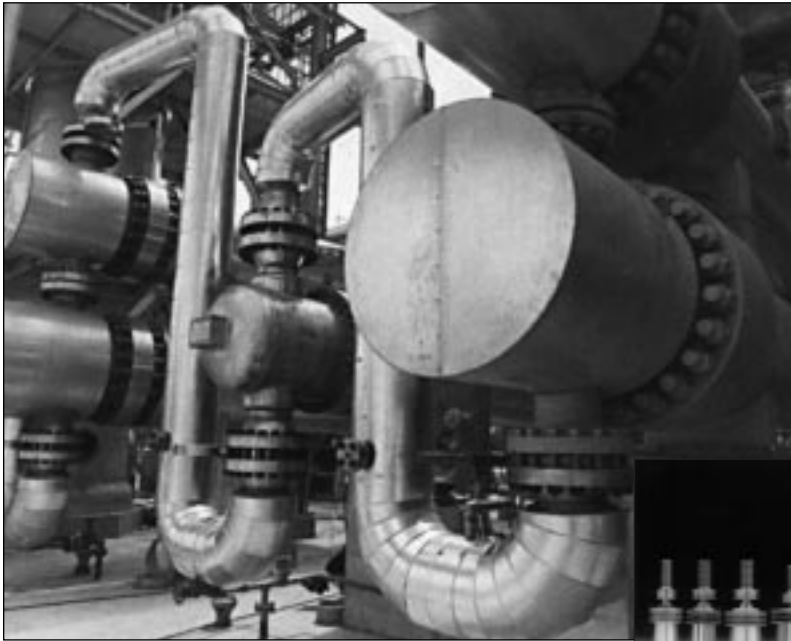


# CPI Pop-A-Plugs® for Process Heat Exchangers



	<b>CPI Plugs</b>
	<b>Perma Plugs™</b>
	<b>P2 High Pressure Plugs</b>
	<b>Ram Packages</b>
	<b>Tube Stabilizers</b>



*The Fast, Safe Way  
To Seal Leaking Heat  
Exchangers in Refineries & Chemical Plants*

Taper pins can turn into lethal projectiles — and that can pose a real safety hazard for your workers. Now you can eliminate this danger with EST's CPI Pop-A-Plug®. Resistant to thermal cycling and able to provide a seal that's helium-leak tight, EST's CPI Pop-A-Plug installs using controlled force. This protects against damage to tubesheet ligaments and adjacent tubesheet joints, extending the life of your heat exchanger and reducing costs when you need to retube. What's more, the CPI Pop-A-Plug takes only seconds to install. Its broad expansion range fits multiple gages, so you need to keep fewer plugs on hand — reducing inventory and cutting costs. And it's available in carbon steel, stainless steel, and brass.

The CPI Pop-A-Plug is part of a high performance tube plugging system. Tube preparation is the second component. EST removes all tube prep uncertainty by supplying a kit of brushes to cover the CPI Pop-A-Plug's entire expansion range. Other materials are available on a consult factory basis. Ask us about through-the-tube plugging of non-U-tube heat exchangers.

With EST's CPI Pop-A-Plug, you get the following features:

- **Fast installation.**
- **Rated up to 700 psi (48 bar) at 700°F (370°C).**
- **Safer than taper pins.**
- **No tube or tubesheet damage.**
- **Helium leak tight to  $1 \times 10^{-10}$  cc/sec.**
- **Quality Assurance System:** Meets requirements of ANSI N45.2, 10CFR50 Appendix B, 10CFR21, and is certified to ISO-9001.
- **In stock for immediate delivery.**
- **Reduced inventory because of high plug expansion range.**
- **Tube prep brush kit required. Purchased seperately.**



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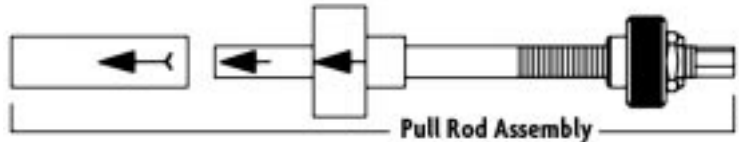
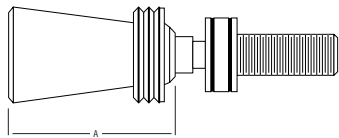
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SPECIALISTS IN TUBE TESTING, SLEEVING AND PLUGGING TECHNOLOGY

AN ISO-9001 REGISTERED COMPANY

# CPI Plugs



Part No.	Plug Size/OD	Tube ID Range	Pin Length (A)	Brush Kits (crs/ss)	Brush Kits (brass)	Positioner	Pull Rod Assembly	Channel Head Pull Rod Assembly
V-471-M	0.471 in. (11.96mm)	0.472-0.515 in. (11.99-13.08mm)	1.630 in. (41.40mm)	BSH-471-HT	BSH-471	P-471	PA-471	CPA-471-LL
V-491-M	0.491 in. (12.47mm)	0.492-0.540 in. (12.50-13.72mm)	1.670 in. (42.42mm)	BSH-491-HT	BSH-491	P-491	PA-491	CPA-491-LL
V-512-M	0.512 in. (13.00mm)	0.513-0.562 in. (13.03-14.27mm)	1.590 in. (40.39mm)	BSH-512-HT	BSH-512	P-512	PA-512	CPA-512-LL
V-524-M	0.524 in. (13.31mm)	0.525-0.585 in. (13.34-14.86mm)	1.280 in. (32.51mm)	BSH-524-HT	BSH-524	P-524	PA-524	CPA-524-LL
V-555-M	0.555 in. (14.10mm)	0.556-0.616 in. (14.12-15.65mm)	1.400 in. (35.56mm)	BSH-555-HT	BSH-555	P-555	PA-555	CPA-555-LL
V-584-M	0.584 in. (14.83mm)	0.585-0.649 in. (14.86-16.48mm)	1.320 in. (33.53mm)	BSH-584-HT	BSH-584	P-584	PA-584	CPA-584-LL
V-621-M	0.621 in. (15.77mm)	0.622-0.689 in. (15.80-17.50mm)	1.570 in. (39.88mm)	BSH-621-HT	BSH-621	P-621	PA-621	CPA-621-LL
V-649-M	0.649 in. (16.48mm)	0.650-0.713 in. (16.51-18.11mm)	1.320 in. (33.53mm)	BSH-649-HT	BSH-649	P-649	PA-649	CPA-649-LL
V-670-M	0.670 in. (17.02mm)	0.671-0.740 in. (17.04-18.80mm)	1.660 in. (42.16mm)	BSH-670-HT	BSH-670	P-670	PA-670	CPA-670-LL
V-712-M	0.712 in. (18.08mm)	0.713-0.777 in. (18.11-19.74mm)	1.320 in. (33.53mm)	BSH-712-HT	BSH-712	P-712	PA-712	CPA-712-LL
V-735-M	0.735 in. (18.67mm)	0.736-0.810 in. (18.69-20.57mm)	1.680 in. (42.67mm)	BSH-735-HT	BSH-735	P-735	PA-735	CPA-735-LL
V-774-M	0.774 in. (19.66mm)	0.775-0.838 in. (19.69-21.29mm)	1.320 in. (33.53mm)	BSH-774-HT	BSH-774	P-774	PA-774	CPA-774-LL
V-804-M	0.804 in. (20.42mm)	0.805-0.890 in. (20.45-22.61mm)	1.700 in. (43.18mm)	BSH-804-HT	BSH-804	P-804	PA-804	CPA-804-LL
V-837-M	0.837 in. (21.26mm)	0.838-0.902 in. (21.29-22.91mm)	1.320 in. (33.53mm)	BSH-837-HT	BSH-837	P-837	PA-837	CPA-837-LL
V-853-M	0.853 in. (21.67mm)	0.854-0.949 in. (21.69-24.10mm)	1.720 in. (43.69mm)	BSH-853-HT	BSH-853	P-853	PA-853	CPA-853-LL
V-899-M	0.899 in. (22.83mm)	0.900-0.963 in. (22.86-24.46mm)	1.320 in. (33.53mm)	BSH-899-HT	BSH-899	P-899	PA-899	CPA-899-LL
V-919-M	0.919 in. (23.34mm)	0.920-1.019 in. (23.37-25.88mm)	1.760 in. (44.70mm)	BSH-919-HT	BSH-919	P-919	PA-919	CPA-919-LL
V-962-M	0.962 in. (24.43mm)	0.963-1.027 in. (24.46-26.09mm)	1.320 in. (33.53mm)	BSH-962-HT	BSH-962	P-962	PA-962	CPA-962-LL
V-979-M	0.979 in. (24.87mm)	0.980-1.079 in. (24.89-27.41mm)	1.820 in. (46.23mm)	BSH-979-HT	BSH-979	P-979	PA-979	CPA-979-LL
V-1024-M	1.024 in. (26.01mm)	1.025-1.088 in. (26.04-27.64mm)	1.320 in. (33.53mm)	BSH-1024-U	BSH-1024-U	P-1024	PA-1024	CPA-1024-LL
V-1054-M	1.054 in. (26.77mm)	1.055-1.154 in. (26.80-29.31mm)	1.900 in. (48.26mm)	BSH-1054-U	BSH-1054-U	P-1054	PA-1054	CPA-1054-LL
V-1087-M	1.087 in. (27.61mm)	1.088-1.152 in. (27.64-29.26mm)	1.320 in. (33.53mm)	BSH-1087-U	BSH-1087-U	P-1087	PA-1087	CPA-1087-LL
V-1103-M	1.103 in. (28.02mm)	1.104-1.203 in. (28.04-30.56mm)	1.900 in. (48.26mm)	BSH-1103-U	BSH-1103-U	P-1103	PA-1103	CPA-1103-LL
V-1149-M	1.149 in. (29.18mm)	1.150-1.213 in. (29.21-30.81mm)	1.320 in. (33.53mm)	BSH-1149-U	BSH-1149-U	P-1149	PA-1149	CPA-1149-LL
V-1171-M	1.171 in. (29.74mm)	1.172-1.270 in. (29.77-32.26mm)	2.000 in. (50.80mm)	BSH-1171-U	BSH-1171-U	P-1171	PA-1171	CPA-1171-LL
V-1212-M	1.212 in. (30.78mm)	1.213-1.336 in. (30.81-33.93mm)	2.000 in. (50.80mm)	BSH-1212-U	BSH-1212-U	P-1212	PA-1212	CPA-1212-LL

**Notes:**

- The suffix **M** in the CPI Plug Part Number is a plug material designator. Please replace **M** with one of the following: C for Carbon Steel, S for 316 Stainless Steel, B for Brass.

- The suffix **LL** in the Channel Head Pull Rod Assembly Part Number signifies the length, in feet, of the Channel Head Extension. These parts are available in 1, 2, 3, 4, and 6 ft. lengths. Please add -01, -02, etc. for the respective Channel Head Extension length required.

*Ordering Information*

When ordering please supply the following information:

- Tube OD and wall thickness or measured tube ID
- Tube material and/or tubesheet material
- Maximum pressure and temperature
- The type of tube to tubesheet joint (rolled, welded, etc.)

**Standard Materials:** Brass (B), 316 Stainless Steel (S), Carbon Steel (C)

**Maximum Operating Pressure/Temperature:** 700 psi (48.0 bar), 700°F (370°C).

**Delivery:** Substantial quantities of V-524-M to V-1149-M in the three materials listed above are normally in stock for immediate shipment. For details on exact delivery, larger sizes, or alternate materials, contact EST directly.