

Chromalox®

Installation Instructions

SERVICE REFERENCE

DIVISION 4	SECTION HB
SALES REFERENCE (Supersedes PM400-1)	PM400-2
161-049691-001	
DATE	MARCH, 1999

Type HB Heater Bands for Barrel or Surface Temperatures up to 800°F

Specifications — Table A

Model	PCN	Volts	Watts	W/In ²	Amperes	Barrel Diameter (In.)	Wt (Lbs.)
HB-5075	273631	240	750	50	3.1	5	1.5
HB-5080	273287	240	800	48	3.3	5-1/4	1.75
HB-5460	272760	240	600	33	2.5	5-1/2	1.75
HB-5415	273463	240	1500	82	6.3	5-1/2	1.75
HB-6040	269149	240	400	20	1.7	6	2
HB-6075	268998	240	750	38	3.1	6	2
HB-6410	269464	240	1000	48	4.2	6-1/2	2
HB-7010	273623	240	1000	43	4.2	7	2
HB-7715	273586	240	1500	53	6.3	7-1/8	2.25
HB-7412	273578	240	1250	48	5.2	7-1/2	2.25
HB-7490	269157	240	900	35	3.8	7-1/2	2.25
HB-8013	269000	240	900	30	3.8	8	2
HB-8014	273599	240	1400	50	5.8	8	2.25
HB-8415	269886	240	1565	53	6.5	8-1/2	2.3
HB-9015	269018	240	1100	33	4.6	9	2.5
HB-9217	272073	240	1710	53	7.1	9-1/4	2.5
HB-9413	269165	240	1300	35	5.4	9-1/2	2.75
HB-9416	273640	240	1600	45	6.7	9-1/2	2.75
HB-1018	269878	240	1800	48	7.5	10	3
HB-10226	273615	240	2600	68	10.8	10-1/4	3
HB-10415	269026	240	1200	30	5.0	10-1/2	3
HB-1120	272305	240	2025	48	8.4	11	3.25
HB-11412	260034	240	1200	28	5.0	11-1/2	3.25
HB-11417	273711	240	1700	38	7.1	11-1/2	3.25
HB-12416	269042	240	1500	30	6.3	12-1/2	3.5
HB-13418	269050	240	1800	38	7.5	13-1/2	3.75
HB-1412	269130	240	1200	23	5.0	14	3.9
HB-1425	269069	240	2500	45	10.4	14	3.9
HB-15425	269077	240	2500	40	10.4	15-1/2	4
HB-1725	263986	240	2500	38	10.4	17	4.2
HB-17425	263994	240	2500	38	10.4	17-1/2	4.3
HB-2030	264006	240	2500	38	12.5	20	4.5



1/4" spacing between multiples.

Type HB



1-1/2" W

GENERAL

WARNING: This heater is not intended for use in hazardous atmospheres where flammable vapors, gases, liquids, or other combustible atmospheres are present as defined in the National Electrical Code. Failure to comply can result in explosion or fire.

1. Heater Construction Characteristics —
 - A. One-piece stainless steel clamping band.
 - B. Two (2) rust-resisting chrome steel sheath strip heater elements.
 - C. Heavy construction of clamp and quick-connect allen head bolt allow firm grip on heaters and tight heater fit to pipe or barrel configuration.

2. **WARNING:** Hazard of heater failure. Pipe or barrel surface temperature not to exceed 800°F.
3. Heater bands may be used individually or in multiples spaced 1/4" apart.
4. **WARNING:** Users should install adequate controls and safety devices with their electric heating equipment. Where consequences of failure may be severe, back-up controls are essential. Although the safety of the installation is the responsibility of the user, Chromalox will be glad to make equipment recommendations.

INSTALLATION

WARNING: Hazard of Electric Shock. Disconnect all power before installing heater.

1. Position slots in clamping band over terminal posts on heating elements. **Note:** Terminal hardware must be removed to allow clamping band slots to fit over terminal posts (Figure 1).
2. When heater band is correctly placed in the desired location, compress ends of band together and insert bolt through non-threaded trunnion socket and then into opposite threaded socket. Hand tighten (Figure 2).
3. Turn Allen head bolt with 7/32" Allen wrench to draw heater band tight on cylinder. Ensure that there is good contact

between heating element and cylinder and that there is electrical clearance between the heater terminals and the clamping band (Figure 1).

4. **DANGER: Hazard of Fire.** Since these heaters are capable of developing high temperatures, extreme care should be taken to:
 - A. Avoid installing heaters in an atmosphere containing combustible gases and vapor.
 - B. Avoid contact between heater and combustible material.
 - C. Keep combustible materials far enough away to be free of effects of high temperature.

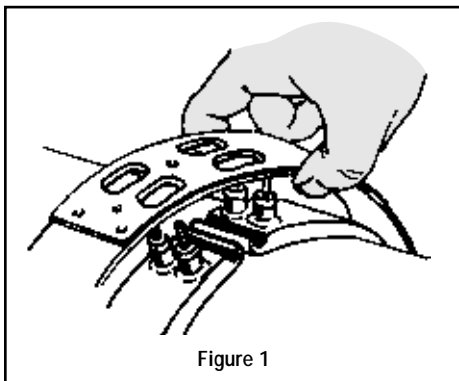


Figure 1

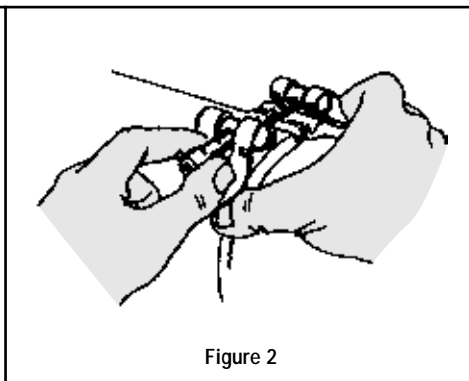


Figure 2

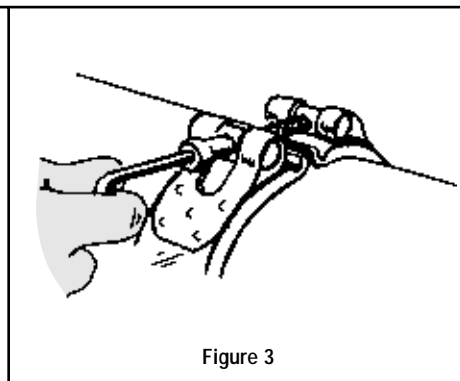


Figure 3

WIRING

WARNING: Hazard of Electric Shock. Any installation involving electric heaters must be effectively grounded in accordance with the National Electrical Code to eliminate shock hazard.

1. **Rough-in Wiring** — Wiring to heater should be to the voltage specified on heater band and in accordance with local and National Electrical codes by a qualified person. As a guide in determining line wire sizes see Amperes in Specifications Table A on page 1. **WARNING: Use copper conductors only.**
2. Assemble terminal hardware and wiring in the order shown in Figure 5.

3. Protection with proper size fuses and breakers is important to minimize hazards.

WARNING: Do not exceed 25 inch pounds of torque when tightening the hex nuts on the heater terminals. Excessive torque will result in stripping the terminals from the refractory of the heating element.

4. For rated output for heater band, connect heating elements in parallel. 240V elements to be run on 480V should be connected in series. When element wattages are not equal, heaters must not be connected in series.

TESTING

DANGER: Hazard of Electric Shock or Burns. Avoid contact of hot surfaces and live electrical terminals during this adjustment.

1. Energize the heater and check for hot spots after the heater has reached operating temperature. These can be identified as bright red areas on the heating element or dark brown areas on the clamping band. If hot spots are encountered, place a wooden block on the affected area and tap lightly with a hammer to bring the heater in contact with the pipe or barrel surface.
2. It's good practice to check the tightness of the clamping band after a few hours at operation temperature. Chromalox HTRC (Heat Transfer and Release Coating) is also available for high temperature applications.

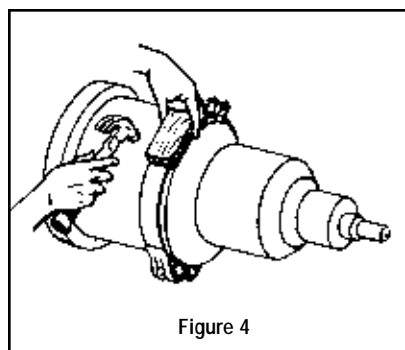


Figure 4

MAINTENANCE

WARNING: Hazard of Severe Shock. Disconnect all power to heater before servicing or replacing heaters.

1. For longer heater life, maintain good contact between heater and work cylinder by periodically checking clamping band tightness.

2. Make certain that both terminals and band are free from contact with oil, liquids or other foreign matter. Such contaminants can cause heater failures.
3. Check for loose terminal connections and tighten if necessary.

RENEWAL PARTS IDENTIFICATION

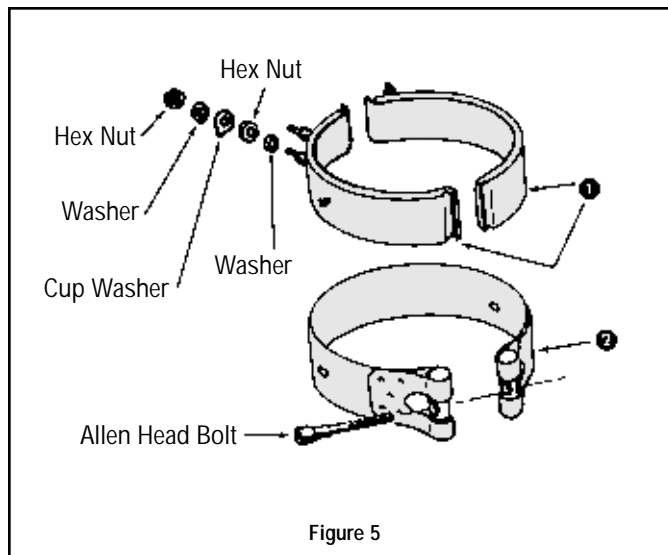


Figure 5

Model	① Strip Heater Model	① Strip Heater P/N	② Clamping Band* P/N
HB-5075	PT8X354	286-117673-001 (2)	011-110109-056
HB-5080	PT8X320	286-117673-002 (2)	011-110109-001
HB-5460	PT10X303	286-117673-003 (2)	011-110109-002
HB-5414	PT10X321	286-117673-004 (2)	011-110109-002
HB-6040	PT10X151	286-117673-005 (2)	011-110109-004
HB-6075	PT10X152	286-117673-006 (2)	011-110109-004
HB-6410	PT12X316	286-117673-007 (2)	011-110109-006
HB-7010	PT12X353	286-117673-009 (2)	011-110109-008
HB-7490	PT14X295	286-117673-010 (2)	011-110109-010
HB-7412	PT12X348	286-117673-011 (2)	011-110109-010
HB-7715	PT14X349	286-117673-012 (2)	011-110109-059
HB-8013	PT14X194	286-117673-013 (2)	011-110109-011
HB-8014	PT14X350	286-117673-014 (2)	011-110109-011
HB-8415	PT15X325	286-117673-015 (2)	011-110109-012
HB-9015	PT15X195	286-117673-016 (2)	011-110109-014
HB-9217	PT15X324	286-117673-017 (2)	011-110109-015
HB-9413	PT16X167	286-117673-018 (2)	011-110109-016
HB-9416	PT15X355	286-117673-019 (2)	011-110109-016
HB-1018	PT16X326	286-117673-020 (2)	011-110109-018
HB-10226	PT16X352	286-117673-021 (2)	011-110109-019
HB-10415	PT18X196	286-117673-022 (2)	011-110109-020
HB-1120	PT19X323	286-117673-023 (2)	011-110109-022
HB-11412	PT19X132	286-117673-024 (2)	011-110109-024
HB-11417	PT19X322	286-117673-025 (2)	011-110109-024
HB-12416	PT20X279	286-117673-026 (2)	011-110109-026
HB-13418	PT20X150	286-117673-027 (2)	011-110109-028
HB-1412	PT23X277	286-117673-028 (2)	011-110109-030
HB-1425	PT23X156	286-117673-029 (2)	011-110109-030
HB-15425	PT25X191	286-117673-030 (2)	011-110109-033
HB-1725	PT26X142	286-117673-031 (2)	011-110109-038
HB-17425	PT26X199	286-117673-032 (2)	011-110109-040
HB-2030	PT33X193	286-117673-033 (2)	011-110109-045

*Includes allen head bolt.

Note: Number in () indicates quantity of same part number used.

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