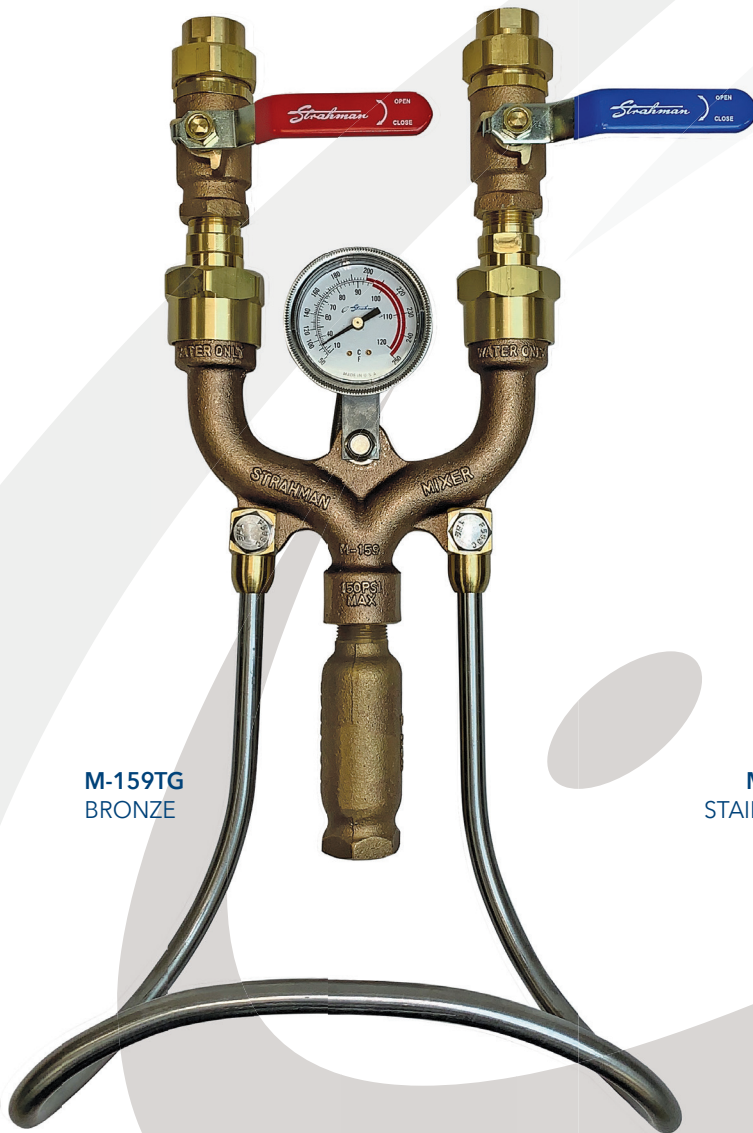




M-159 & M-750

HOT & COLD WATER MIXING UNIT
INSTALLATIONS, OPERATIONS & MAINTENANCE



M-159TG
BRONZE



M-750TG
STAINLESS STEEL



INSTALLATION, OPERATION & MAINTENANCE

M-159/M-750

HOT AND COLD WATER MIXING UNIT

WALL MOUNTED SERIES

Strahman mixing unit hose stations for hot and cold water are designed to thoroughly mix hot and cold water in any desired proportion. They are available in bronze models (M-159) and models made completely of stainless steel (M-750). All exposed parts are either bronze chrome-plated or stainless steel depending on the unit selected.

Strahman mixing units are also available with a dial-type gauge (TG models) that indicates the wash water's exact temperature. Users can easily regulate the temperature by turning the unit's steam and cold-water valves.

The wall-mounted unit is designed to mount one inch away from the walls.

INSTALLATION INSTRUCTIONS

Strahman Mixing Units are designed for wall mounting and are provided with necessary hexagonal spacers tapped for 3/8" bolts. They can be mounted on any type of wall by means of toggle bolts, expansion bolts or other conventional method—the only requirement being that from 5/8" to 1" of full thread be left projecting from the wall. (See **Figure 1**)

1. Mount MP-88 wall plate (11) or use the template on adjacent page to drill mounting holes for the wall spacers (10).
2. If mounting directly to a wall, use three 3/8" studs U.S.S. or N.C. and leave 5/8" to 1" protruding from wall.
3. Mount via the center hole on the temperature gauge's bracket (31) (thermostat gauge bracket position on TG models only). Thread loosely, to allow for ease of mounting the other studs.
4. Install other studs and pull up tight.
5. Using Pipe dope or PTFE tape on threads, thread pipe unions (21) onto pipe. Thread the globe valves into pipe unions equally. Thread ball check valves (13) into globe valves and make sure that balls on check valves are parallel to piping.

OPERATING INSTRUCTIONS

Follow your company safety precautions during mixing unit operation.

1. After completing installation and having checked for and corrected any leaks, turn on hot and cold water lines by turning valves counter clockwise and adjust to get the temperature water desired.
2. If using a model with the Temperature Gauge (TG), adjust hot and cold water valves while spraying and check the temperature gauge to get the desired temperature output.
3. After the wash down operation is complete, shut water flow off completely by turning valves clockwise.

TEMPLATE FOR WALL MOUNTING M-159 OR M-750 STRAHMAN INSTANT HOT WATER MAKER

THREE 3/8" STUDS N.C. - STUDS MUST STICK OUT 5/8" TO 1" FROM WALL.

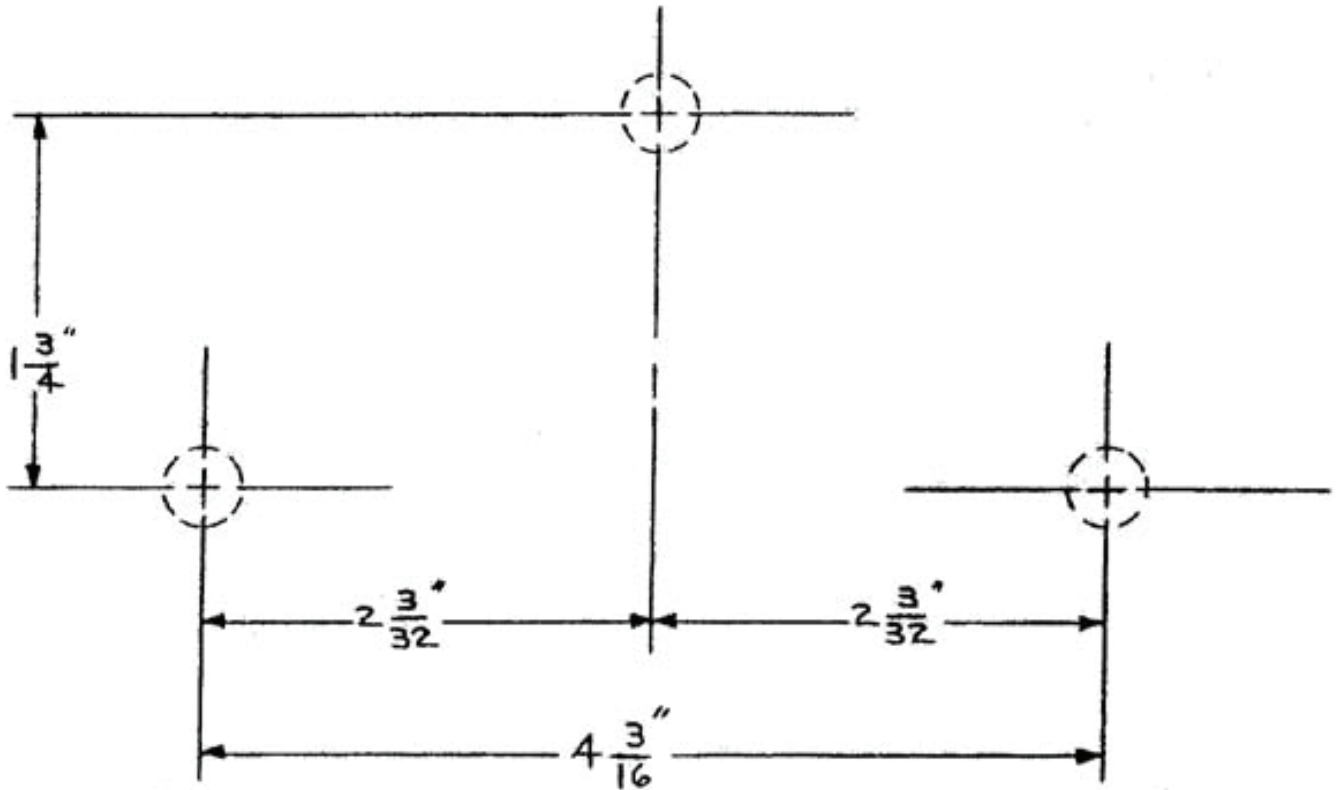


Figure 1: Wall mounting template

NOTE: THESE UNITS HAVE HEX SPACERS (PART NO. 10) AND LOCK WASHERS (PART NO. 3) ATTACHED. SPACER MUST BE DETACHED FOR MOUNTING. SPECIAL CARE IS ADVISED FOR THE CENTER SPACER WHICH HOLDS THE TEMPERATURE GAUGE IN PLACE.

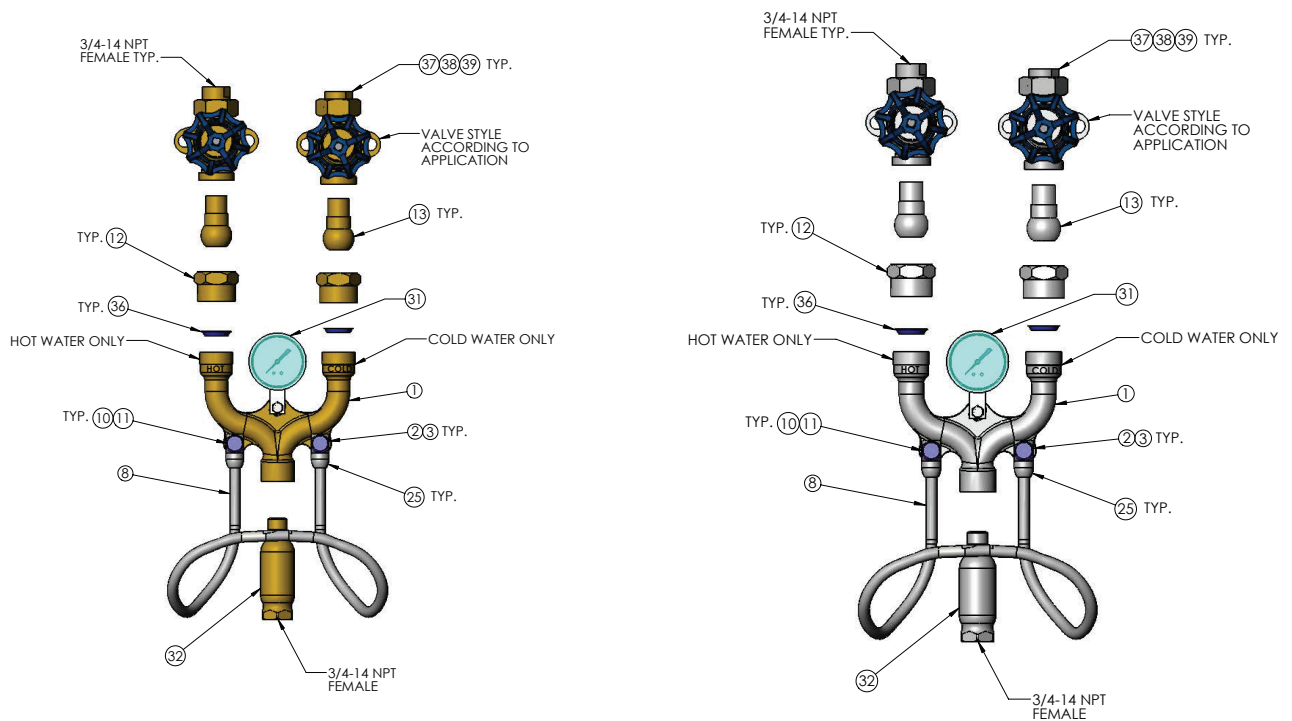


Figure 2A & 2B: Exploded view of the Globe Valve entry in both Bronze & Stainless Steel

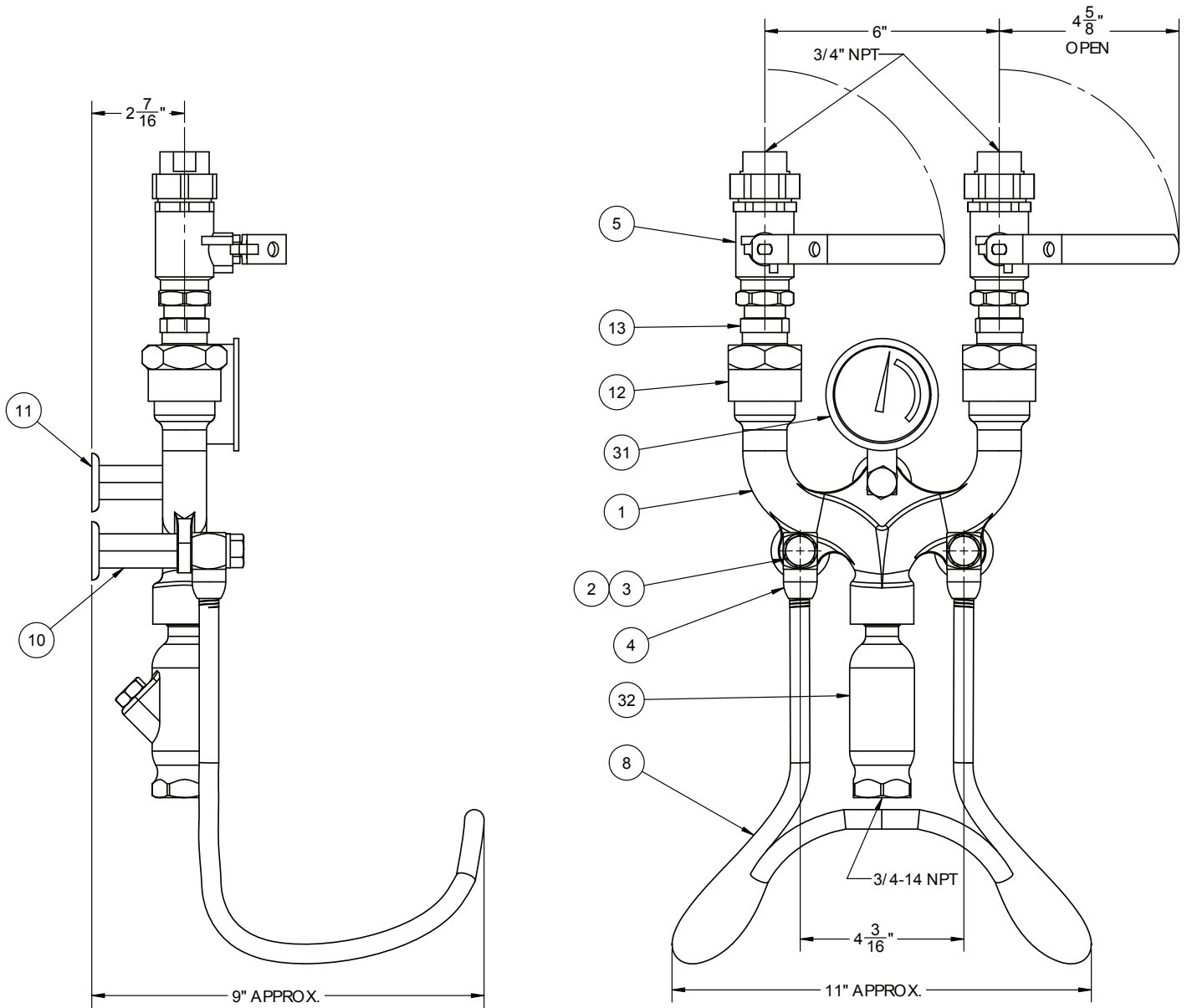


Figure 3: Ball Entry.

ITEM NO.	DESCRIPTION	M-159 BRONZE ORDER NO. (MATERIAL)	M-750 STAINLESS STEEL ORDER NO. (MATERIAL)
MAIN BODY PARTS LIST			
1	BODY	MD159BDFBR (ASTM CA386)	M750BDFSS (ASTM 316 SS, A351 CF8M)
2	CAP SCREW (SET OF 6)	HH00501302000Z (SST304, ASTM A276)	HH00501302000Z (SST304, ASTM A276)
3	LOCK WASHER (SET OF 6)	WAT0050 (SST410)	WAT0050 (SST410)
4	HOSE RACK CONNECTOR	HRC0NBR (ASTM B16 C36000)	HRC0NSS (ASTM A582 303)
5	GLOBE VALVE	SEE WEBSITE	SEE WEBSITE
	BALL VALVE	SEE WEBSITE	SEE WEBSITE

ITEM NO.	DESCRIPTION	M-159 BRONZE ORDER NO. (MATERIAL)	M-750 STAINLESS STEEL ORDER NO. (MATERIAL)
MAIN BODY PARTS LIST			
8	HOSE RACK WITH FITTINGS	HRCOMLETE0000 (SST304, ASTM A276)	HRCOMLETE0002 (SST304, ASTM A276)
10	HEX SPACER	MUSPAC (SST416, ASTM A582)	MUSPAC (SST416, ASTM A582)
11	WALL PLATE	MUWPLTBR (OPTIONAL) (BRASS B16, CA360)	THIS IS STANDARD ON THIS UNIT (SST304, ASTM A240)
12	BALL CHECK UNION NUT	BCNUTBR (BRASS ASTM B16 C36000)	BCNUTSS (SST304, ASTM A276)
13	BALL CHECK VALVE	BCBRG (BRASS ASTM B16, C36000, SST303, ASTM A582)	BCSSG (SST304, ASTM A276, SST303, ASTM A582)

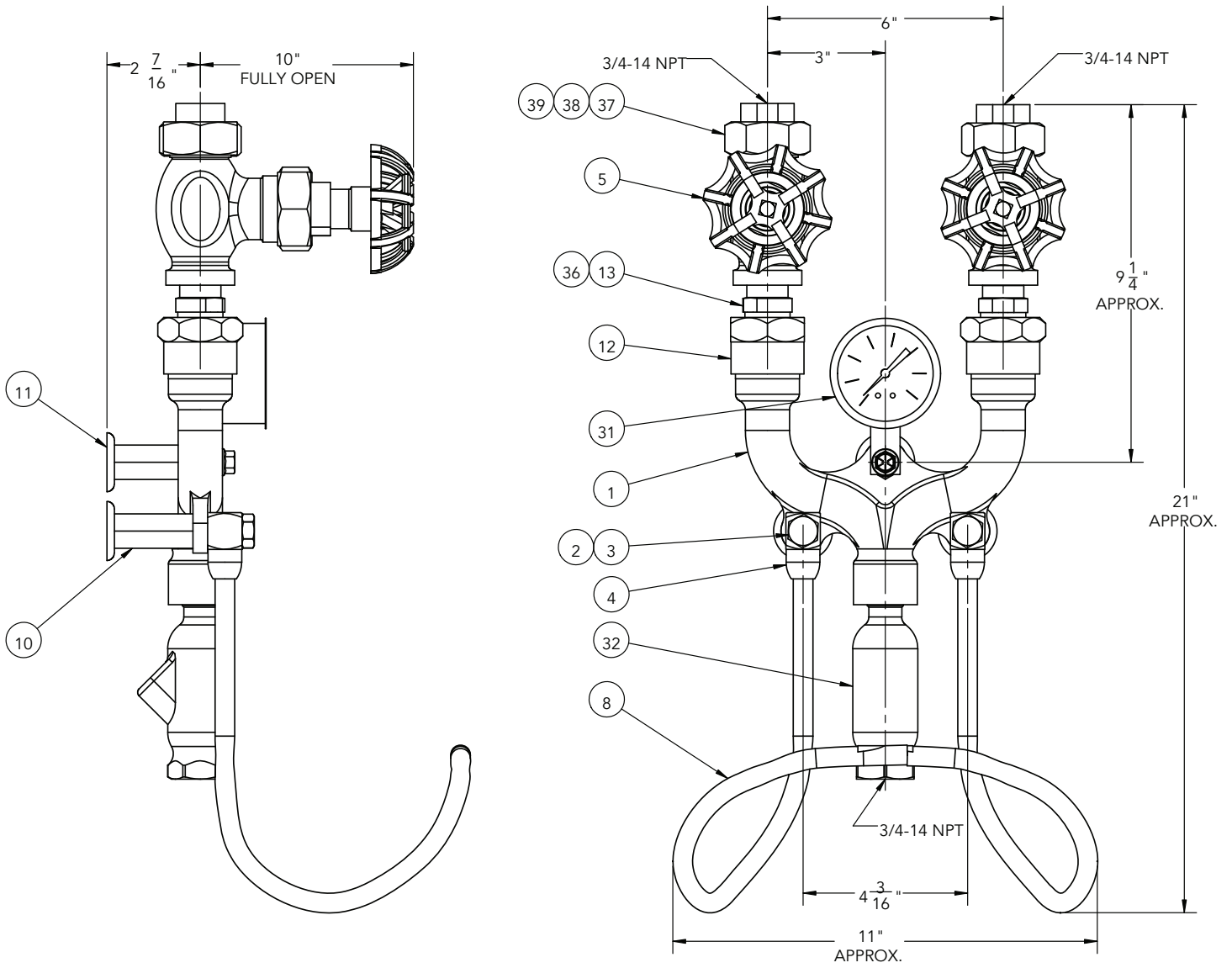


Figure 4: Globe Entry

ITEM NO.	DESCRIPTION	M-159 BRONZE ORDER NO. (MATERIAL)	M-750 STAINLESS STEEL ORDER NO. (MATERIAL)
MAIN BODY PARTS LIST			
31	TEMPERATURE GAUGE	TGGF02 (BRASS B283, CA37700)	TGGF02 (BRASS B283, CA37700)
32	BLENDING CHAMBER	BLCHMFB (BRASS BRONZE B62, CH83600)	BLCHMFSS (SST303, ASTM A351)
36	BALL CHECK VALVE GASKET	BCGAC (COPPER)	BCGA (COPPER, PTFE)
37	INLET UNION NUT	GVUNUTBR (BRASS B16, C36000)	GVUNUTSS (303SS, ASTM A582)
38	UNION TAIL PIECE	GVUTAILBR (BRASS B16, C36000)	GVUTAILSS (304SS, ASTMA276, UNS-S3040)

ITEM NO.	DESCRIPTION	M-159 BRONZE ORDER NO. (MATERIAL)	M-750 STAINLESS STEEL ORDER NO. (MATERIAL)
MAIN BODY PARTS LIST			
39	SPIRAL WOUND UNION GASKET (SET OF 6)	GVGA (PTFE)	GASW015001000063MA (304SS, C4)

INSTALLATION, OPERATION & MAINTENANCE

M-159/M-750

HOT AND COLD WATER MIXING UNIT

MAINTENANCE INSTRUCTIONS

1. If the water flow from the unit seems to be inhibited or the temperature cannot be regulated, remove unit and check to see if the water valves are functioning properly. If this is the case, refer to the Strahman Soft Seal Piston Globe Valve instructions below.
2. If the valves are functioning properly, check to see if the check valves are stuck in the closed position or clogged with debris. If the check valves are malfunctioning, refer to the parts list and replace.
3. If flow is still restricted, compressed air can be used to remove any loose blockage that may have collected in the body and mixing chamber of the unit.

GLOBE VALVE

NOTE: When installing new spring, splitnut (5) and piston (4) must be disassembled from stem (6). Install new spring over stem against bonnet. Reassemble splitnut and piston. Hold spring against bonnet. Spring to be installed in back of piston (See below).

Extracting Valve Ring

1. Remove Bonnet (11) and Stem Assembly (6) by opening valve to wide open position and removing Bonnet Nut (11) and working assembly free of body.
2. Insert Pulling Tool into ring pocket making sure that puller housing is located evenly on neck of valve body. Slotted cap 'A' should rest on Lantern (8) as shown in Fig. 6. Rotate until pin 'B' can be pressed into slot and hold while knurled nut 'C' counter clockwise until refusal.
3. With an adjustable wrench, turn hex nut 'D' in a clockwise direction until internal parts are fully extracted, as shown in Fig. 7.
4. Spin hex nut all the way back on so that withdrawn parts can be fully extended from puller housing, then turn knurled nut 'C' clockwise which will release parts from puller.

To Insert New Valve Ring

1. Place Valve Ring (3), including O-ring, on Ring Seater tool as shown in Fig. 8 and drive into valve body as far as it will go keeping Ring Seater as straight as possible.
2. Drop Lantern (8) into body with large I.D. and wider band facing up making sure Lantern (8) sits evenly on ring.
3. Before installing Bonnet Assembly (10) into body, fully retract stem making sure spring is located between back of Piston (4) and Bonnet (10). Install into body. Tighten down Bonnet Nut (11) until refusal.

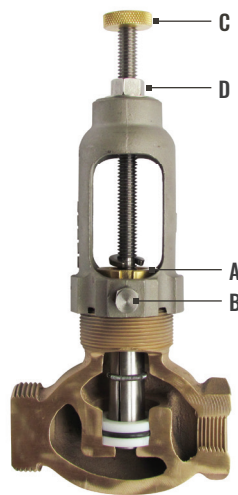


Fig. 6 Pulling tool inserted



Fig. 7 Extract internal parts

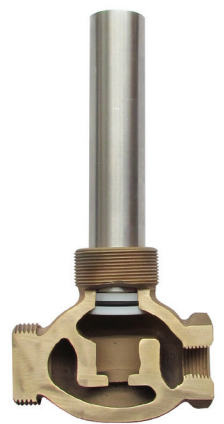


Fig. 8 Extract internal parts

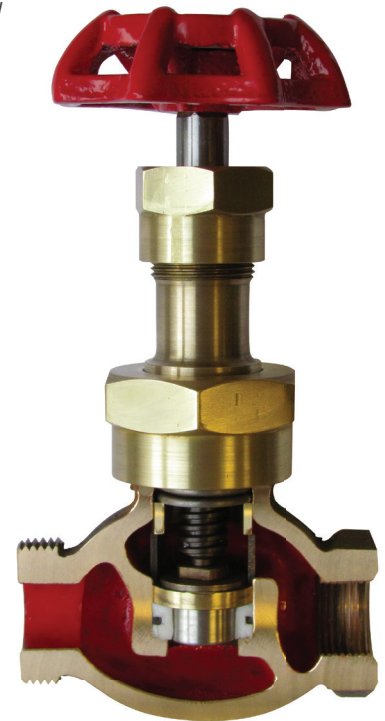
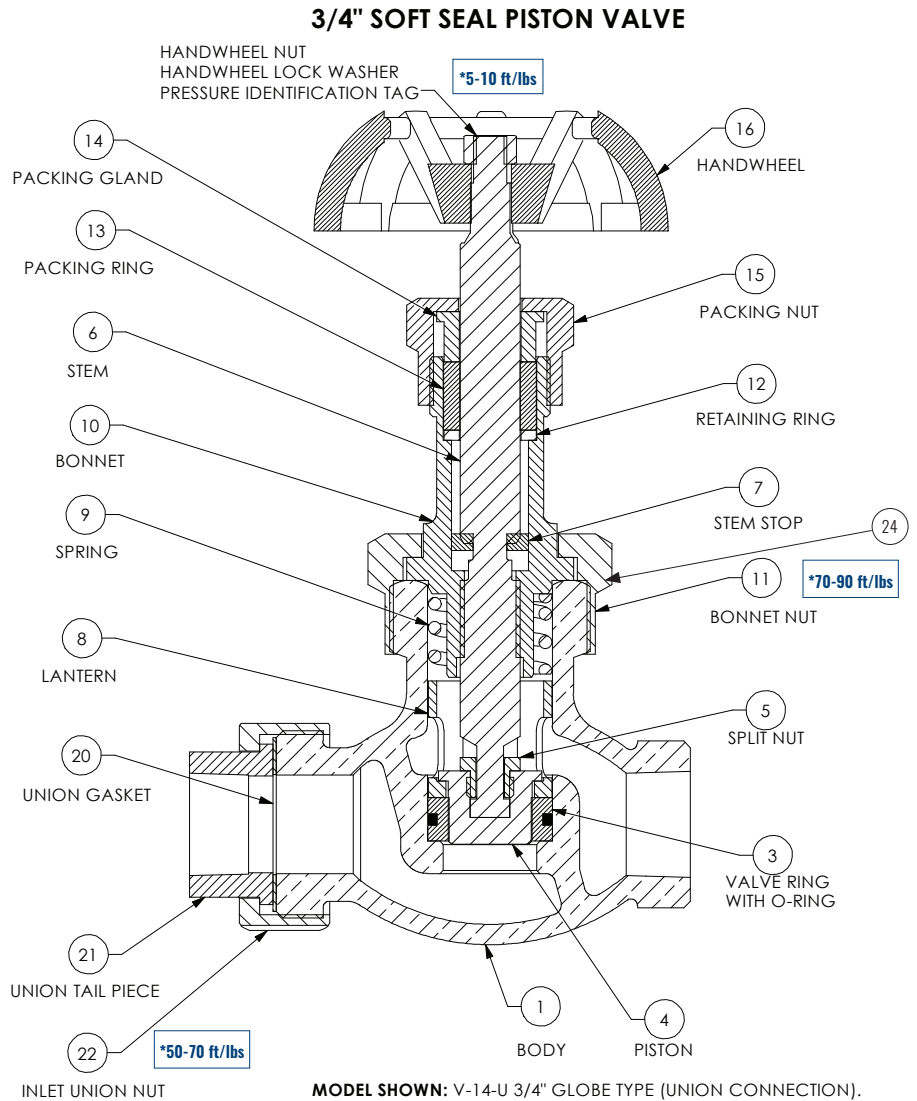


Fig. 5 Spring to be installed in back of piston Large I.D. facing up

PARTS FOR BRONZE UNIT		
ITEM	PART	PRODUCT CODE
1	BODY GLOBE SCREWED ENDS	GVBDFCPS
1	BODY GLOBE UNION TYPE	GVEBDFB
3	VALVE RING WITH O-RING Elas./PTFE	GVRING
4	PISTON (includes Item 5) 316 SST	GVPISTSPPLITASSY
5	SPLIT NUT (LEFT HAND THREAD) 316 SST	GVSPPLITNUT
6	STEM (includes Item 7) 416 SST	MUSTEMKIT
7	STEM STOP (set of 6) 304 SST	GVSSSTP
8	LANTERN Brass	GVLANTBR
9	SPRING (set of 6) 302 SST	SPRG8027S
10	BONNET ASSEMBLY Bronze	GVBNB
11	BONNET NUT Brass	GVBNNUTB
12	RETAINING RING (set of 6) 302 SST	GVRRNG
13	PACKING RING (3 pc. Virgin PTFE)	GVPACKCHEV
14	PACKING GLAND	GVGLBR
15	PACKING NUT Brass	GVPNUTBR
16	BLACK HAND WHEEL Cast Iron	GVHWFLACK
16	RED HAND WHEEL Cast Iron	GVHWFWR
17	HAND WHEEL NUT (set of 6) 303 SST	GVLNUTSS
20	UNION GASKET (set of 6) Virgin PTFE	GVGA
21	UNION TAIL PIECE Brass	GVUTAILBR
22	INLET UNION NUT Brass	GVUNUTBR
23	ANGLE RECESSED GASKET Garlock	REC GA
PARTS FOR STAINLESS STEEL UNIT		
1	BODY GLOBE UNION TYPE 316 SST	GVBDFSS
1	BODY GLOBE ANGLE TYPE 316 SST	AVBDFSS
8	LANTERN 304 SST	GVLANTSS
10	BONNET ASSEMBLY 303 SST	GVBNS
11	BONNET NUT 303 SST	GVBNNUTS
14	PACKING GLAND 303 SST	GVGLSS
15	PACKING NUT 303 SST	GVPNUTSS
16	BLUE HAND WHEEL Cast Iron	GVHWFLUE
16	ORANGE HAND WHEEL Cast Iron	GVHWF0
20	UNION GASKET SPIRAL WOUND (set of 6) SST	GAS-WO15001000063MA
21	UNION TAIL PIECE 303 SST	GVUTAILSS
22	INLET UNION NUT 303 SST	GVUNUTSS
24	GLOBE VALVE GASKET Bonn/Body SST	GVBNGA
OPTIONAL TOOLS		
-	VALVE PULLER	GVPULLER
-	VALVE SEATER	GVSEATER



MODEL SHOWN: V-14-U 3/4" GLOBE TYPE (UNION CONNECTION).
MODELS AVAILABLE: V-14-S 3/4" GLOBE TYPE (SCREWED ENDS).
 V-18 3/4" ANGLE TYPE (SCREWED ENDS).
SST MODELS: V-65-SU, V-65-SS AND V-18-SS

NOTE:
 WHEN INSTALLING NEW SPRING, SPLIT NUT (5), PISTON (4) MUST BE DISASSEMBLED FROM STEM (6). INSTALL NEW SPRING OVER STEM AGAINST BONNET (10). REASSEMBLE SPLIT NUT (5) AND PISTON (4). HOLD SPRING AGAINST BONNET (10).

PRECAUTIONS:
 MAKE SURE RING POCKET IS FREE OF SCALE, RUST OR OTHER OBSTRUCTION BEFORE REPLACING VALVE RING. MAKE SURE PARTS ARE REPLACED IN SAME ORDER AS REMOVED. BASE RING NO LONGER NECESSARY (OLDER VALVES ONLY).

CAUTION SHOULD BE TAKEN TO ENSURE CONTINUED SAFE OPERATION OF THE STRAHMAN SOFT SEAL PISTON. WHEN AND WHERE APPLICABLE, PARTICULAR CARE SHOULD BE EXERCISED IN THE FOLLOWING AREAS: EARTHQUAKE, EXTERNAL PIPING LOADS, UNSTABLE FLUIDS, WEAR AND EROSION, SURFACE TEMPERATURE AND OVER/UNDER PRESSURE AND TEMPERATURE DURING OPERATION. ADDITIONALLY, ONLY BOLTING AND GASKETS AS PERMITTED BY B16.5 ARE TO BE USED.

THE STRAHMAN FAMILY OF PRODUCTS INCLUDE:



WASH DOWN EQUIPMENT

Cleaning and sanitizing equipment for applications where safety is the number one concern — built to outlast and outperform all others.

AUTOMATED VALVES & THERMAL SHUT-OFF VALVES

Completely assembled automated valves and fire-safe thermal shut-off valves fabricated for quick and reliable problem-solving solutions for industrial applications.

PROCESS VALVES


Engineered solutions for the transfer of fluid and flow control for highly critical applications from sampling to inline process to permanent isolation.





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