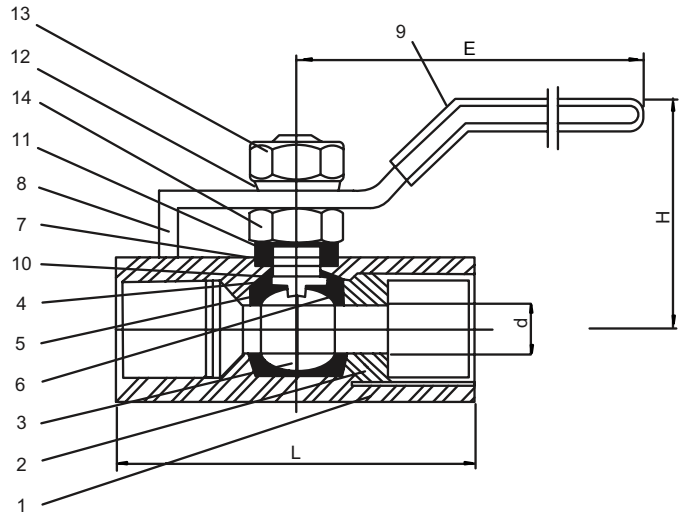
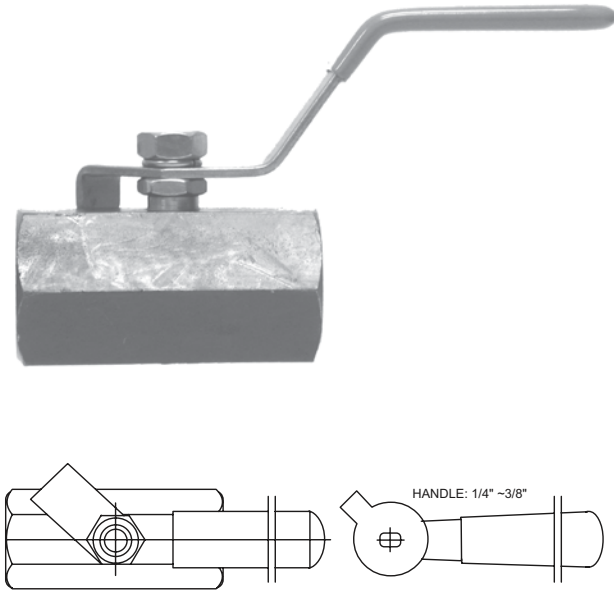
STANDARD PORT CARBON STEEL BALL VALVE

- For chemical and industrial applications.
- Blow-out proof stem design.
- 100% air tested under water, at 100 psi, open and closed positions.

SPECIFICATIONS

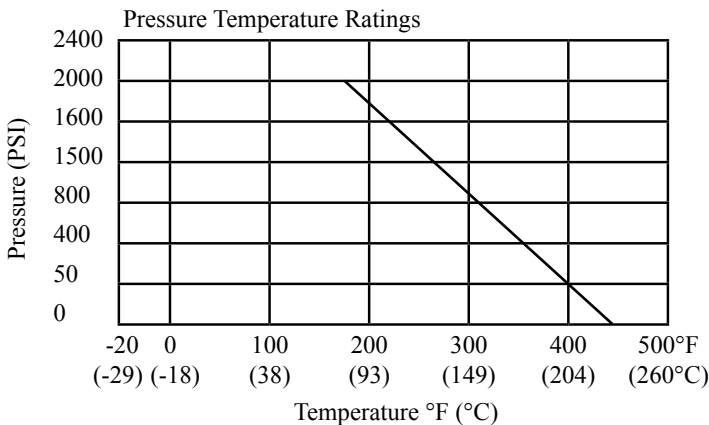
- Working Pressure: 1/4" ~ 1" 2000 psi WOG,
1-1/4" ~ 2" 1500 psi WOG,
- Temperature Range: -60° to 450°F
- End types: Threaded
- 1 piece ball valve reducing bore
- Reinforced PTFE seat

VALVES



2000 PSI STANDARD PORT

Part #	Size	d	H	E	L	Box	Case	List Price
949-121	1/4	.20	1.14	2.40	1.71	10	100	65.21
949-122	3/8	.28	1.38	3.55	1.87	10	100	60.81
949-123	1/2	.36	2.60	4.08	2.20	5	75	58.64
949-124	3/4	.49	2.72	4.21	2.58	5	60	65.76
949-125	1	.59	2.95	4.65	3.19	6	36	84.43
949-126	1-1/4	.78	3.07	5.83	3.62	4	20	130.77
949-127	1-1/2	1.02	3.39	5.83	3.78	3	15	158.13
949-128	2	1.26	3.86	5.90	4.49	3	12	226.37



Item	Parts	Material
1	Body	ASTM A108 CL. 1018 or AISI 1021 C.S.
2	Unscrewed Seat Retainer	
3	Ball	SS304
4	Stem	SS316
5	Ball Seat	RPTFE
6	Cap Seal	PTFE
7	Packing	PTFE
8	Handle	SS304
9	Handle Sleeve	Vinyl Grip
10	Thrust Washer	PTFE
11	Gland	SS304
12	Washer	SS304
13	Handle Nut	SS304
14	Stem Nut	SS304



WHITE PVC BALL VALVES

- Quarter turn
- Solvent ends comply with ASTM D2466
- Designed for use in residential, commercial & industrial system as well as waste water, chemical, agricultural applications, marine, food processing, swimming pools.
- Corrosion resistant
- EPDM seal
- EPDM O-ring
- Fits both Sch. 40 & 80 pipe
- NSF approved
- Rated for 150 PSI at 73°F
- Threaded ends comply with ANSI B1.20.1



MOLDED IN PLACE

WHITE PIPE THREADS

Part#	Size	Box	Case	List Price
940-284	1/2"	10	260	4.16
940-285	3/4"	5	160	7.06
940-286	1"	5	80	9.34
940-287	1-1/4"	5	60	14.83
940-288	1-1/2"	4	44	16.16
940-289	2"	4	24	26.10
940-291	3"	3	10	110.69
940-292	4"	2	6	195.13



WHITE SOCKET

SLIP X SLIP

Part #	Size	Box	Case	List Price
940-294	1/2"	10	100	4.57
940-295	3/4"	5	60	6.06
940-296	1"	5	40	8.71
940-297	1-1/4"	5	30	13.18
940-298	1-1/2"	4	24	17.74
940-299	2"	4	16	27.48

COMPACT BALL VALVES

FEATURES

- Sizes range from 1/2" to 4"
- Excellent flow characteristics
- Leak-tight shut-off
- Test pressure: 225 psi @ 73°F
- Working Pressure: 150 psi @ 73°F



SLIP X SLIP BALL VALVE

Part #	Size	List Price
899050	1/2"	12.27
899051	3/4"	17.28
899052	1"	20.60
899053	1-1/4"	25.04
899054	1-1/2"	44.34
899055	2"	57.02
899056	2-1/2"	241.25
899057	3"	358.96
899058	4"	603.96



FIP X FIP THREADED BALL VALVE

Part #	Size	List Price
899000	1/2"	15.93
899001	3/4"	14.23
899002	1"	20.60
899003	1-1/4"	25.76
899004	1-1/2"	44.34
899005	2"	57.02
899006	2-1/2"	241.25
899007	3"	317.17
899008	4"	603.96

PLASTIC DRUM FAUCETS

- Pipe threads to ANSI B1.20.1
 - Hose threads to ANSI B 1.20.7
- The FLO-RITE faucet has been engineered to meet the demand for greater chemical resistance, using linear polyethylene for the stem.



"FLO-RITE" DRUM FAUCET

Part #	Size	List Price
46-277	3/4"	11.99

"FLO-KING" DRUM FAUCET

Part #	Size	List Price
46-278	2	109.25



BRASS NIPPLES

BRASS NIPPLES

We hereby certify that to the best of our knowledge and belief the CDA 230 alloy Red Brass Pipe from which our nipples are produced meet the requirements of ASTM Specifications B43-91 and is free of mercury contamination. The chemical analysis is 85% copper, 15% Zinc and conforms to federal Specifications WWN-351. Our brass nipples meet ASTM B687-97 and MS51846 for standard brass nipples, and MS51872 for extra heavy brass nipples.

Threads: Nipples are threaded with American Standard taper pipe threads (NPT) in accordance with screw-thread standard for Federal Services Handbook H-28.

Brass nipples are in compliance with California's Health & Safety code section 116875 (AB1953) and Vermont Act 193. This product is certified by NSF to NSF/ANSI 61 for use in drinking water supplies of pH 6.5 and above.

STANDARD RED BRASS 85% PIPE WITH THREADED ENDS SPECIFICATIONS:

Pipe Size in Inches	Dimension in Inches			Allowable Pressure POUNDS PER SQUARE INCH				
	O.D.	I.D.	Wall Thickness	Standard Size (Inches)	@ 100° F	@ 200° F	@ 300° F	@ 400° F
1/8"	.405	.281	.062	1/8"	370	370	320	140
1/4"	.540	.376	.082	1/4"	870	870	760	330
3/8"	.675	.495	.090	3/8"	890	890	780	340
1/2"	.840	.626	.107	1/2"	900	900	790	340
3/4"	1.050	.822	.114	3/4"	810	810	710	310
1"	1.315	1.063	.126	1"	630	630	560	240
1-1/4"	1.660	1.368	.146	1-1/4"	690	690	610	260
1-1/2"	1.900	1.600	.150	1-1/2"	630	630	560	240
2"	2.375	2.063	.156	2"	540	540	480	210
2-1/2"	2.875	2.501	.187	2-1/2"	450	450	390	170
3"	3.500	3.062	.219	3"	510	510	450	190
3-1/2"	4.000	3.500	.250	3-1/2"	570	570	500	220
4"	4.500	4.000	.250	4"	510	510	440	190
4-1/2"	5.000	4.500	.250	5"	410	410	360	160
5"	5.563	5.063	.250	6"	340	340	300	130
6"	6.625	6.125	.250					

EXTRA HEAVY RED BRASS 85% PIPE WITH THREADED ENDS SPECIFICATIONS:

Pipe Size in Inches	Dimension in Inches			Allowable Pressure POUNDS PER SQUARE INCH				
	O.D.	I.D.	Wall Thickness	Standard Size (Inches)	@ 100° F	@ 200° F	@ 300° F	@ 400° F
1/8"	.405	.205	.100	1/8"	1960	1960	1960	1240
1/4"	.540	.294	.123	1/4"	2210	2210	2210	1340
3/8"	.675	.421	.127	3/8"	1840	1840	1840	1150
1/2"	.840	.542	.149	1/2"	1760	1760	1760	1100
3/4"	1.050	.736	.157	3/4"	1510	1510	1510	950
1"	1.315	.951	.182	1"	1340	1340	1340	850
1-1/4"	1.660	1.272	.194	1-1/4"	1160	1160	1160	730
1-1/2"	1.900	1.494	.203	1-1/2"	1090	1090	1090	680
2"	2.375	1.933	.221	2"	1000	1000	1000	630
3"	2.875	2.315	.280	2-1/2"	970	970	970	620
3-1/2"	3.500	2.892	.304	3"	910	910	910	570
4"	4.000	3.358	.321	3-1/2"	860	860	860	550
4-1/2"	4.500	3.818	.341	4"	840	840	840	530
5"	5.562	4.812	.375	5"	770	770	770	480
6"	6.625	5.751	.437	6"	800	800	800	500

Diameter	Length of Close	Close	1-1/2"	2"	2-1/2"	3"	3-1/2"	4"	4-1/2"	5"	5-1/2"	6"
1/8"	3/4"	1.4	3.0	3.8	5.2	6.2	7.2	8.4	9.2	11.0	12.2	13.2
1/4"	7/8"	2.4	4.8	6.4	8.2	10.4	12.2	14.0	16.0	18.0	20.2	22.0
3/8"	1"	3.8	6.2	8.6	11.0	13.4	16.2	18.4	20.4	23.4	25.6	28.0
1/2"	1-1/8"	5.6	8.6	11.6	16.2	19.4	22.4	27.4	29.6	33.0	37.4	40.4
3/4"	1-3/8"	10.2	11.8	16.2	21.4	22.6	31.0	35.6	40.2	45.6	50.0	55.0
1"	1-1/2"	15.6		23.4	29.6	37.0	44.2	52.6	59.2	68.4	74.8	76.8
1-1/4"	1-5/8"	26.5		36.0	45.0	56.5	68.0	81.0	92.0	98.5	110.5	125.0
1-1/2"	1-3/4"	35.0		42.0	55.5	67.0	81.0	95.5	108.0	121.5	131.0	144.0
2"	2"	54.5			72.0	88.5	107.0	125.0	143.5	155.0	179.0	190.0
2-1/2"	2-1/2"	90.0				116.5	148.5	168.5	180.0	218.5	239.5	262.0
3"	2-5/8"	134.5				170.0	210.0	239.0	268.5	314.0	349.0	390.0
4"	2-7/8"	226.3				253.1	307.0	357.5	422.5	450.0	516.3	563.8

Approximate weight per 100 pieces.

Standard Brass Nipples.

For Extra Heavy Brass multiply above weight by 1.37

FOR THREAD CHARTS PLEASE SEE PAGE 428

NIPPLES & FITTINGS

BRASS NIPPLES**BRASS NIPPLES****1/8" Diameter**

Part #	Size	List Price
40-001	Close (3/4")	3.97
40-002	x 1-1/2"	4.49
40-003	x 2"	4.81
40-004	x 2-1/2"	5.46
40-005	x 3"	5.89
40-006	x 3-1/2"	6.36
40-007	x 4"	7.14
40-008	x 4-1/2"	8.06
40-009	x 5"	8.73
40-010	x 5-1/2"	9.44
40-011	x 6"	10.12
40-012	x 7"	12.02
40-013	x 8"	13.26
40-014	x 9"	16.30
40-015	x 10"	17.83
40-016	x 11"	19.34
40-017	x 12"	20.59

3/8" Diameter

Part #	Size	List Price
40-040	Close (1")	4.81
40-041	x 1-1/2"	5.69
40-042	x 2"	6.91
40-043	x 2-1/2"	7.48
40-044	x 3"	9.16
40-045	x 3-1/2"	9.88
40-046	x 4"	11.76
40-047	x 4-1/2"	12.53
40-048	x 5"	13.73
40-049	x 5-1/2"	14.93
40-050	x 6"	16.16
40-051	x 7"	19.61
40-052	x 8"	21.98
40-053	x 9"	26.00
40-054	x 10"	26.19
40-055	x 11"	28.59
40-056	x 12"	31.01

1/4" Diameter

Part #	Size	List Price
40-020	Close (7/8")	4.63
40-021	x 1-1/2"	5.36
40-022	x 2"	6.07
40-023	x 2-1/2"	6.58
40-024	x 3"	7.72
40-025	x 3-1/2"	8.40
40-026	x 4"	9.88
40-027	x 4-1/2"	10.74
40-028	x 5"	11.69
40-029	x 5-1/2"	12.68
40-030	x 6"	14.26
40-031	x 7"	16.25
40-032	x 8"	17.81
40-033	x 9"	19.79
40-034	x 10"	21.73
40-035	x 11"	23.71
40-036	x 12"	25.66

1/2" Diameter

Part #	Size	List Price
40-060	Close (1-1/8")	6.40
40-061	x 1-1/2"	7.41
40-062	x 2"	8.71
40-063	x 2-1/2"	10.36
40-064	x 3"	12.17
40-065	x 3-1/2"	13.88
40-066	x 4"	15.91
40-067	x 4-1/2"	17.28
40-068	x 5"	19.03
40-069	x 5-1/2"	20.91
40-070	x 6"	23.17
40-071	x 7"	26.84
40-072	x 8"	30.07
40-073	x 9"	33.37
40-074	x 10"	36.92
40-075	x 11"	40.39
40-076	x 12"	43.91

*Extra Heavy Schedule 80 Red Brass Nipples page 200-201
Chrome Plated Brass Nipples Available upon request*



BRASS NIPPLES

3/4" Diameter



Part #	Length	List Price
40-080	Close (1- 3/8")	9.24
40-081	x 1-1/2"	9.85
40-082	x 2"	11.63
40-083	x 2-1/2"	13.49
40-084	x 3"	15.55
40-085	x 3-1/2"	17.47
40-086	x 4"	20.31
40-087	x 4-1/2"	22.07
40-088	x 5"	24.37
40-089	x 5-1/2"	26.62
40-090	x 6"	29.65
40-091	x 7"	34.74
40-092	x 8"	39.13
40-093	x 9"	43.32
40-094	x 10"	47.74
40-095	x 11"	52.10
40-096	x 12"	56.82

1" Diameter



Part #	Length	List Price
40-100	Close (1-1/2")	13.62
40-101	x 2"	16.81
40-102	x 2-1/2"	19.61
40-103	x 3"	22.57
40-104	x 3-1/2"	26.14
40-105	x 4"	29.41
40-106	x 4-1/2"	32.79
40-107	x 5"	36.25
40-108	x 5-1/2"	39.71
40-109	x 6"	43.30
40-110	x 7"	50.57
40-111	x 8"	57.73
40-112	x 9"	64.42
40-113	x 10"	71.46
40-114	x 11"	77.09
40-115	x 12"	85.20

BRASS NIPPLES

1-1/4" Diameter



Part #	Length	List Price
40-120	Close (1-5/8")	20.55
40-121	x 2"	23.47
40-122	x 2-1/2"	26.54
40-123	x 3"	31.42
40-124	x 3-1/2"	36.76
40-125	x 4"	41.37
40-126	x 4-1/2"	45.82
40-127	x 5"	50.53
40-128	x 5-1/2"	55.26
40-129	x 6"	60.37
40-130	x 7"	71.20
40-131	x 8"	80.65
40-132	x 9"	95.66
40-133	x 10"	99.74
40-134	x 11"	114.18
40-135	x 12"	119.32

1-1/2" Diameter



Part #	Length	List Price
40-140	Close (1-3/4")	26.73
40-141	x 2"	28.75
40-142	x 2-1/2"	34.44
40-143	x 3"	39.58
40-144	x 3-1/2"	45.46
40-145	x 4"	51.56
40-146	x 4-1/2"	57.94
40-147	x 5"	64.10
40-148	x 5-1/2"	70.14
40-149	x 6"	76.19
40-150	x 7"	89.03
40-151	x 8"	101.16
40-152	x 9"	113.23
40-153	x 10"	125.32
40-154	x 11"	137.41
40-155	x 12"	149.48

*Extra Heavy Schedule 80 Red Brass Nipples page 200-201
Chrome Plated Brass Nipples Available upon request*



BRASS NIPPLES

BRASS NIPPLES

2" Diameter



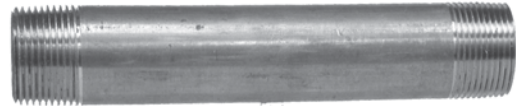
Part #	Length	List Price
40-160	Close (2")	40.70
40-161	x 2-1/2"	43.93
40-162	x 3"	50.71
40-163	x 3-1/2"	58.37
40-164	x 4"	66.33
40-165	x 4-1/2"	73.96
40-166	x 5"	82.02
40-167	x 5-1/2"	89.96
40-168	x 6"	97.93
40-169	x 7"	114.55
40-170	x 8"	130.64
40-171	x 9"	145.67
40-172	x 10"	161.81
40-173	x 11"	174.85
40-174	x 12"	192.98

2-1/2" Diameter



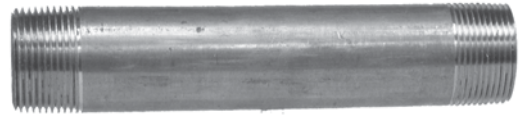
Part #	Length	List Price
40-180	Close (2-1/2")	107.40
40-181	x 3"	112.29
40-182	x 3-1/2"	127.23
40-183	x 4"	141.43
40-184	x 4-1/2"	151.73
40-185	x 5"	166.91
40-186	x 5-1/2"	179.77
40-187	x 6"	196.81
40-188	x 7"	224.21
40-189	x 8"	257.51
40-190	x 9"	285.82
40-191	x 10"	315.82
40-192	x 11"	340.31
40-193	x 12"	373.36

3" Diameter



Part #	Length	List Price
40-200	Close (2-5/8")	146.05
40-201	x 3"	151.78
40-202	x 3-1/2"	171.69
40-203	x 4"	193.39
40-204	x 4-1/2"	212.59
40-205	x 5"	233.89
40-206	x 5-1/2"	254.14
40-207	x 6"	276.27
40-208	x 7"	322.36
40-209	x 8"	367.25
40-210	x 9"	402.16
40-211	x 10"	446.14
40-212	x 11"	485.16
40-213	x 12"	534.38

4" Diameter



Part #	Length	List Price
40-220	Close (2-7/8")	219.74
40-221	x 3"	223.19
40-222	x 3-1/2"	250.60
40-223	x 4"	285.79
40-224	x 4-1/2"	308.70
40-225	x 5"	340.96
40-226	x 5-1/2"	363.59
40-234	x 6"	401.48
40-229	x 8"	522.81
40-233	x 12"	762.88

*Extra Heavy Schedule 80 Red Brass Nipples page 200-201
Chrome Plated Brass Nipples Available upon request*

Why do croutons come in airtight packages?
Aren't they just stale bread to begin with?



EXTRA HEAVY RED BRASS NIPPLES

BRASS NIPPLES

1/8" Diameter - Sch. 80



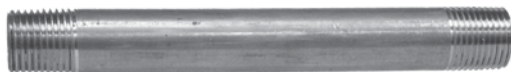
Part #	Length	List Price
42-001	Close (3/4")	9.24
42-002	1-1/2"	10.42
42-003	2"	11.21
42-004	2-1/2"	12.68
42-005	3"	13.71
42-006	3-1/2"	14.80
42-007	4"	16.63
42-008	4-1/2"	18.80
42-009	5"	20.35
42-010	5-1/2"	21.98

1/4" Diameter - Sch. 80



Part #	Length	List Price
42-020	Close (7/8")	10.80
42-021	1-1/2"	12.50
42-022	2"	14.15
42-023	2-1/2"	15.32
42-024	3"	18.00
42-025	3-1/2"	19.58
42-026	4"	23.01
42-027	4-1/2"	24.97
42-028	5"	27.24
42-029	5-1/2"	29.51
42-030	6"	33.19

3/8" Diameter - Sch. 80



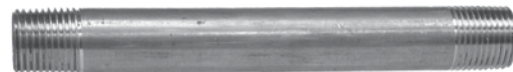
Part #	Length	List Price
42-040	Close (1")	11.18
42-041	1-1/2"	13.24
42-042	2"	16.08
42-043	2-1/2"	17.44
42-044	3"	21.33
42-045	3-1/2"	23.01
42-046	4"	27.38
42-047	4-1/2"	29.16
42-048	5"	31.99
42-049	5-1/2"	34.77
42-050	6"	37.61

1/2" Diameter - Sch. 80



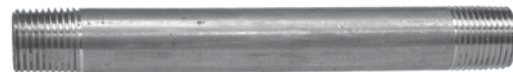
Part #	Length	List Price
42-060	Close (1-1/8")	14.93
42-061	1-1/2"	17.28
42-062	2"	20.31
42-063	2-1/2"	24.15
42-064	3"	26.40
42-065	3-1/2"	32.34
42-066	4"	37.07
42-067	4-1/2"	40.22
42-068	5"	44.33
42-069	5-1/2"	48.66
42-070	6"	53.94

3/4" Diameter - Sch. 80



Part #	Length	List Price
42-080	Close (1-3/8")	21.51
42-082	2"	27.10
42-083	2-1/2"	31.42
42-084	3"	36.21
42-085	3-1/2"	40.66
42-086	4"	47.27
42-087	4-1/2"	51.43
42-088	5"	56.75
42-089	5-1/2"	62.02
42-090	6"	69.04

1" Diameter - Sch. 80



Part #	Length	List Price
42-100	Close (1-1/2")	31.72
42-101	2"	39.13
42-102	2-1/2"	45.66
42-103	3"	52.58
42-104	3-1/2"	60.85
42-105	4"	68.45
42-106	4-1/2"	76.34
42-107	5"	84.43
42-108	5-1/2"	92.47
42-109	6"	100.80

NIPPLES & FITTINGS



BRASS NIPPLES

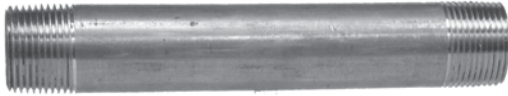
EXTRA HEAVY RED BRASS NIPPLES

1-1/4" Diameter - Sch. 80



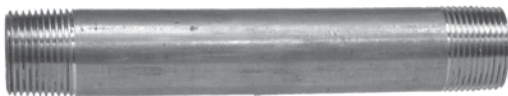
Part #	Length	List Price
42-120	Close (1-5/8")	47.86
42-121	2"	54.65
42-122	2-1/2"	61.82
42-123	3"	73.15
42-124	3-1/2"	85.59
42-125	4"	96.34
42-126	4-1/2"	106.68
42-127	5"	117.63
42-128	5-1/2"	128.69
42-129	6"	140.56

1-1/2" Diameter - Sch. 80



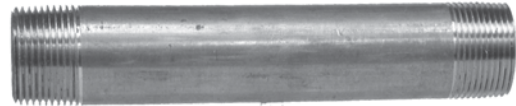
Part #	Length	List Price
42-140	Close (1-3/4")	62.23
42-141	2"	66.97
42-142	2-1/2"	80.23
42-143	3"	92.19
42-144	3-1/2"	105.86
42-145	4"	120.10
42-146	4-1/2"	134.93
42-147	5"	149.29
42-148	5-1/2"	163.35
42-149	6"	177.41

2" Diameter - Sch. 80



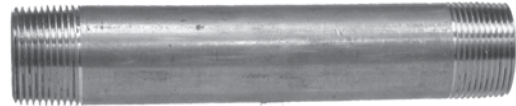
Part #	Length	List Price
42-160	Close (2")	94.77
42-161	2-1/2"	102.32
42-162	3"	118.09
42-163	3-1/2"	135.94
42-164	4"	154.50
42-165	4-1/2"	172.24
42-166	5"	190.98
42-167	5-1/2"	209.48
42-168	6"	228.09

2-1/2" Diameter - Sch. 80



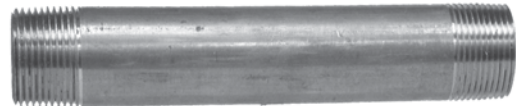
Part #	Length	List Price
42-180	Close (2-1/2")	250.14
42-181	3"	261.50
42-182	3-1/2"	296.29
42-183	4"	329.36
42-184	4-1/2"	353.36
42-185	5"	388.72
42-186	5-1/2"	418.63
42-187	6"	458.37

3" Diameter - Sch. 80



Part #	Length	List Price
42-200	Close (2-5/8")	340.14
42-201	3"	353.45
42-202	3-1/2"	399.85
42-203	4"	450.34
42-204	4-1/2"	495.07
42-205	5"	544.71
42-206	5-1/2"	591.87
42-207	6"	567.28

4" Diameter - Sch. 80



Part #	Length	List Price
42-220	Close (2-3/4")	511.75
42-221	3"	519.77
42-222	3-1/2"	583.63
42-223	4"	665.59
42-224	4-1/2"	718.93
42-225	5"	794.05
42-226	5-1/2"	846.76
42-227	6"	934.96



Class 125 (150) For steam, water, gas, oil and air service

Standard specifications

Materials - ASTM B62-93 (85,5,5,5) C83600

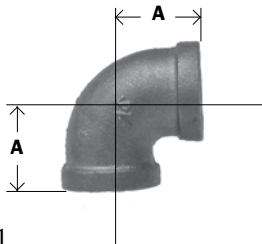
Dimensions - ANSI B 16.15

Threads - ANSI B2.1 or BA 21 and Fed. WW-P-460

- UL/ FM Approved
- ISO 9001:2000
- Not AB1953 Compliant

Bronze threaded fittings are manufactured from smooth-cored castings, designed to provide full flow with minimum restriction. All threads are accurately machined and gauged to ensure a perfect fit with the pipe. All fittings are individually tested under water to ensure quality. Bronze provides a tighter seal and is easier to install than other metals. Can be used for water, plumbing, heating, pneumatic and marine applications. Able to resist the harmful effects of corrosion when coming into contact with salt water or fresh water polluted with mineral acids or peaty soils.

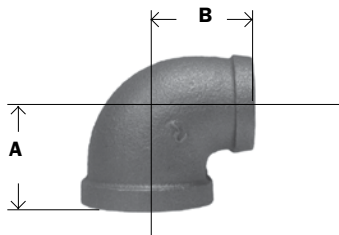
90° ELBOWS



X101

Part #	Size	A	Approx. Wt. Lbs.	List Price
44-100	1/8"	0.55	0.08	6.52
44-101	1/4"	0.72	0.10	6.52
44-102	3/8"	0.83	0.17	6.52
44-103	1/2"	1.03	0.24	9.92
44-104	3/4"	1.19	0.35	13.34
44-105	1"	1.43	0.59	20.60
44-106	1-1/4"	1.71	0.96	32.76
44-107	1-1/2"	1.87	1.33	40.91
44-108	2"	2.14	2.34	66.61
44-109	2-1/2"	2.74	3.79	130.64
44-110	3"	3.10	5.21	200.40
44-112	4"	3.80	8.59	483.30

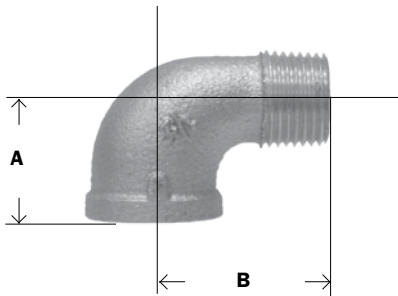
90° REDUCING ELBOWS



X101

Part #	Size	A	B	Approx. Wt. Lbs.	List Price
44-120	1/4" x 1/8"	0.67	0.60	0.10	10.10
44-124	1/2" x 3/8"	0.93	0.90	0.22	10.71
44-127	3/4" x 1/2"	1.08	1.11	0.31	14.61
44-131	1" x 3/4"	1.30	1.31	0.56	25.65
44-134	1-1/4" x 1"	1.52	1.60	0.81	40.05
44-137	1-1/2" x 1"	1.56	1.72	1.02	50.61
44-140	2" x 1"	1.72	2.02	1.30	93.38
44-142	2"x1-1/2"	1.89	2.07	1.65	93.38

90° STREET ELLS

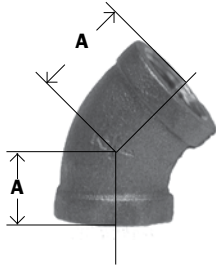


X103

Part #	Size	A	B	Approx. Wt. Lbs.	List Price
44-160	1/8"	0.55	0.92	0.07	9.92
44-161	1/4"	0.72	1.11	0.11	9.92
44-162	3/8"	0.83	1.24	0.16	9.92
44-163	1/2"	1.03	1.51	0.21	12.32
44-164	3/4"	1.19	1.66	0.34	17.40
44-165	1"	1.43	1.98	0.65	26.37
44-166	1-1/4"	1.71	2.26	1.11	44.04
44-167	1-1/2"	1.87	2.46	1.16	57.38
44-168	2"	2.14	2.98	2.09	97.28
44-169	2-1/2"	2.74	3.92	3.79	153.80
44-170	3"	3.10	4.45	6.38	230.67



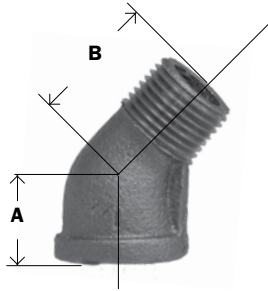
45° ELBOWS



X102

Part #	Size	A	Approx. Wt. Lbs.	List Price
44-180	1/8"	0.43	0.05	7.15
44-181	1/4"	0.55	0.08	7.15
44-182	3/8"	0.63	0.12	7.15
44-183	1/2"	0.79	0.22	9.06
44-184	3/4"	0.91	0.34	13.34
44-185	1"	1.07	0.57	22.56
44-186	1-1/4"	1.23	0.90	36.06
44-187	1-1/2"	1.31	1.08	45.19
44-188	2"	1.47	1.54	73.25
44-189	2-1/2"	1.95	3.25	144.03
44-190	3"	2.17	5.00	231.53

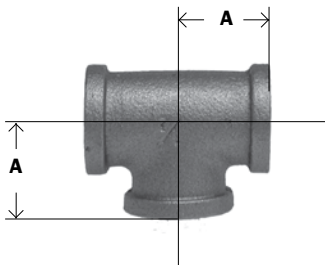
45° STREET ELBOWS



X103A

Part #	Size	A	B	Approx. Wt. Lbs.	List Price
44-200	1/8"	0.26	0.43	0.06	10.10
44-201	1/4"	0.35	0.56	0.11	10.10
44-202	3/8"	0.37	0.63	0.13	10.10
44-203	1/2"	0.45	0.79	0.18	12.32
44-204	3/4"	0.52	0.91	0.28	24.24
44-205	1"	0.60	1.07	0.52	28.77
44-206	1-1/4"	0.67	1.23	0.77	44.04
44-207	1-1/2"	0.70	1.31	0.97	59.16
44-208	2"	0.76	1.47	2.04	100.27

TEES



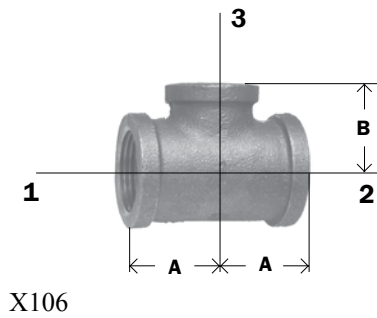
X106

Part #	Size	A	Approx. Wt. Lbs.	List Price
44-250	1/8"	0.55	0.09	9.06
44-251	1/4"	0.72	0.16	9.06
44-252	3/8"	0.83	0.25	9.06
44-253	1/2"	1.03	0.31	11.41
44-254	3/4"	1.19	0.48	16.41
44-255	1"	1.43	0.84	29.17
44-256	1-1/4"	1.71	1.18	40.91
44-257	1-1/2"	1.87	1.69	56.29
44-258	2"	2.14	2.69	92.20
44-259	2-1/2"	2.74	4.70	179.30
44-260	3"	3.10	6.69	274.21

NIPPLES & FITTINGS



REDUCING TEES

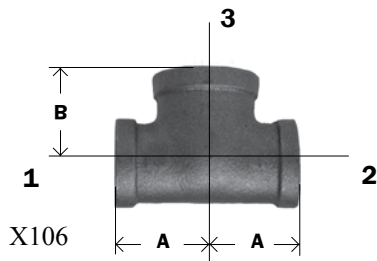


X106

REDUCING ON THE BRANCH

Part #	Size (1 & 2) x 3	A	B	Approx. Wt. Lbs.	List Price
44-276	1/2" x 1/4"	0.87	0.87	0.28	13.85
44-279	1/2" x 3/8"	0.93	0.90	0.40	15.84
44-282	3/4" x 1/4"	1.05	1.08	0.38	19.66
44-283	3/4" x 3/8"	1.00	1.00	0.46	19.66
44-286	3/4" x 1/2"	1.08	1.11	0.40	19.66
44-291	1" x 1/2"	1.20	1.24	0.73	35.95
44-298	1" x 3/4"	1.30	1.31	0.71	35.95
44-301	1-1/4" x 1/2"	1.34	1.53	1.18	50.61
44-303	1-1/4" x 3/4"	1.30	1.31	1.08	50.61
44-306	1-1/4" x 1"	1.58	1.67	1.23	50.61

BULLHEAD TEES

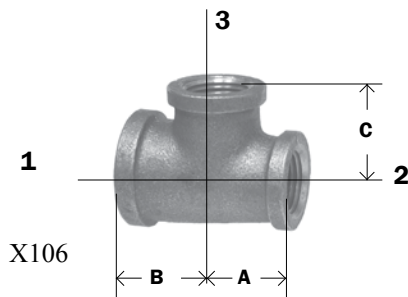


X106

LARGER BRANCH

Part #	Size 1x2x3	A	B	Approx. Wt. Lbs.	List Price
44-280	1/2" x 1/2" x 3/4"	1.22	1.20	0.48	21.63

REDUCING TEES

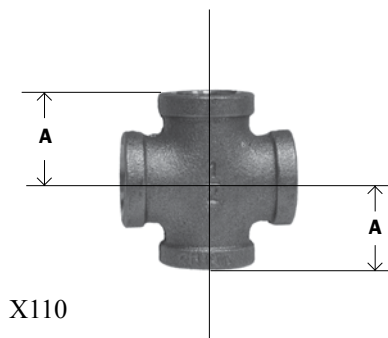


X106

REDUCING ON THE RUN

Part #	Size 1x2x3	A	B	C	Approx. Wt. Lbs.	List Price
44-287	3/4" x 1/2" x 1/2"	1.12	1.20	1.22	0.37	21.63
44-296	1" x 3/4" x 3/4"	1.31	1.37	1.45	0.71	39.15

CROSSES

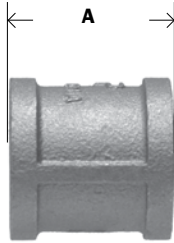


X110

Part #	Size	A	Approx. Wt. Lbs.	List Price
44-391	1/4"	0.72	0.20	15.16
44-392	3/8"	0.83	0.29	15.16
44-393	1/2"	1.03	0.43	18.41
44-394	3/4"	1.19	0.59	26.60
44-395	1"	1.19	1.15	42.19
44-396	1-1/4"	1.71	1.70	66.04
44-397	1-1/2"	1.87	1.97	84.36
44-398	2"	2.14	2.52	175.84



COUPLINGS



X111

Part #	Size	A	Approx. Wt. Lbs.	List Price
44-410	1/8"	0.80	0.06	6.52
44-411	1/4"	0.80	0.08	6.52
44-412	3/8"	1.05	0.14	6.52
44-413	1/2"	1.29	0.21	8.20
44-414	3/4"	1.43	0.29	10.81
44-415	1"	1.68	0.45	16.41
44-416	1-1/4"	1.86	0.80	25.65
44-417	1-1/2"	1.92	0.98	34.87
44-418	2"	2.20	1.56	57.38
44-419	2-1/2"	2.88	2.75	95.35
44-420	3"	3.18	3.63	131.81

REDUCING COUPLINGS

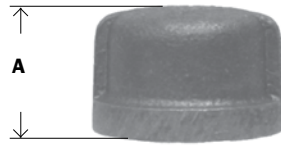


X112

Part #	Size	A	Approx. Wt. Lbs.	List Price
44-430	1/4" x 1/8"	0.88	0.08	7.00
44-431	3/8" x 1/8"	0.92	0.10	7.00
44-432	3/8" x 1/4"	0.92	0.12	7.00
44-433	1/2" x 1/8"	1.17	0.14	10.10
44-434	1/2" x 1/4"	1.17	0.17	8.72
44-435	1/2" x 3/8"	1.17	0.17	8.72
44-436	3/4" x 1/4"	1.35	0.24	14.43
44-437	3/4" x 3/8"	1.35	0.24	12.99
44-438	3/4" x 1/2"	1.35	0.27	12.99
44-440	1" x 3/8"	1.56	0.40	24.35
44-441	1" x 1/2"	1.56	0.36	21.60
44-442	1" x 3/4"	1.56	0.45	21.60
44-444	1-1/4" x 1/2"	1.77	0.60	41.38
44-445	1-1/4" x 3/4"	1.77	0.67	34.87
44-446	1-1/4" x 1"	1.77	0.65	34.87
44-447	1-1/2" x 1/2"	1.80	0.77	49.59
44-448	1-1/2" x 3/4"	1.80	0.70	49.59
44-449	1-1/2" x 1"	1.80	0.74	44.04
44-450	1-1/2" x 1-1/4"	1.80	0.83	44.04
44-458	2" x 1/2"	2.03	1.07	73.77
44-451	2" x 3/4"	2.03	1.25	73.77
44-452	2" x 1"	2.03	1.32	73.77
44-453	2" x 1-1/4"	2.03	1.37	65.46
44-454	2" x 1-1/2"	2.03	1.74	65.46
44-461	2-1/2" x 1-1/2"	3.15	1.94	115.96
44-462	2-1/2" x 2"	3.15	2.37	115.96
44-456	3" x 2"	3.69	2.40	153.69
44-463	3" x 2-1/2"	3.69	3.82	153.69



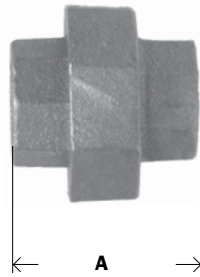
CAPS



X116

Part #	Size	A	Approx. Wt. Lbs.	List Price
44-470	1/8"	0.53	0.03	4.88
44-471	1/4"	0.58	0.06	4.88
44-472	3/8"	0.66	0.09	4.88
44-473	1/2"	0.75	0.13	6.52
44-474	3/4"	0.87	0.20	8.62
44-475	1"	1.03	0.29	13.51
44-476	1-1/4"	1.10	0.47	20.54
44-477	1-1/2"	1.12	0.61	27.73
44-478	2"	1.35	1.10	47.06
44-480	3"	1.83	2.64	142.90

UNIONS



X187

Part #	Size	A	Approx. Wt. Lbs.	List Price
44-600	1/8"	1.18	0.13	23.12
44-601	1/4"	1.26	0.22	23.12
44-602	3/8"	1.50	0.39	23.12
44-603	1/2"	1.57	0.47	25.15
44-604	3/4"	1.89	0.69	34.87
44-605	1"	2.13	1.01	46.18
44-606	1-1/4"	2.36	1.48	67.64
44-607	1-1/2"	2.68	1.92	79.82
44-608	2"	2.99	3.04	122.85
44-609	2-1/2"	3.35	4.80	241.76
44-610	3"	3.74	6.49	373.51



HEX BUSHINGS

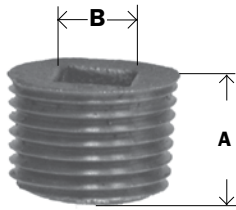


X114

Part #	Size	A	Hex	Approx. Wt. Lbs.	List Price
44-500	1/4" x 1/8"	0.58	0.66	0.03	4.41
44-501	3/8" x 1/8"	0.64	0.72	0.06	4.41
44-502	3/8" x 1/4"	0.64	0.75	0.06	4.41
44-503	1/2" x 1/8"	0.75	0.92	0.11	6.18
44-504	1/2" x 1/4"	0.75	0.93	0.10	5.19
44-505	1/2" x 3/8"	0.75	0.92	0.09	5.19
44-506	3/4" x 1/8"	0.87	1.15	0.17	8.62
44-507	3/4" x 1/4"	0.85	1.14	0.17	8.62
44-508	3/4" x 3/8"	0.85	1.14	0.16	7.15
44-509	3/4" x 1/2"	0.85	1.15	0.14	7.15
44-510	1" x 1/4"	1.05	1.43	0.30	13.12
44-511	1" x 3/8"	1.05	1.50	0.26	13.12
44-512	1" x 1/2"	1.00	1.40	0.27	10.81
44-513	1" x 3/4"	1.00	1.43	0.22	10.81
44-514	1-1/4" x 1/4"	1.22	1.10	0.34	22.23
44-515	1-1/4" x 3/8"	1.19	1.84	0.29	23.16
44-516	1-1/4" x 1/2"	1.14	1.33	0.47	22.23
44-517	1-1/4" x 3/4"	1.08	1.75	0.46	18.41
44-518	1-1/4" x 1"	1.08	1.76	0.33	18.41
44-519	1-1/2" x 1/4"	1.09	2.12	0.29	28.77
44-520	1-1/2" x 3/8"	1.35	2.16	0.44	28.77
44-521	1-1/2" x 1/2"	1.20	2.10	0.51	28.77
44-522	1-1/2" x 3/4"	1.20	2.12	0.51	28.77
44-523	1-1/2" x 1"	1.14	2.08	0.61	23.52
44-524	1-1/2" x 1-1/4"	1.14	2.12	0.40	23.52
44-527	2" x 1/2"	1.27	1.32	1.10	42.00
44-528	2" x 3/4"	1.27	1.62	0.77	42.00
44-529	2" x 1"	1.29	1.95	0.88	42.00
44-530	2" x 1-1/4"	1.22	2.47	0.97	34.87
44-531	2" x 1-1/2"	1.22	2.50	0.77	34.87
44-532	2-1/2" x 1"	1.53	1.94	1.19	86.47
44-534	2-1/2" x 1-1/2"	1.50	2.38	1.15	69.71
44-535	2-1/2" x 2"	1.43	2.97	1.12	69.71
44-537	3" x 1-1/2"	1.61	2.68	2.44	137.04
44-538	3" x 2"	1.61	3.70	1.82	105.41
44-539	3" x 2-1/2"	1.53	3.70	2.11	105.41
44-543	4" x 3"	2.01	4.62	3.30	242.66

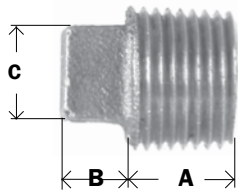


BRONZE COUNTERSUNK PLUGS



Part #	Size	A	Socket Size	Approx. Wt. Lbs.	List Price
44-633	1/2"	0.57	0.43	0.06	5.34
44-634	3/4"	0.58	0.47	0.11	6.12
44-635	1"	0.75	0.59	0.22	11.43
44-636	1-1/4"	0.74	0.72	0.33	19.03
44-637	1-1/2"	0.79	0.72	0.50	28.58
44-638	2"	0.80	0.85	0.88	46.52
44-639	2-1/2"	1.06	1.12	1.56	95.15

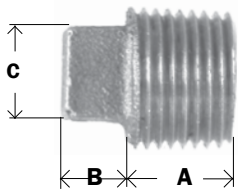
CORED SQUARE HEAD PLUGS



X117

Part #	Size	A	B	C	Approx. Wt. Lbs.	List Price
44-650	1/8"	0.27	0.24	0.28	0.02	4.88
44-651	1/4"	0.41	0.28	0.37	0.04	4.88
44-652	3/8"	0.41	0.31	0.43	0.07	4.88
44-653	1/2"	0.54	0.38	0.56	0.11	6.82
44-654	3/4"	0.55	0.44	0.62	0.17	7.81
44-655	1"	0.69	0.50	0.81	0.25	10.30
44-656	1-1/4"	0.71	0.56	0.93	0.39	15.32
44-657	1-1/2"	0.73	0.62	1.12	0.51	19.54
44-658	2"	0.76	0.68	1.31	0.83	30.84
44-659	2-1/2"	1.07	0.74	1.50	1.26	52.78
44-660	3"	1.13	0.80	1.68	1.49	84.36
44-662	4"	1.22	0.92	2.25	3.20	164.80

SOLID SQUARE HEAD PLUGS

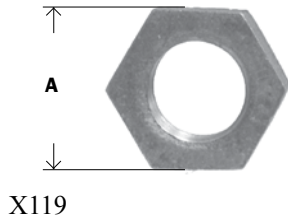


X117A

Part #	Size	A	B	C	Approx. Wt. Lbs.	List Price
44-670	1/8"	0.27	0.24	0.28	0.04	5.19
44-671	1/4"	0.41	0.28	0.37	0.05	5.19
44-672	3/8"	0.41	0.31	0.43	0.08	4.33
44-673	1/2"	0.54	0.38	0.56	0.12	8.20
44-674	3/4"	0.55	0.44	0.62	0.18	10.69
44-675	1"	0.69	0.50	0.81	0.28	18.22
44-676	1-1/4"	0.71	0.56	0.93	0.40	32.82
44-677	1-1/2"	0.73	0.62	1.12	0.56	42.66
44-678	2"	0.76	0.68	1.31	0.90	67.64



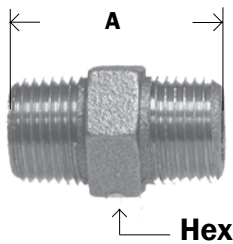
HEX LOCKNUTS



Part #	Size	A	Thickness	Approx. Wt. Lbs.	List Price
44-700	1/8"	0.50	0.19	0.02	3.23
44-701	1/4"	0.66	0.25	0.03	3.23
44-702	3/8"	0.77	0.28	0.04	3.23
44-703	1/2"	0.97	0.31	0.10	5.19
44-704	3/4"	1.23	0.34	0.13	6.18
44-705	1"	1.50	0.38	0.20	9.22
44-706	1-1/4"	1.86	0.42	0.28	14.98
44-707	1-1/2"	2.12	0.47	0.52	19.43
44-708	2"	2.63	0.53	0.64	30.87

NIPPLES & FITTINGS

HEX NIPPLES



Part #	Size	A	Hex	Approx. Wt. Lbs.	List Price
44-720	1/8"	1.25	0.50	0.05	7.60
44-721	1/4"	1.25	0.61	0.06	12.60
44-723	1/2"	1.65	1.03	0.18	12.95
44-724	3/4"	1.77	1.21	0.24	13.60
44-725	1"	2.06	1.46	0.36	14.66
44-726	1-1/4"	2.12	1.81	0.47	30.45
44-727	1-1/2"	2.25	2.07	0.76	46.52
44-728	2"	2.50	2.41	1.50	56.29
44-729	2-1/2"	2.80	3.10	2.10	57.99

“PEOPLE ARE OFTEN UNREASONABLE AND SELF-CENTERED. FORGIVE THEM ANYWAY.
 IF YOU ARE KIND, PEOPLE MAY ACCUSE YOU OF ULTERIOR MOTIVES. BE KIND ANYWAY.
 IF YOU ARE HONEST, PEOPLE MAY CHEAT YOU. BE HONEST ANYWAY.
 IF YOU FIND HAPPINESS, PEOPLE MAY BE JEALOUS. BE HAPPY ANYWAY.
 THE GOOD YOU DO TODAY MAY BE FORGOTTEN TOMORROW. DO GOOD ANYWAY.
 GIVE THE WORLD THE BEST YOU HAVE AND IT MAY NEVER BE ENOUGH. GIVE YOUR BEST ANYWAY.
 FOR YOU SEE, IN THE END, IT IS BETWEEN YOU AND GOD. IT WAS NEVER BETWEEN YOU AND THEM
 ANYWAY.”

— MOTHER TERESA

