# **SPEAKMAN®**

SM-5450

# Installation, Operation & Maintenance Instructions

SENTINELPRO™ COMBINATION SERIES

### DESCRIPTION

Speakman SentinelPro™ Combination, SM-5450, unites Anti-Scald Thermostatic / Pressure Balance Diverter Shower/Bath Valve with integral Check Stops (CPV-TP-DV), Trim with integral Volume Control / Diverter Handle (CPT-5401), Hand Shower with flow control (VS-100-PC), Supply Ell (VS-115), In-line Vacuum Breaker (VS-117), Swivel Connector (VS-120); 30in Slide Bar (VS-123), Tub Spout (S-1554), and 69in Metal (SS) Hose.

## **SPECIFICATIONS**

### CPV-TP-DV ANTI-SCALD THERMOSTATIC / PRESSURE BALANCE DIVERTER SHOWER VALVE:

CONNECTIONS: ½" Female Copper Sweat and ½" NPT Male at both the Inlets (Cold, Hot) & Outlets (Shower, Tub)

FLOW RATE: 1.5 gpm (5.7 L/min) or higher

**COMPLIANCE**: ASSE 1016 / ASME A112.1016 / CSA B125.16 & ASME A112.18.1 / CSA B125.1 Standards

#### CPT-5401 T/P DIVERTER VALVE TRIM:

FINISH: Polished Chrome

COMPLIANCE: ASME A112.18.1 / CSA B125.1 Standard

#### VS-100-PC HAND SHOWER WITH FLOW CONTROL:

CONNECTIONS: ½" NPSM Male Inlet FLOW RATE: 2.5 gpm (9.5 L/min)

FINISH: Polished Chrome

COMPLIANCE: ASME A112.18.1 / CSA B125.1 Standard

#### **VS-115** SUPPLY ELL:

CONNECTIONS: 1/2" NPT Female Inlet; 1/2" NPSM Male Outlet

FINISH: Polished Chrome

# VS-117 IN-LINE VACUUM BREAKER:

CONNECTIONS: 1/2" NPSM Female Inlet; 1/2" NPSM Male Outlet

FINISH: Polished Chrome

**COMPLIANCE**: ASSE 1014 Standard

### **VS-120** SWIVEL CONNECTOR:

CONNECTIONS: 1/2" NPSM Male Inlet; 1/2" NPSM Female Outlet

FINISH: Polished Chrome

## VS-123 30in SLIDE BAR:

FINISH: Polished Chrome

### S-1554 TUB SPOUT:

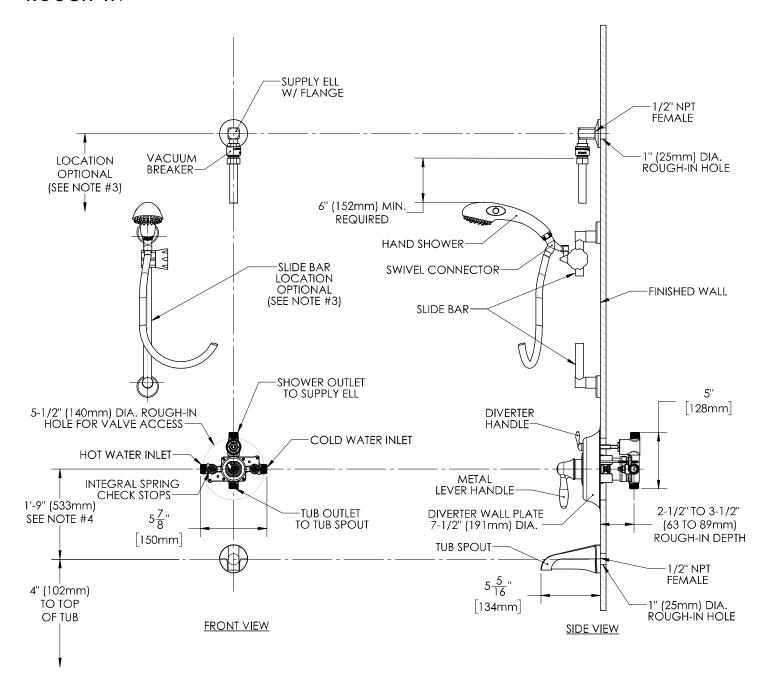
CONNECTIONS: 1/2" NPT Female Inlet

FINISH: Polished Chrome

## **INSTRUCTIONS**

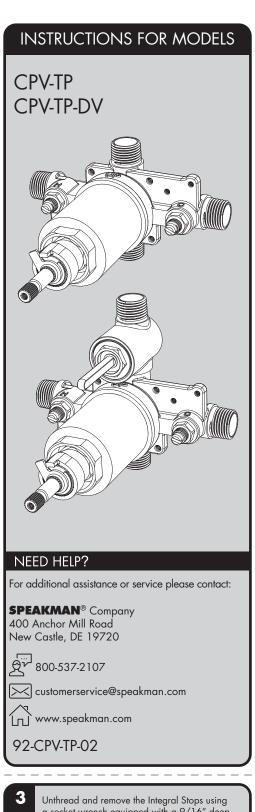
See individual products for installation of the components and warranty information.

## **ROUGH-IN**



#### NOTES:

- 1. ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SPECIFIED AND ARE SUBJECT TO CHANGE WITHOUT NOTICE.
- 2. ALL INLETS AND OUTLETS ARE 1/2" FEMALE COPPER SWEAT AND 1/2" MALE NPT UNLESS OTHERWISE SPECIFIED.
  3. THE LOCATIONS OF THE SLIDE BAR AND SUPPLY ELL ARE OPTIONAL, BUT RESTRICTED BY THE 69" HOSE LENGTH RUNNING FROM THE SUPPLY ELL CONNECTION TO THE HAND SHOWER AND THE 6" MINIMUM REQUIREMENT BETWEEN THE IN-LINE VACUUM BREAKER AND TOP OF THE HAND SHOWER (HAND SHOWER ADJUSTED TO HIGHEST POSITION)
- 4. FOR ADA MOUNTING LOCATIONS CONSULT ADAAG, ANSI A117.1, OR STATE REGULATIONS.









- Be sure to read instructions thoroughly before beginning installation
- Be sure to have properly adjusted the Temperature Limiting Stop (TLS) as outlined in this Installation
- Inspect all connections after installation of valve
- This valve has an operating range of 20-80 Psi.
- This valve is designed to be used in conjunction with a shower-head rated at 1.5 gpm (5.7 L/min) or higher flow rate.
- NOTE: This installation manual covers several models of valves. While the appearance of your valve may differ from those shown, the installation method is the same.
- Maximum water pressure: 125 PSI static; minimum water pressure: 20 PSI flowing; minimum cold supply temperature: 40° F; maximum hot supply temperature: 160° F; minimum hot supply temperature: 5° F above set point.

### SAFETY TIPS

Cover your drain to prevent loss of parts. Be sure to wear eye protection while cutting pipe

# MAINTENANCE

Your new Shower/Bath Valve is designed for years of trouble-free performance. Keep it looking new by cleaning it periodically with a soft cloth. The use of harsh chemicals and abrasives on any of the Speakman custom finish products may damage the finish and void the product warranty. Please be sure to only use approved cleaners. Please contact Speakman for any clarification of acceptable cleaners.

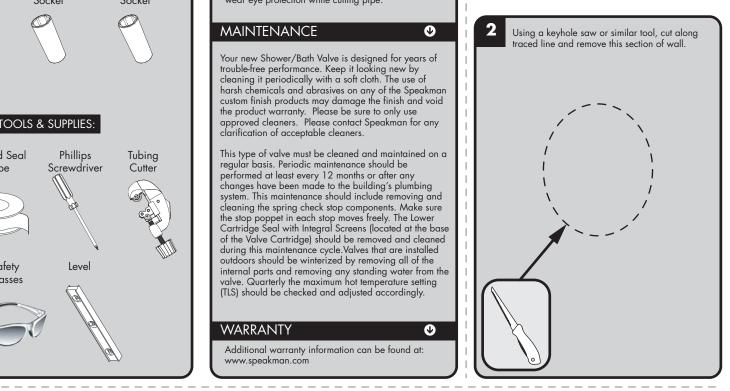
This type of valve must be cleaned and maintained on a regular basis. Periodic maintenance should be performed at least every 12 months or after any changes have been made to the building's plumbing system. This maintenance should include removing and cleaning the spring check stop components. Make sure the stop poppet in each stop moves freely. The Lower Cartridge Seal with Integral Screens (located at the base of the Valve Cartridge) should be removed and cleaned during this maintenance cycle. Valves that are installed outdoors should be winterized by removing all of the internal parts and removing any standing water from the valve. Quarterly the maximum hot temperature setting (TLS) should be checked and adjusted accordingly.

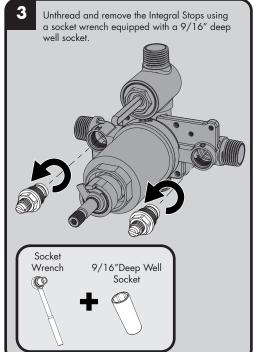
# WARRANTY

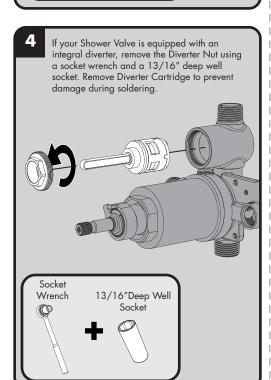
Additional warranty information can be found at:

0

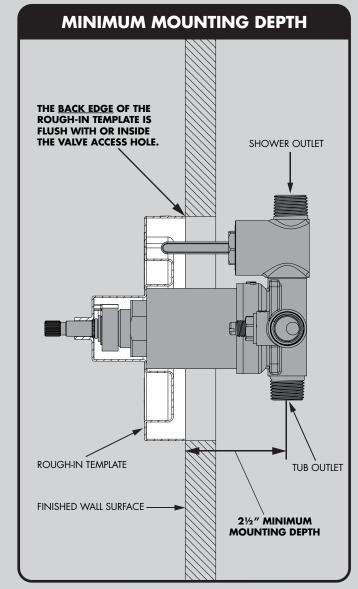
Referencing the supplied rough-in dimensions (located at the end of this manual), determine the preferred location of valve. Align the supplied rough-in template with this location and trace outline of template onto wall. 1'-9" (533mm) TO CENTERLINE OF TUB SPOUT (FOR TUB INSTALLATION) 4'-6" (1.4m) TO FLOOR (SHOWER INSTALLATION)

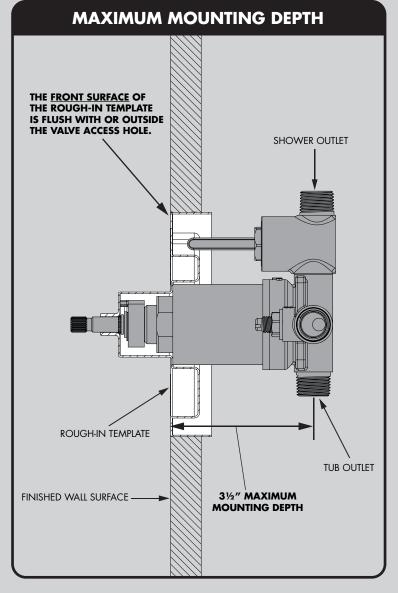


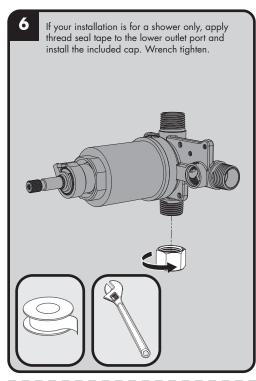


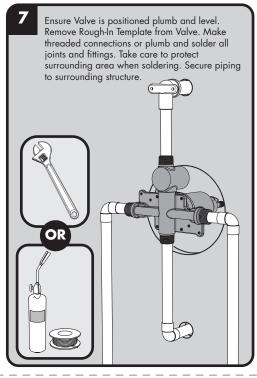


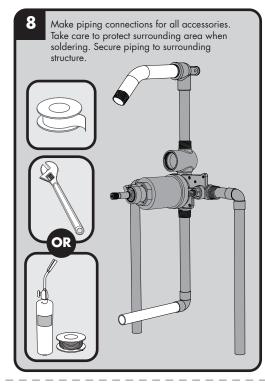
Install the Rough-In Template over the Shower Valve being sure the Rough-In Template sits flush against Shower Valve Bonnet. Following the rough-in dimensions for your model of valve (located ot the end of this manual) as well as the markings on the supplied rough in template, install valve at proper depth. The distance from the centerline of the inlet/outlet ports of the valve assembly to the finished wall MUST be between 2½" - 3½". See images below for reference.

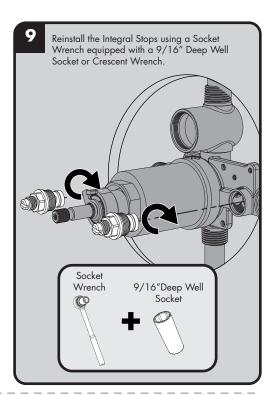


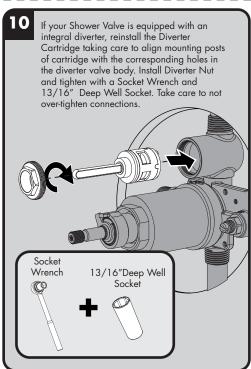






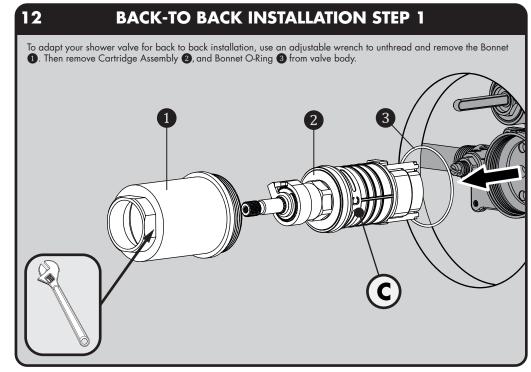


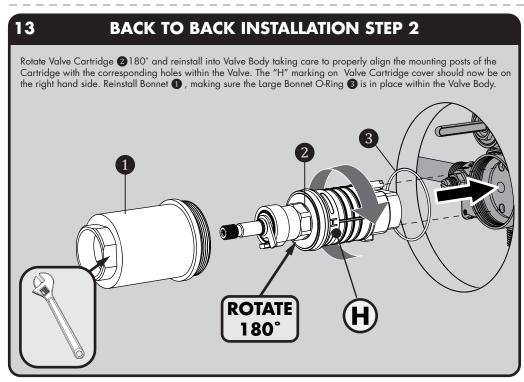


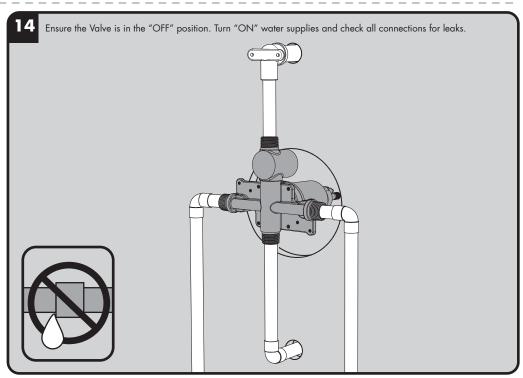




supplies, please proceed to Step 12



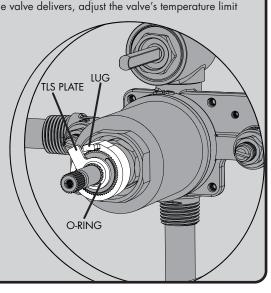


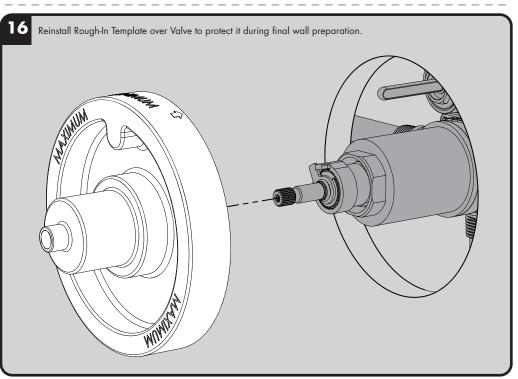


# 15 TEMPERATURE LIMIT ADJUSTMENT

The maximum hot water temperature setting adjustment (Temperature Limit Stop (TLS)) of the valve has been factory set at 110° F. Important- Check each valve installation with a thermometer to make sure the maximum hot water temperature is set to the recommended setting of 110° F maximum. To lower the limit of the maximum hot water temperature the valve delivers, adjust the valve's temperature limit stop (TLS) plate.

- Slip the retaining O-ring and the TLS plate towards the end of the spindle.
- With the water supplies on, rotate the valve spindle clockwise to the maximum desired hot water temperature.
- Position the TLS plate so it contacts the lug and therefore restricts the clockwise rotation of the spindle.
- Slip the retaining O-ring back into the groove of the spindle to hold the TLS plate in place
- Rotate the spindle counter-clockwise to the "Off" position.





# CPV-TP / CPV-TP-DV SERVICE INSTRUCTIONS

#### Service instructions

Caution- Any repair or servicing of the valve may affect the maximum hot temperature setting of the valve. After working on the valve, make sure the maximum hot water temperature is set to the recommended setting of 110° F

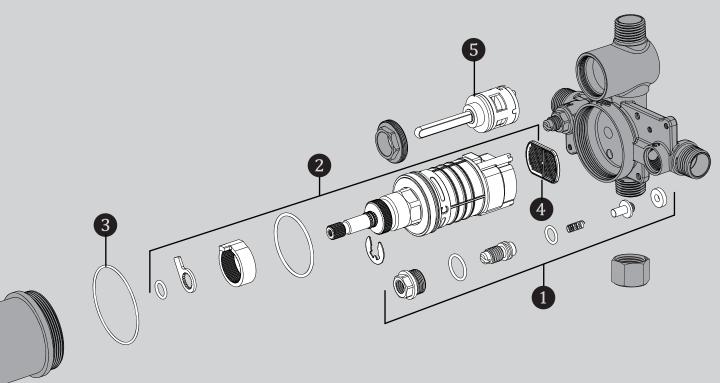
# **T/P Cartridge Removal**

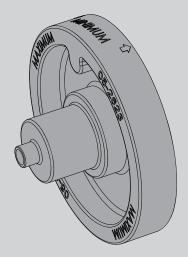
- 1) Shut off the hot & cold water supply integral stops at the valve. Remove valve trim from valve.
- 2) With the valve in the OFF position, remove the Bonnet by unthreading with an adjustable wrench. The cartridge
- 3) If necessary, remove the cartridge from the valve body by pulling on the valve spindle of the cartridge. Make sure the lower cartridge seal is installed in the bottom of the cartridge and not in the valve body. Inspect Lower Cartridge Seal with Integral Screens to verify they are debris free. If debris is present, remove Lower Cartridge Seal and clean Screen material.
- 4) Replace the necessary parts with new parts. When replacing the T/P cartridge, make sure that the Lower Cartridge Seal is properly installed in the recesses on the bottom of the cartridge. This Lower Cartridge Seal is positioned over the hot & cold inlet holes inside the body.
- 5) Make sure the large bonnet O-ring seal is installed and seated properly in the valve body. Reassemble the valve bonnet by threading it into the valve body with an adjustable wrench. Important- Adjust the valve's maximum hot water temperature to the recommended setting of 110° F. See Step #15 of the installation instructions for the TLS
- 6) Turn ON the hot & cold water supply integral stops. Check valve for leaks.
- 7) Reassemble the valve trim parts.

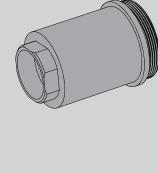
- **Spring Check Stop Parts Removal**1) Shut off hot and cold water supply valves to the integral stops of the valve. Remove valve trim from valve.
- 2) CLOSE integral stops by turning the stop spindles clockwise. Unscrew the stop's retaining nut with wrench. Carefully remove the retaining nut w/spindle, spring, and poppet assembly. Clean and/or replace the necessary parts. Reassemble the parts, reversing the above procedure. Repeat procedure on the other stop.
- 3) OPEN the integral stops by turning the stop spindles counter clockwise. Turn on the hot and cold water supply valves. Check for leaks.
- 4) Reassemble the trim parts.

# **CPV-TP / CPV-TP-DV REPAIR PARTS**

# **SPEAKMAN®**







	ITEM #	PART #	DESCRIPTION
	1	RPG05-0862	CHECK STOP REPAIR KIT
Ī	2	RPG05-1109	T/P CARTRIDGE
Ī	3	RPG49-0012	BONNET O-RING
Ī	4	RPG49-0011	LOWER CARTRIDGE SEAL
	5	RPG05-0897	VOLUME CONTROL/DIVERTER CERAMIC REPAIR CARTRIDGE

# **NOTES:**

# COMPLIANCE:

ASME A112.18.1/CSA B125.1

Shower Valve ASSE1016

# **CONNECTIONS:**

Hot/Cold Inlets: 1/2" Female Copper Sweat

1/2" NPT Male

Shower Outlet: 1/2" Female Copper Sweat

½" NPT Male

Tub Outlet: ½" Female Copper Sweat

½" NPT Male

(Cap included for Shower Only Connections)

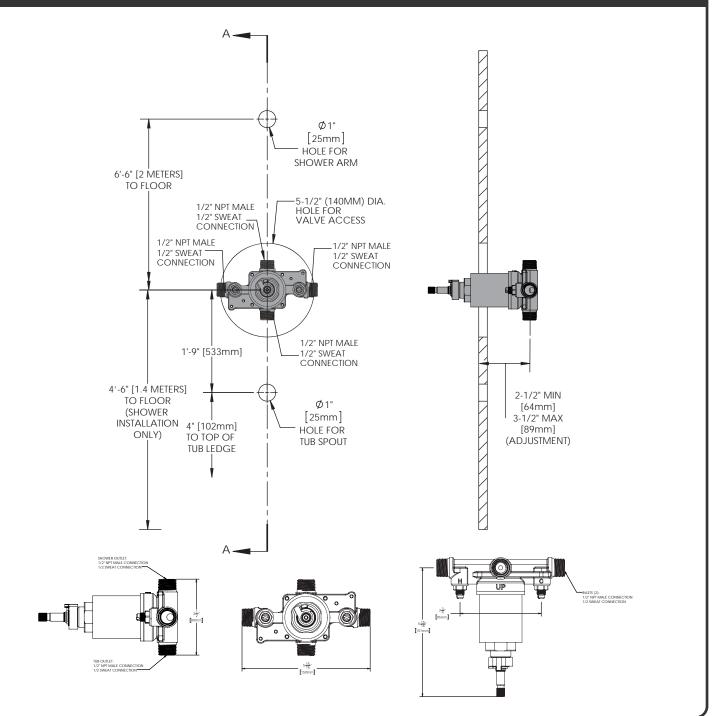
## **NOTES:**

This valve is designed to be used in conjunction with a shower-head rated at 1.5 gpm (5.7 L/min) or higher flow rate

Contractor to supply necessary inlet connections.

DIMENSIONS SUBJECT TO CHANGE WITHOUT NOTICE. FOR ADA MOUNTING LOCATIONS, CONSULT ADAAG, ANSI A117.1, AND STATE REGULATIONS.

DIMENSIONS SUBJECT TO CHANGE WITHOUT NOTICE.



# **CPV-TP-DV ROUGH-IN DIAGRAM**

# NOTES:

# COMPLIANCE:

ASME A112.18.1/CSA B125.1

Shower Valve ASSE1016

# CONNECTIONS:

Hot/Cold Inlets: 1/2" Female Copper Sweat

½" NPT Male

Shower Outlet: ½" Female Copper Sweat

½" NPT Male

Tub Outlet: ½" Female Copper Sweat

½" NPT Male

(Cap included for Shower Only Connections)

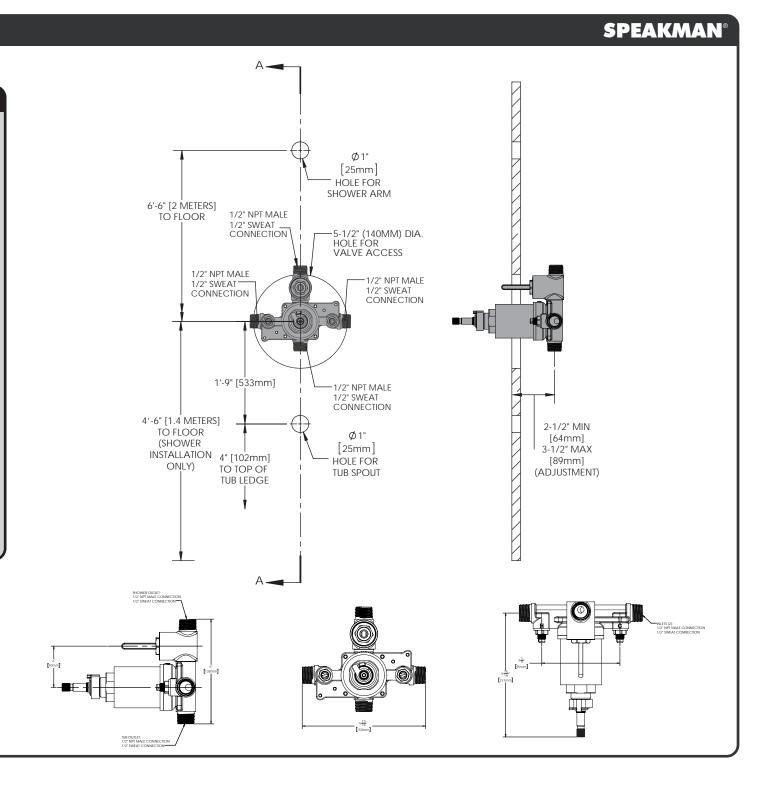
# NOTES:

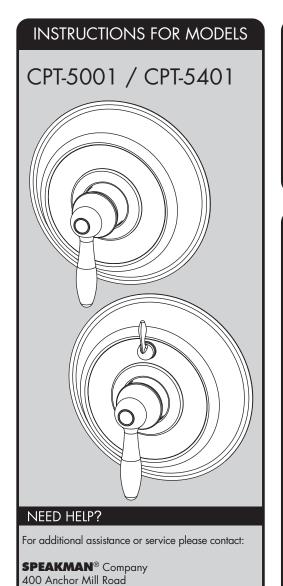
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New Castle, DE 19720

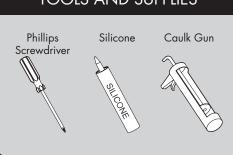
www.speakman.com

92-CPT-5001-01

customerservice@speakman.com

800-537-2107





# **IMPORTANT**

- Do not over-tighten any connections or damage
- Be sure to read instructions thoroughly before beginning installation.
- This valve has an operating range of 20-80 psi.

# SAFETY TIPS

Cover your drain to prevent loss of parts. Be sure to wear eye protection while cutting pipe.

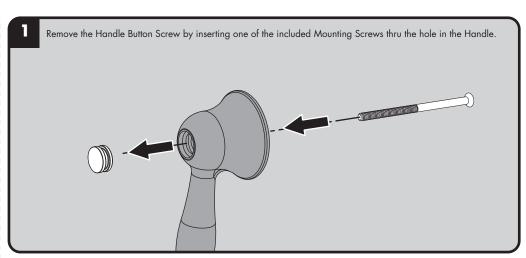
# MAINTENANCE

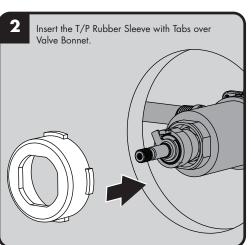
Your new Speakman Product is designed for years of trouble-free performance. Keep it looking new by cleaning it periodically with a soft cloth. The use of harsh chemicals and abrasives on any of the Speakman custom finish products may damage the finish and void the product warranty. Please be sure to only use approved cleaners. Please contact Speakman for any clarification of acceptable cleaners.

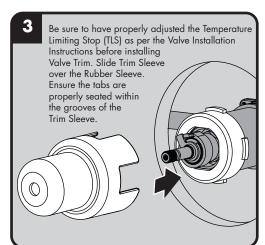
# WARRANTY

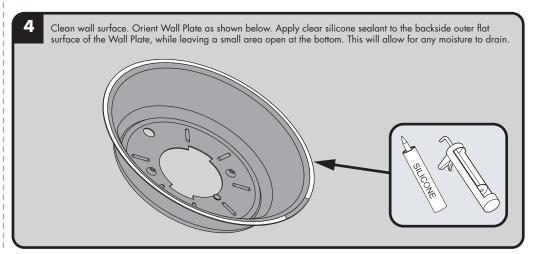
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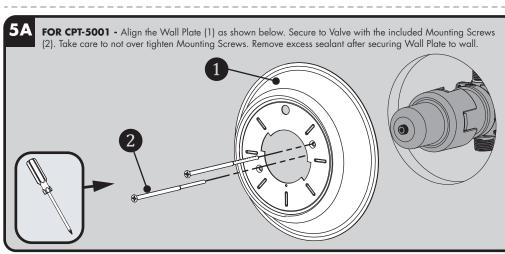
Additional warranty information can be found at: www.speakman.com

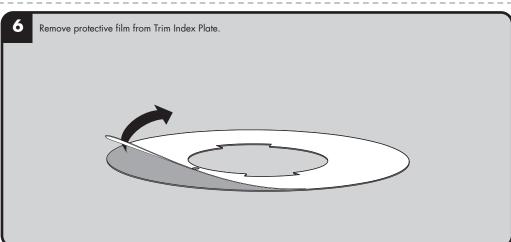


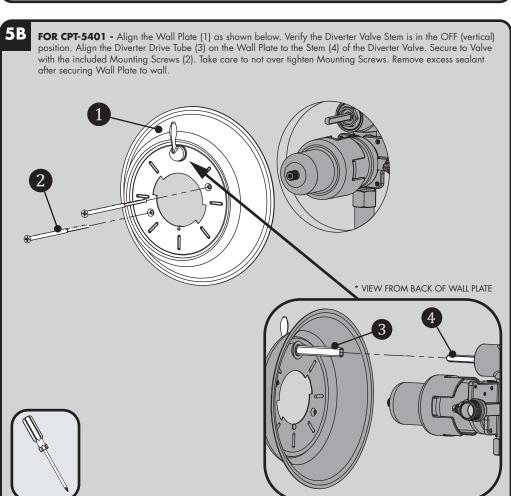


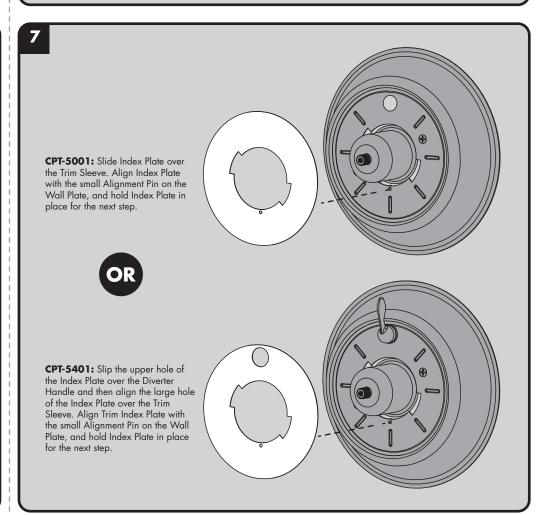


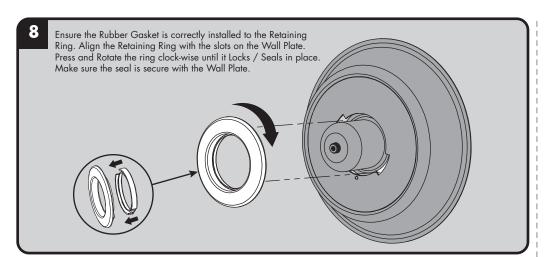


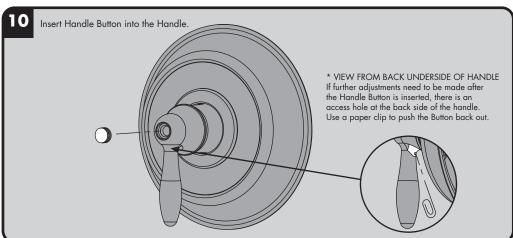


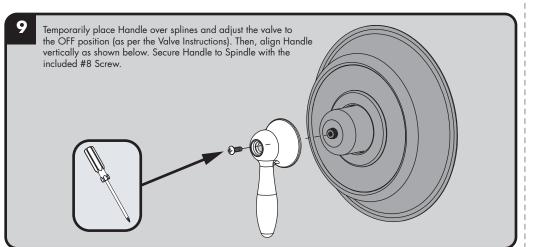


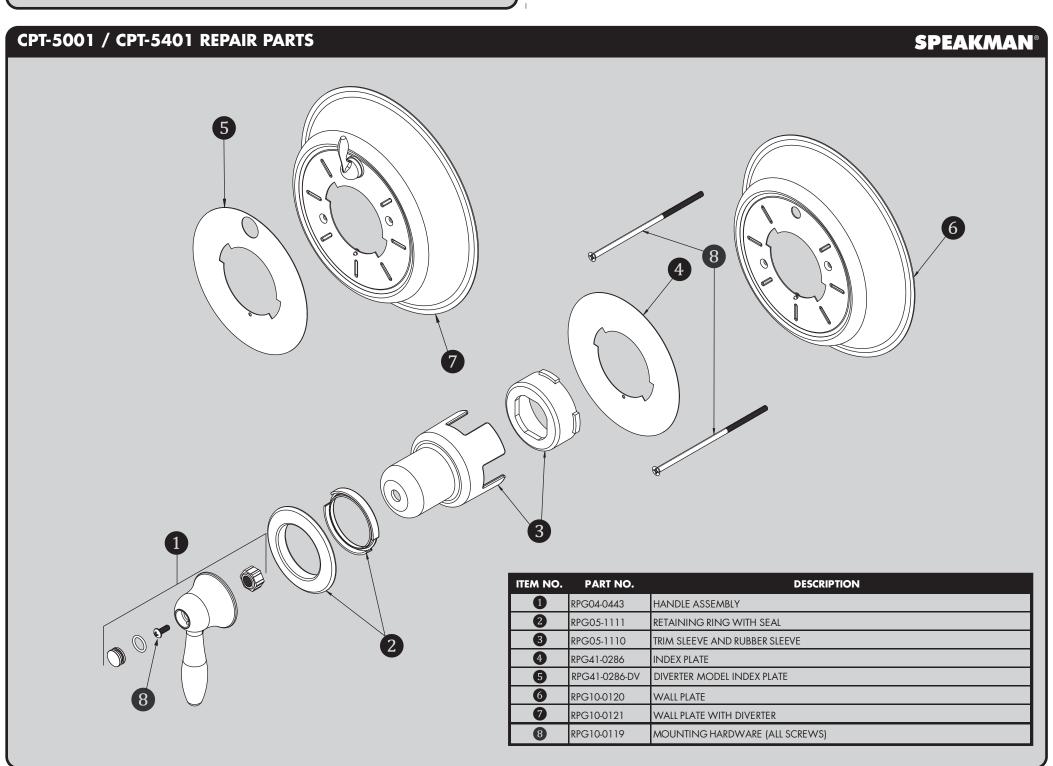


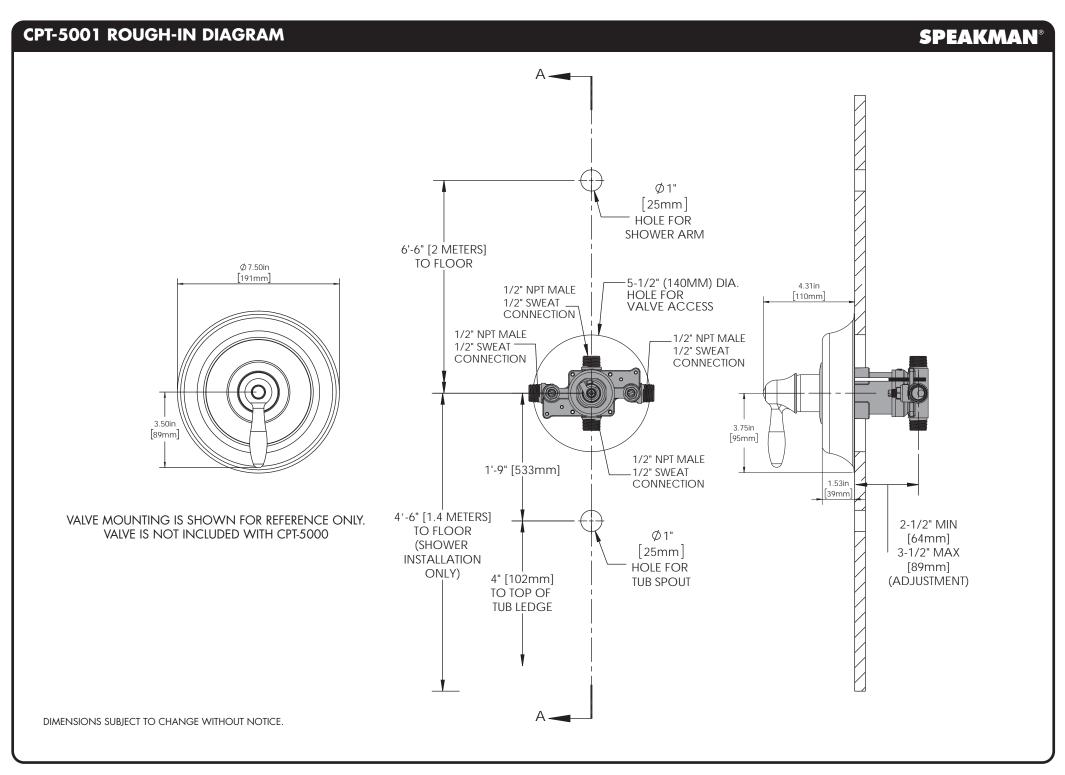


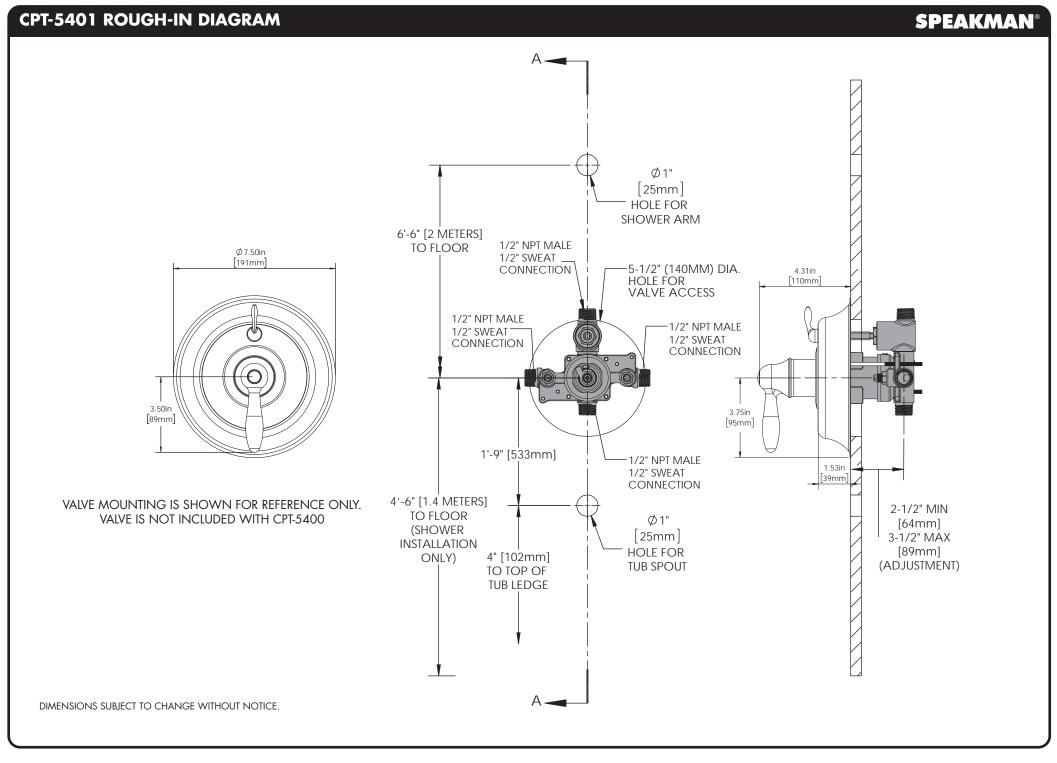






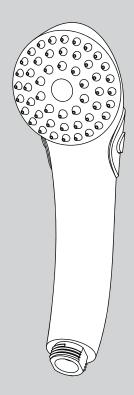






# INSTRUCTIONS FOR MODELS

VS-100-PC VS-100-PC-E2 VS-100-PC-E175



# **NEED HELP?**

For additional assistance or service please contact:

**SPEAKMAN®** Company 400 Anchor Mill Road New Castle, DE 19720



800-537-2107



customerservice@speakman.com



www.speakman.com

92-VS-100-PC-04

# **TOOLS AND SUPPLIES**

Thread Seal Таре (included)





# **IMPORTANT**



Be sure to read instructions thoroughly before beginning installation. Do not overtighten any connections or damage may occur. This hand shower has an optimal operating range of 20-80 psi.

### SAFETY TIPS



Cover your drain to prevent loss of parts.

## MAINTENANCE



Periodic cleaning using a mild soap and warm water will help keep your Hand Shower's appearance in its original condition.

For best results, dry immediately with a soft, clean cloth. <u>DO NOT USE</u> harsh and/or abrasive cleaners.

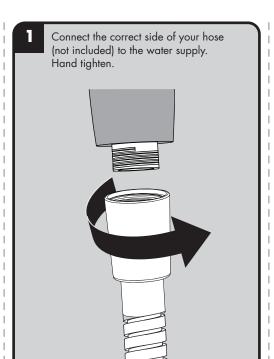
On CHROME PLATED HAND SHOWERS, a two (2) part white vinegar, one (1) part water solution can be used to break down excessive mineral deposits on the sprays. Let the hand shower soak in the solution for about ½ hour then rinse thoroughly. Brush off any remaining mineral deposits if necessary.

<u>DO NOT USE</u> the vinegar/water treatment on any finish other than Chrome.

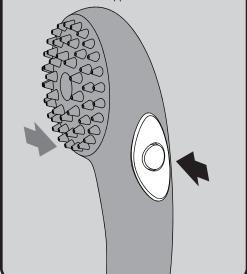
#### WARRANTY



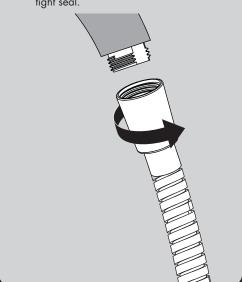
Additional warranty information can be found at: www.speakman.com



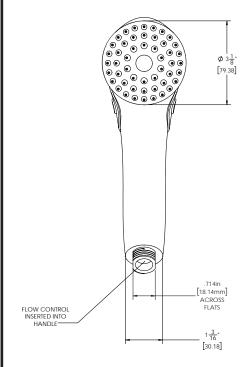
To pause the flow of water, press the integral thumb operated pause/trickle button located on the side of the hand shower. To return the hand held shower to full flow, press the shuttle button from the opposite side.

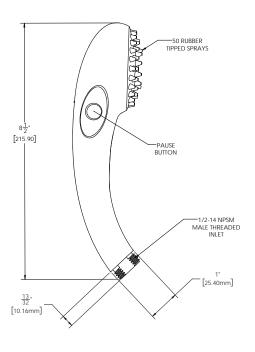


Connect remaining end of Hose to inlet of Hand Shower. Hand tighten. If there are leaks at the hose connections, look into using thicker washers to ensure a tight seal.



# **ROUGH IN DIMENSIONS**





#### VS-100-PC

Max. Flow Rate: 2.5 gpm (9.5L/min)

Min. Flow Rate: 2.0 gpm (7.6 L/min) @ 45psi FOR USE WITH AUTOMATIC COMPENSATING VALVES RATED AT 7.6 L/MIN (2.0 GPM) OR LESS.

#### VS-100-PC-E2

Max. Flow Rate: 2.0 gpm (7.6 L/min)

Min. Flow Rate: 1.5 gpm (5.7 L/min) @ 45psi FOR USE WITH AUTOMATIC COMPENSATING VALVES RATED AT 6.6 L/MIN (1.75 GPM) OR LESS.

#### VS-100-PC-E175

Max. Flow Rate: 1.75 gpm (6.6 L/min)

Min. Flow Rate: 1.3 gpm (4.9 L/min) @ 45psi FOR USE WITH AUTOMATIC COMPENSATING VALVES

RATED AT 5.7 L/MIN (1.5 GPM) OR LESS.

# VS-115 Installation, Maintenance & Operation Instructions VERSATILE ® SUPPLY ELL

## **DESCRIPTION**

VERSATILE® chrome plated brass supply ell with wall flange.

# **SPECIFICATIONS**

SUPPLY INLET: ½" NPT FEMALE OUTLET: ½" NPSM MALE SHIPPING WEIGHT: 0.4 LBS.

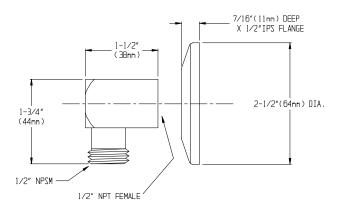
# **INSTALLATION**

Slip the wall flange on to the inlet pipe. Using teflon tape or pipe dope on threads, screw ell onto pipe and wrench tighten. Connect accessories to supply ell and firmly hand tighten. Turn water supply on and check for leaks.

# **MAINTENANCE**

The gleaming finish of your SPEAKMAN VERSATILE® VS-115 supply ell can be cleaned by using mild soap and warm water. Dry immediately with a soft, clean cloth for best results.

# **ROUGH-IN MEASUREMENTS**



# VS-117 Installation, Maintenance & Operation Instructions VERSATILE ® VACUUM BREAKER

# **DESCRIPTION**

VERSATILE® chrome plated brass in-line vacuum breaker.

# **SPECIFICATIONS**

SUPPLY INLET: 1/2" NPSM FEMALE

OUTLET: ½" NPSM MALE SHIPPING WEIGHT: XXX LBS.

# **INSTALLATION**

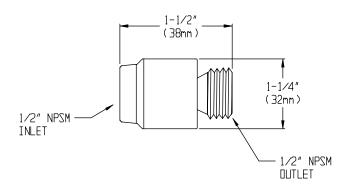
Connect, using rubber washer, to supply piping. Connect accessories to vacuum breaker. Firmly hand tighten connection. Turn water supply on and check for leaks.

Note: Do not install VS-117 in concealed locations or where spillage under certain service conditions might cause water damage. Avoid continuous pressure applications (shut off valve downstream of the vacuum breaker).

## **MAINTENANCE**

The gleaming finish of your SPEAKMAN VERSATILE® VS-117 vacuum breaker can be cleaned by using mild soap and warm water. Dry immediately with a soft, clean cloth for best results.

# **ROUGH-IN MEASUREMENTS**





# VS-120 Installation, Maintenance & Operation Instructions VERSATILE ® SWIVEL CONNECTOR

## **DESCRIPTION**

Speakman VERSATILE® Swivel connector.

# **SPECIFICATIONS**

SUPPLY INLET: ½" NPSM MALE OUTLET: ½" NPSM FEMALE SHIPPING WEIGHT: 0.1 LBS.

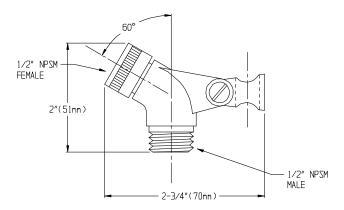
# **INSTALLATION**

Using rubber washer(s), connect inlet to supply hose and outlet to hand held shower. Firmly hand tighten connections. Turn water supply on and check for leaks.

# **MAINTENANCE**

The finish of your SPEAKMAN VERSATILE® VS-120 swivel connector can be cleaned by using mild soap and warm water. Dry immediately with a soft, clean cloth for best results.

# **ROUGH-IN MEASUREMENTS**



# VS-123 Installation, Maintenance & Operation Instructions VERSATILE ® 30" SLIDE BAR

## **DESCRIPTION**

Speakman VERSATILE ® 30" chrome plated slide bar with mounting screws.

# **SPECIFICATIONS**

SHIPPING WEIGHT: 1.5 LBS.

## **INSTALLATION**

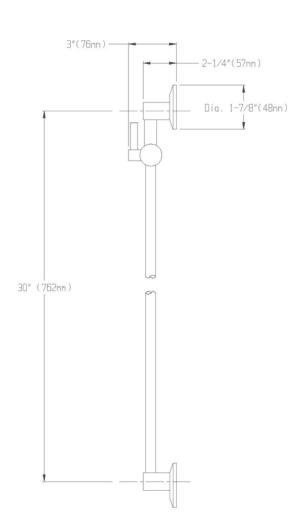
Location of the bar is optional but restricted by the hose length. Attach bar to wall using fasteners supplied. Slip hand held shower with swivel connector onto post. Adjust height of post handle. Tighten handle to lock into place.

# **MAINTENANCE**

The gleaming finish of your SPEAKMAN VERSATILE ® VS-123 slide bar can be cleaned by Using mild soap and warm water. Dry immediately with a soft, clean cloth for best results.

# **ROUGH-IN MEASUREMENTS**

Product improvements may cause specification and dimensional changes without notice.



# **SPEAKMAN®**

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# S-1554 Installation, Maintenance & Operation Instructions TUB SPOUT

## **DESCRIPTION**

Speakman polished chrome plated metal tub spout.

# **SPECIFICATIONS**

1/2" NPT FEMALE INLET SHIPPING WEIGHT: XXX LBS.

# **INSTALLATION**

Apply teflon tape or pipe dope to male threads and thread spout onto piping. Wrench tighten carefully. Check all connections for leaks.

## **MAINTENANCE**

The gleaming finish of your SPEAKMAN tub spout can be cleaned by using mild soap and warm water. Dry immediately with a soft, clean cloth for best results.

## **ROUGH-IN MEASUREMENTS**

