HUMBOLDT

Laboratory Essentials

Bunsen Burners

Humboldt Bunsen Burners have long been the standard for laboratories of all kinds. These burners utilize the finest components and are manufactured to the highest standards. All Humboldt Bunsen Burners feature nickle-plated, die-cast alloy bases, that not only look great, but provide a stable base you can depend on. The serrated gas inlet connections provide a secure gas connection and the aluminum mixing tubes and flame stabilizers provide a steady and consistent flame every time.

Our Micro-Bunsen Burner series produces a small, intense flame and is ideal for use in micro-method analysis.



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Bunsen Burners

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Standard Models with Air Regulator Only

Models	Description	Gas Type	Mixing Tube OD	Inlet OD	BTU Output	Overall Height
H-5820	Standard Burner	Artificial	7/16" (11mm)	5/16" Serrated	300-800	5-3/8" (137mm)
H-5825	Standard Burner	Natural	7/16" (11mm)	5/16" Serrated	800-1200	5-3/8" (137mm)
H-5835	Standard Burner	LP	7/16" (11mm)	5/16" Serrated	2000-3200	5-3/8" (137mm)
H-5860	Standard Burner	Artificial	1/2" (13mm)	5/16" Serrated	300-800	5-3/8" (137mm)
H-5865	Standard Burner	Natural	1/2" (13mm)	5/16" Serrated	800-1000	5-3/8" (137mm)
H-5870	Std. Burner w/flame stabilizer	Natural	1/2" (13mm)	5/16" Serrated	800-1200	6-1/8" (156mm)
H-5875	Std. Burner w/flame stabilizer	LP	1/2" (13mm)	5/16" Serrated	2000-3000	6-1/8" (156mm)
Adjustab	le Models with Threaded Gas Needle	/alve				
H-5880	With adjustable gas valve	Artificial	7/16" (11mm)	5/16" Serrated	300-800	6-1/8" (156mm)
H-5885	With adj. gas valve & flame stabilizer	Natural	1/2" (13mm)	5/16" Serrated	800-1200	6-1/8" (156mm)
H-5890	With adj. gas valve & flame stabilizer	LP	1/2" (13mm)	5/16" Serrated	2000-3200	6-1/8" (156mm)
Micro-Bu	nsen Burners					
H-5770	Standard Micro-Bunsen Burner	Natural	7/16" (11mm)	5/16" Serrated	800-1200	3-1/2" (89mm)
H-5805	Standard Micro-Bunsen Burner	Artificial	7/16" (11mm)	5/16" Serrated	300-800	3-1/2" (89mm)
H-5810	Micro-Bunsen Burner w/ adj. gas valve	Natural	7/16" (11mm)	5/16" Serrated	800-1200	3-1/2" (89mm)
H-5815	Micro-Bunsen Burner w/ adj. gas valve	LP	7/16" (11mm)	5/16" Serrated	300-800	3-1/2" (89mm)

Tirrill and High Temperature Burners

H-5900C

H-5900N

General Purpose Tirrill Burners—

These noiseless burners provide a clear flame of any desired height from 1/2" (12.7mm) to 12" (305mm), with separate control of both flame temperature and flame length. The burners incorporate threaded aluminum air control sleeves and precision machined, fine-pitch brass needle valves with internal stuffing box and self-sealing packings. Rustproof 3-1/2" (89mm) octagon-shaped, plated die-cast bases and aluminum mixing tubes are also utilized. See table to right for specifications and ordering information.



High temperature Burner—

High temperature bunsen burner with adjustable control. Has finepitch threaded valve, 1-1/4 in. diameter and perforated monel and wire mesh heat intensifier. Die cast, zinc alloy, nickel plated octagonal base.

H-6210

N= Natural Gas, C= Cylinder (Liquid Propane) Gas, A= Artificial (Coal) Gas

Tirrill and High Temperature Burners

General Purpose Tirrill Burners

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Models	Description	Gas Type	Mixing Tube ID	Inlet OD	BTU Output	Overall Height
H-6210	General Purpose Burner with 1/2" (13mm) diameter mixing tube	Artificial	7/16" (11mm)	5/16" Serrated	300-800	5-1/4" (133mm)
H-6220	General Purpose Burner with flame stabilizer	Natural	7/16" (11mm)	5/16" Serrated	800-1200	6" (152mm)
H-6225	General Purpose Burner for use with LP Gas	LP (Cylinder)	7/16" (11mm)	5/16" Serrated	2000-3200	6" (152mm)
High-Tem	perature Burners					
H-5500	Hi-Temperature Burner Venturi Tube, Meker Top	Artificial	1-1/2" (38mm) Venturi	5/16" Serrated	300-800	8-1/2" (216mm)
H-5550	Hi-Temperature Burner Venturi Tube, Meker Top	Natural	1-1/2" (38mm) Venturi	5/16" Serrated	800-1200	8-1/2" (216mm)
H-5600	Hi-Temperature Burner Venturi Tube, Meker Top	LP (Cylinder)	1-1/2" (38mm) Venturi	5/16" Serrated	2000-3200	8-1/2" (216mm)
H-5900C	High-Temperature adjustable Fine pitch threaded valve, 1-1/4" dia. Perforated Monel/wire mesh heat intensifier	LP (Cylinder)	9/16" (14mm)	5/16" Serrated	600-3200	6-3/4" (171mm)
H-5900N	High-Temperature adjustable Same as H-5900C except for use with Natural Gas	Natural	9/16" (14mm)	5/16" Serrated	600-3200	6-3/4" (171mm)

N= Natural Gas, C= Cylinder (Liquid Propane) Gas, A= Artificial (Coal) Gas

Flame Test Burners

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Humboldt's Flame Test Burners are designed to be used as ignition sources for small-scale burning tests, such as the UL flame test and other similar test standards.

Tirrill Burner with Pilot Flame—

Provides separate control of both flame temperature and flame length. Burner produces a clear flame of any desired height from 1/2" (12.7mm) to 12" (305mm). The burner consists of a threaded aluminum air control sleeve and precision machined, fine-pitch brass needle valve with internal stuffing box and self-sealing packing. The brass mixing tube ID is 3/8" (9.5mm) and overall height is 6" (152mm) A rustproof 3-1/2" (89mm) octagon-shaped, plated die-cast base is also utilized. Pilot flame allows the burner to be ignited easily, especially in isolated setups where the burner might not be accessable. Meets UL flame test and H-6240C ASTM D3713. H-6240N

Tirrill Burner w/o Pilot Flame—

Tirrill Burner without Pilot Flame Similar to the H-6240 series burner less the pilot flame and shutoff valve features. Meets UL flame test and ASTM D3713.

Tirrill Burner for Small-Scale Burning Test on Plastic Materials—

Similar in design to the H-6241 burner, but supplied complete with two 3/8" (9.5mm) ID by 4" (100mm) long mixing tubes for use in the 20mm and 125mm burning tests. Meets ASTM D5025. Provided with two tubes, one to lock out the air intake to produce a high yellow flame and the other can be adjusted for a sharp blue flame.

H-5025

N= Natural Gas, C= Cylinder (Liquid Propane) Gas, A= Artificial (Coal) Gas

H-6241C

H-6241N

See Page 8 for complete specifications

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Pilot Flame Burner

Ideal for intermittent use without frequent relighting. The burner features a sleevetype air regulator and stopcock for gas control and an integral pilot light tube with screw for adjusting the pilot flame.



High-Temperature Blast Burner

Designed to burn all gases in large volume with a short, wide and uniformly high-temperature flame. A special micrometer needle valve is used to regulate the gas and a safety cap prevents dangerous backflashes. The burner features a plated, injector-shaped venturi tube and a direct feed inlet for compressed air. **Operates on 5-PSI** air pressure. Supplied complete with die-cast alloy, plated octagonal base.

H-5020



Ring Burner

The Humboldt Ring Burner features an improved design that puts the guide pins on the inside circumference so that the burner remains equidistantly around the still. A Fletcher attachment regulates the gas and air. The overall shank length is 11" (279mm), ID is 4-3/4".

Fletcher Burner

This burner is engineered to produce a hot flame with economical gas consumption. The unit features dual adjustments for air and gas. Simply turn the knurled knob for gas, and turn the threaded yoke to regulate the air. Adjustable within 1/8" turn and has a 1/8" (3.2mm) IPS nipple below the stopcock. See table for specifications and ordering information.



H-1876

Specialty Burners

H-6090

H-5100 H-5115

Specialty Burners

Universal Blast Burner

This bleeder valve unit provides small needle-sized to large brush flame patterns for fusing ore, working Pyrex and soft glasses, and performing other high-temperature melting applications. Extremely accurate flame direction, from three interchangeable burner tips, a telescoping mixing tube sleeve, a universal ball joint that directs the burner head to any angle, and a bleeder valve that controls the injection of air into the gas stream. Stopcock valves control the flow of gas, oxygen, and air. Brass construction.

H-5080

Utility Blast Burner

This burner features a removable nozzle with perforated tip and orifice designed to aim a large, hot, pointed flame in a modified M.I.T. pattern with great accuracy. A universal ball joint positions the flame easily for working large pieces of hard glass. Separate needle valves with leak-proof packings are used to control the flow of gas and air/oxygen in the mixing chamber. All gases are usable. The mixing tube accommodates standard burner H-5110 and H-5115 standard burner heads. Brass construction.

Torch Support

The Torch Support turns hand torches into an adjustable-position blast burner. This instantly detachable support is constructed of plated brass with heavy cast iron tripod base and pedestal connected by a universal ball joint to a clamp that fits on the torch handle. The unit is equipped with fittings for holding burner tips and measures 4" (102mm) in height. Torch not included.

Pipe Mounting Type Burner

Designed for pipe mounting, this burner features a flame stabilizer and a stopcock for gas control. A 1/8" NPT nipple is mounted below the stopcock for pipe mounting.

> H-5845N H-5845C

45N

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Specialty Burners

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Specialty Burners

Models	Description	Gas Type	Inlet ID	BTU Output	Overall Height
H-5970	Pilot Flame Burner	Natural	3/8" (10mm)	800-1200	6-3/8" (162mm)
H-5020	High Temperature Blast Burner	All	3/8" (10mm)	3800	8" (203mm)
H-5080	Univeral Blast Burner	All	3/8" (10mm)	6800	8" (203mm)
H-5100	Utility Blast Burner	All	3/8" (10mm)	21000	10-3/4" (273mm)
H-6090	Fletcher Burner	Natural	3/8" (10mm)	800-1200	6" (152mm)
H-1876	Ring Burner	All	3/8" (10mm)	800-1200	11" (279mm)
H-5845N	Pipe Mounting-Type Burner	Natural	1/8" NPT	800-1200	6-1/2" (165mm)
H-5845C	Pipe Mounting-Type Burner	Cylinder	1/8" NPT	800-1200	6-1/2" (165mm)
H-5196	Torch Support				

H-8280

Burner Accessories



H-6860

Flame Stabilizer

This patented Humboldt unit fits 1/2" (13mm) diameter mixing tubes without modifications. It is recommended for use with gases of 800 BTU/cu.ft. or more and can be added to 1/2" (13mm) OD burner tubes to prevent the flame from blowing out.

Heat Intensifier Top

Designed to distribute the heat evenly across the top of high temperature burners through a perforated Monel plate. Same top as used on H-5500, H-5550 and H-5600.



H-5910

H-5570

Burner Grid Tops

Designed to diffuse the flame. Perforated monel grid, 1-1/4" diameter.



Flame Shield

Used to protect flame from drafts. The unit features of spring clips designed to fit 7/16" to 5/8" (11mm to 16mm) burner tubes. The cone is spot-welded and is 2" (51mm) in diameter at the bottom.



Burner Wing Tops

Designed to produce a broad, flat, fan-shaped flame. Ideally suited for use in bending glass tubing and other similar applications. Made of brass.

Model	Description	Mixing Tube OD
H-6640	Standard Burner Wing Top	7/16" (11mm)
H-6650	Large Burner Wing Top	1/2" (13mm)
H-6670	For use over Humboldt burners equipped with flame stabilizer H-6860	11/16" (18mm)

Gas Cylinder Clamp

Designed to safely and conveniently secure compressed gas cylinders in an upright position. Accommodates cylinders 4-1/2" to 11" (114mm to 279mm) in diameter. The heavy-duty clamp with adjustable thumbscrews fits conveniently on any bench up to 2" (51mm) thick without marring the surface.

Burner Gas Connector—H-2087

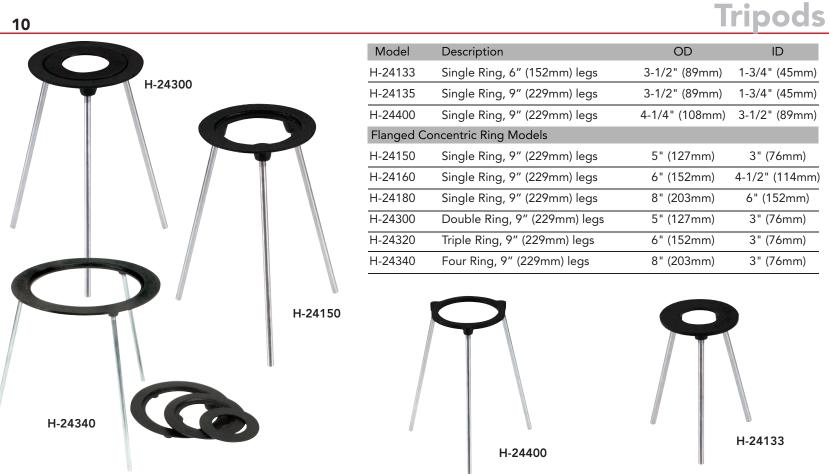
Gas Connector. Flexible tube of rust-resistant steel covered with rubber and wrapped with braided cotton cloth. Slip-on ends for attachment to 9mm gas lines. Meets A.G.A.S.

requirements. 3 ft. long. Other lengths available on special order.



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Triangles

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1	Triangles				
	Description	1-1/2" (38mm)	2" (51mm)	2-1/2" (64mm)	3" (76mm)
H-24010	Iron Wire (16 ga) galvanized with plain clay pipe stems	H-23850	H-23860	H-23870	NA
	Iron Wire (16 ga) galvanized with flanged pipe stems	NA	H-23900	H-23910	H-23920
V	Round, Nickel-chrome wire (14 ga)	H-23950	H-23960	H-23970	H-23980
	Square, Nickel-chrome wire (14 ga)	H-24000	H-24010	H-24020	H-24030
H-23850					

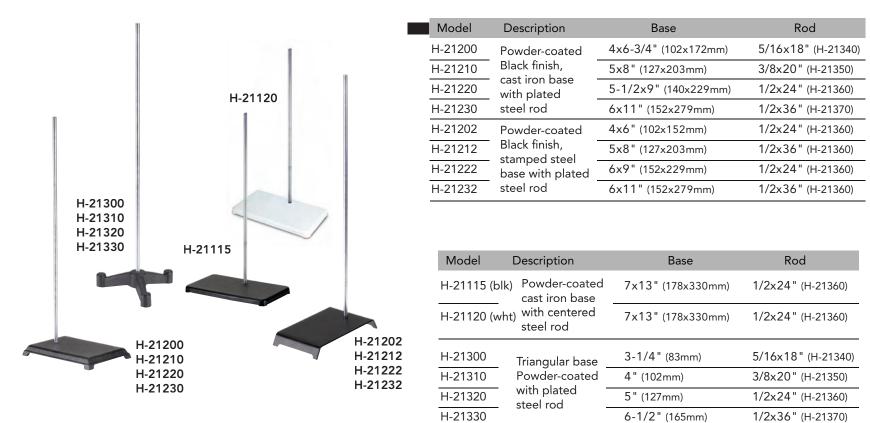
Wire Gauze

Model	Description	Size
H-25860	Wire gauze, Ceramic ctr., Turned edges	4" (102mm) Square
H-25865	Wire gauze, Ceramic ctr., Turned edges	5" (127mm) Square
H-25870	Wire gauze, Ceramic ctr., Turned edges	6" (152mm) Square
H-25875	Wire gauze, Turned edges	4" (102mm) Square
H-25880	Wire gauze, Turned edges	5" (127mm) Square
H-25885	Wire gauze, Turned edges	6" (152mm) Square



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Support Stands



Support Rods & Table Clamps

Clamp and Support Rod

Designed to allow users to mount rod vertically or horizontally. The clamp is cast iron with a black enamel finish. Supplied complete with a $3/8'' \times 20''$ (10mm x 508mm) rod (H-21350).

Model	Description	Rod Diameter x Length
H-21160	Clamp and Rod	3/8 x 20" (10mm x 508mm)
H-21170	Clamp and Rod	1/2 x 24" (10mm x 610mm)
Rods		
H-21340	Plated steel rod	5/16" x 18" (8mm x 457mm)
H-21350	Plated steel rod	3/8 x 20" (10mm x 508mm)
H-21360	Plated steel rod	1/2 x 24" (13mm x 610mm)
H-21370	Plated steel rod	1/2 x 36" (13mm x 914mm)
H-21470	Stainless steel rod	3/8 x 20" (10mm x 508mm)
H-21480	Stainless steel rod	1/2 x 24" (13mm x 610mm)
H-21502	Aluminum rod	1/2 x 24" (13mm x 610mm)
H-21503	Aluminum rod	1/2 x 36" (13mm x 914mm)

Threaded Base Plates



Designed to attach to a tabletop or inverted into a recessed hole for flush mounting. Models are available with either a threaded hole completely through the center or with an unthreaded thru-hole. These die-cast units are supplied without rod. Other sizes are available on request with threaded or straight holes.



H-21240

Table Clamp

The Table Clamp is designed to support meter sticks and other round or square rods, either vertically or horizontally up to 1" (25mm) thick. The Vee's are milled at right angles and the clamp can be mounted on table edges up to 1-3/4" (45mm) thick. Each jaw can be adjusted separately. Heavy cast metal construction.

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H-8265

Base Plates

Model	Thread	OD
H-21240	5/16"–18	2-3/4" (70mm)
H-21241	3/8"–16	2-3/4" (70mm)
H-21242	1/2"–13	2-3/4" (70mm)
H-21242X	1/2" thru hole	2-3/4" (70mm)

Support Rods & Table Clamps

Clamp and Support Rod

Highly versatile, the rod height can be locked into any position by a simple thumbscrew located on the outer edge of the clamp. The clamp features a sturdy handle for tightening the unit on the edge of a table top up to 1-1/2''(38mm) thick. The plated, solid steel rod is 1/2" (13mm) in diameter by 17-3/4" (450mm) long.

H-8255

Clamp Holder (Right Angle)

This clamp is designed to attach at right angles from either horizontal or vertical rods. The clamp slips in from side to side and attaches securely to support or frame rods up to 3/4" (19mm) in diameter. The unit can also hold clamp handles up to 1/2'' (13mm) in diameter. Manufactured from extruded aluminum alloy. H-7400



Clamp Holders

The standard clamp holder is designed for use with rods up to 3/4" (19mm).

Multi Clamp

Manufactured from heavy die-cast aluminum, this clamp is designed for clamping two pieces of apparatus into any of the three following positions: right angles, parallel, or vertically. The clamp will accommodate attachments up to 1/2'' (13mm) in diameter.



Clamp Holders

Model	Description
H-8300	Standard: Die-cast aluminum with 1/4" steel thumbscrews
H-8320	Standard: With 5/16" steel thumbscrews.
H-8325	Standard: All brass, with 5/16" brass thumbscrews.
<u>H-8342</u>	Adjustable: Aluminum, with 1/4"-20 steel thumbscrews. Swivels and locks to any angle.

Rod "Muff" Clamps

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Rod (Muff) Clamps

These Rod Clamps are otherwise known as the "muff" portion only and can be used to create custom clamps to satisfy a wide range clamping applications.



Model	Description
H-7400	Jaw accepts up to 3/4" (19mm) dia. Rods; 1/2" (12mm) hole at right angle to jaw, 1/4"–20 screw holes—comes with screws as pictured
H-7400M	Jaw accepts up to 3/4" (19mm) dia. Rods; 1/2" (12mm) hole at right angle to jaw, 1/4"–20 screw holes
H-7405	Jaw accepts up to 3/4" (19mm) dia. Rods; no hole in base, 1/4"–20 screw holes in base and jaw—no screws
H-7406	Jaw accepts up to 3/4" (19mm) dia. Rods; no hole in base, 1/4"–20 screw hole in jaw and 5/16"–18 screw hole in base
H-7408	Jaw accepts up to 3/4" (19mm) dia. Rods; 3/4" hole at right angle to jaw 1/4"-20 screw holes in base and jaw—no screw
H-7420	Jaw accepts up to 1-1/4" (32mm) dia. Rods; no hole in base 1/4"–20 screw holes in base and jaw—no screws
H-8000.4	Thumb Screw, Long– 1/4"–20 x 1-1/4"
H-8320.1	Thumb Screw, Long– 5/16"–18 x 1-1/4"
H-8340.1	Thumb Screw, Short- 1/4"-20 x 1/2"
H-7425	Jaw accepts up to 1-1/4" (32mm) dia. Rods; no hole in base, 1/4"–20 screw holes in jaw — comes with Large, soft handle no-mar screw
	H-7425

Contact Humboldt for custom design and application requests

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Specialty Clamps

Clamp Hook—

The Clamp Hook locks into any position to support suspended thermometers, drying tubes and potash bulbs. The unit has an easy-adjusting check nut and has a 5-1/8" (130mm) maximum distance from center of muff to the hook. The minimum distance is set at 4-1/2" (114mm).

Test Tube Clamp—

This clamp is constructed from hardwood with a smooth finish and selfclosing spring. The clamp will accept tubes up to 3/4" (19mm) in diameter. Overall length is 7" (178mm).

Thermometer Clamp—

With a full 360° jaw rotation, this fully adjustable clamp is ideal for attaching to rods up to 3/4" (19mm) in diameter. The clamp has an aluminum muff with steel thumbscrew and phosphor bronze jaws. The maximum distance from the jaw to the muff is 4-3/8" (111mm) and the overall length is 5-1/2" (140mm).

Thermometer Clamp—

Similar to the H-8950, this clamp has a phosphor-bronze spring clip attached to an aluminum rod-holding block for thermometers and 2 "v" notches designed to hold the H-1602 ring and stem assembly in an ASTM Softening Point Apparatus, but can be used to suspend other items, such as pitch cubes. The maximum distance from the jaw to the muff is 3-5/8" (92mm) and the overall length is 5-1/4" (133mm).









Support Rings

H-18320

Wire Models

Formed, bright basic wire circle is welded to shank (except 2" size). Aluminum muff. Attaches to support rods up to 3/4" (19mm) in diameter.



Cast Iron Models

Distance from center of ring to center of clamp: 4-1/4" (108mm). Plated. Attaches to support rods up to 1/2" (13mm) in diameter.

Support Rings

Models	Description	Size	ID	OD
H-18320	Cast Iron support Ring	2"	1-5/8" (41mm)	2-1/4" (57mm)
H-18330	Cast Iron support Ring	3"	2-5/8" (67mm)	3-1/4" (83mm)
H-18340	Cast Iron support Ring	4"	3-5/8" (92mm)	4-1/4" (108mm)
H-18350	Cast Iron support Ring	5"	4-3/8" (111mm)	5" (127mm)
H-18360	Cast Iron support Ring	6"	5-1/2" (140mm)	6" (152mm)
H-18370	Cast Iron support Ring	7"	6-1/8" (156mm)	7" (178mm)
H-18325	Wire Support Ring	2"	1-7/8" (48mm)	2-3/8" (60mm)
H-18335	Wire Support Ring	3"	2-5/8" (67mm)	3-1/8" (79mm)
H-18345	Wire Support Ring	4"	3-5/8" (92mm)	4-1/8" (105mm)
H-18355	Wire Support Ring	5"	4-5/8" (118mm)	5-1/8" (131mm)
H-18331	Suppport Ring w/ cut-out	3"	2-5/8" (67mm)	3-1/4" (83mm)

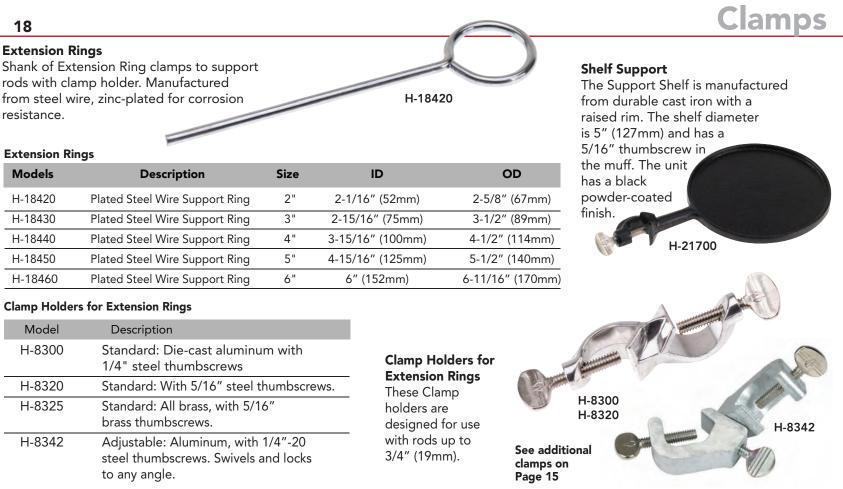
Support Ring (with cut-out)

H-18335

This support ring features a cutout area in the ring that permits easy insertion of leveling bulbs. The ring is 3" (76mm) diameter, cast iron and is plated for corrosion resistance.

H-18331

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Clamps

Extension Clamps

Description	ption Model Jaw Construction		Jaw Opening	Length
Universal (Swivel Jaw)	H-8370	Swivel Jaws of stamped steel; forged steel handle, - 3/8" dia. with Plastisol-	to 2" (51mm)	8-3/4" (222mm)
Large Jaw Model	H-8390	coated Jaws. For condensers and irregular shapes.	to 3" (76mm)	10" (254mm)
Bunsen Round Jaw	H-8562	Stamped Steel Plastisol-coated Jaws	3/8" to 1-3/8" (10 to 35mm)	8" (203mm)
Large Jaw Model	H-8572	1/2" dia. shank	11/16" to 2" (18 to 51mm)	9" (229mm)



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H-8250

Description



H-8175

S/J Joint Clamps

Description	Model	For S/J Joint
Size 12	H-8165	12/1 to 12/5
Size 18	H-8170	18/7 to 18/9
Size 28	H-8175	28/11 to 28/15
Size 35	H-8178	35/20 to 35/25
Size 40	H-8185	40/25
Size 65	H-8195	65/40
Size 75	H-8200	75/50

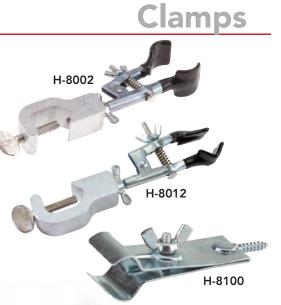
Lincoln Type, Double Burette Clamp

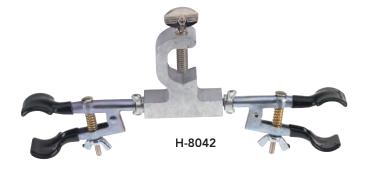
Fitting on 5/8" (16mm) support rods or smaller, this stamped steel clamp is plated for corrosion resistance and has a steel thumbscrew. The clamp is 9" (229mm) long by 3" (76mm) wide with a center distance 7-1/4" (184mm) between burettes. The unit is designed for use with burettes from 6mm to 16mm in diameter.

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Burette Clamps

Description	Model	Material	Jaw Opening	Length
Round	H-8000	Steel, zinc-plated	3/8" to 1-3/8"	6-3/8" (162mm)
	H-8002	w/Plastisol-coated Jaws	(10 to 35mm)	
(1) V-Jaw, (1) Flat (for small objects)	H-8012	Steel, zinc-plated w/Plastisol-coated Jaws	3/8" to 1-3/8" (10 to 35mm)	6-3/8" (162mm)
Double Round (for U-tubes and irregular shapes)	H-8022	Plastisol-coated Jaws	3/8" to 1-3/8" (10 to 35mm)	6-3/4" (172mm)
Double, Round (for 2 burettes or tubes)	H-8042	Plastisol-coated Jaws	3/8" to 1-3/8" (10 to 35mm)	9-3/4" (248mm)
Round, wall mounting	H-8100	Steel, nickel-plated (with wood mounting screw)	3/8" to 3/4" (10 to 19mm)	2-9/16" (65mm)







Clamps

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"Easy Grip" Screw Compressor Clamps

Similar in design to our Screw Compressor Clamps except that the compression adjustment screw has a 1" (25mm) diameter serrated head for greater leverage. The clamps are constructed from brass and plated for corrosion resistance.



			Jaw Opening	
	Model	Description	Max Height	Max Width
ŀ	H-8665	Swivel Lower Jaw (Hoffman)	0-5/8" (0-16mm)	3/4" (19mm)
ŀ	H-8685	Swivel Lower Jaw (Hoffman)	0-3/4" (0-19mm)	1" (25mm)
ŀ	H-8705	Open Jaw (Hoffman)	0-1/2" (0-13mm)	3/4" (19mm)
ŀ	H-8722	Open Jaw (Hoffman)	0-5/8" (0-16mm)	1" (25mm)
ŀ	H-8735	Closed Jaw (Hoffman)	0-5/8" (0-16mm)	3/4" (19mm)
ł	H-8745	Closed Jaw (Hoffman)	0-3/4" (0-19mm)	1" (25mm)



Description

Swivel Lower Jaw (Hoffman)

Swivel Lower Jaw (Hoffman)

Open Jaw (Hoffman)

Open Jaw (Hoffman)

Closed Jaw (Hoffman)

Closed Jaw (Hoffman)

Swinging Jaw Clamp

Swinging Jaw Clamp

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Closed-Jaw C-Clamp with Side post for tubing insertion

Standard Open-Jaw C-Clamp

Model

H-8660

H-8680

H-8700

H-8720

H-8730

H-8740

H-8770

H-8780

H-8790

H-8755

H-8760

Heavy Duty Models

Clamps

Max Width

3/4" (19mm)

1" (25mm)

3/4" (19mm)

1" (25mm)

3/4" (19mm)

1" (25mm)

Max Width

Jaw Opening

Max Height

0-5/8" (0-16mm)

0-3/4" (0-19mm)

0-1/2" (0-13mm)

0-5/8" (0-16mm)

0-5/8" (0-16mm)

0-3/4" (0-19mm)

1/2" (10mm)

5/8" (15mm)

3/4" (20mm)

Max Height

Screw Compressor Clamps—

Screw Compressor Clamps are used to control the flow in flexible tubing. The clamps have a machined adjustment screw to permit accurate regulation of the flow. All corners are rounded to prevent cutting of the tubing. The clamps feature brass construction that is plated for corrosion resistance and long life.











Swinging Jaw Clamps—

0-7/8" (0-23mm) 1-1/8" (30mm)

0-7/8" (0-23mm) 1-1/8" (30mm)

These safe, simple and strong tubing clamps can be used on thin or heavy-wall tubing. Made of plated steel, the clamps incorporate a large aluminum knurled adjusting nut.

Clamps (Wire)

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Adjustable Band Clamps

Adjustable Band Clamp

Adjustable Band Clamps provide a unique and efficient clamping mechanism for objects of any shape and size. The same clamp can be used to handle a gallon container or fit snugly to hold a small thermometer, reducing the need to stock numerous clamp sizes and reducing time spent looking for the right clamp to use. These clamps are light in weight, while providing a secure clamping mechanism that will stand up to the rigors of constant use. The stainless steel band features a tensile strength of 100,000 psi and a rugged durability, which can handle extreme bending and twisting without failure.

The distribution of the clamping pressure, plus proper band tension, essentially eliminate the breakage of expensive glassware and other fragile equipment. The design allows for precision alignment of supported equipment in less time than other heavy-style clamps. The design simplicity permits easy cleaning and replacement of inexpensive band. The stainless steel construction resists both heat—in excess of 2300°F (1260°C) and corrosion.

H-7205



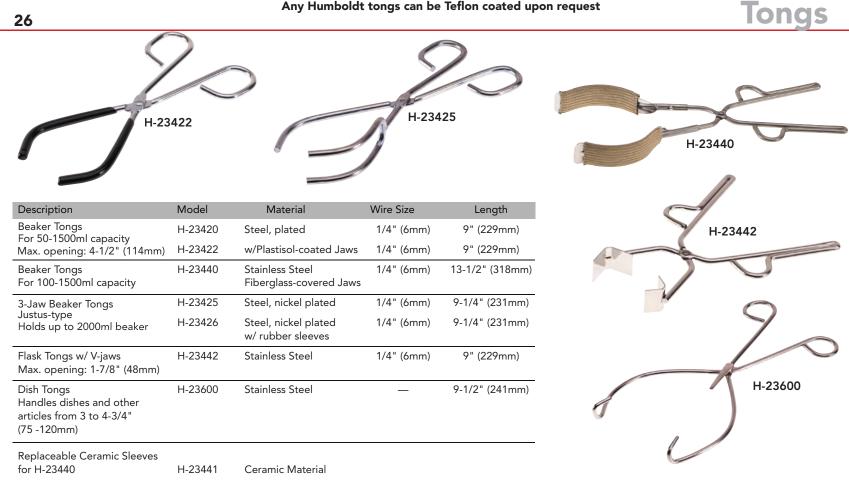
Model	Length	ngth Factory Setting Diameter Range		
Stainless Steel Clamp—Single Vee 1/2" Cradle				
H-7003	3″	0" to 1-1/8"		
H-7005	5″	0 to 4-1/2"		
H-7008	8″	0 to 4-1/2"		
H-7012	12″	0 to 4-1/2"		
H-7016	16″	6" 0 to 4-1/2"		
Stainless Steel Clamp—Double Vee 2" Cradle				
H-7203	3″	0 to 1-1/2"		
H-7205	5″	0 to 5-1/2"		
H-7208	8″	0 to 5-1/2"		
H-7212	12″	0 to 5-1/2"		
H-7216	16″	0 to 5-1/2"		
Replacement Parts				
H-7500	Beaker	Beaker Handle Kit		
H-7221	Stainle	Stainless Steel Hook		
H-7021	Stainle	Stainless Steel Band Stock, 25ft.		
H-7223	Neopre	Neoprene Sleeving, 5 ft.		

The diameter of Adjustable band clamps is unlimited in size, restricted only by the length of band stock you may use.

Tongs

25 H-23050 Any Humboldt tongs can be H-23250 Teflon coated upon request H-23360 H-23385 H-23390 **Crucible Tongs** Description Model Material Wire Size Length **Riveted** Joint 9" (229mm) H-23050 Steel, nickel plated 3/16"(5mm) H-23392-TC **Crucible Tongs** H-23050-TC Above, Teflon-coated 3/16"(5mm) 9" (229mm) H-23250 Brass, Corrosion-resistant 3/16"(5mm) 9" (229mm) 9" (229mm) H-23360 SS, electro-polished 3/16"(5mm) H-23385 Nickel, High-resistance 3/16"(5mm) 9" (229mm) H-23394 H-23390 Extra Long Steel, nickel plated 1/4"(6mm) 18" (457mm) H-23390-TC 18" (457mm) Above, Teflon-coated 1/4"(6mm) H-23392 Stainless Steel 1/4"(6mm) 18" (457mm) H-23392-TC 18" (457mm) Above, Teflon-coated 1/4"(6mm) H-23394 5/16"(8mm) H-23400 Steel, nickel plated 20" (508mm) H-23396 Stainless Steel, nickel plated 1/4"(6mm) 26" (660mm) H-23397 Stainless Steel, nickel plated 1/4"(6mm) 28" (711mm) Julian H-23400 Steel, nickel plated, polished 3/16"(5mm) 18" (457mm) Lock-Joint H-23510 Forged Stainless Steel Jaws NA 9" (229mm) H-23510 Accurately aligned, Tapered and corrugated for gripping

Any Humboldt tongs can be Teflon coated upon request



Cork Borers

Cork Boring Machine

Designed to mount on any tabletop, the Humboldt Cork Boring Machine has an adjustable guide that permits holes to be bored in any part of a stopper. The knurled chuck accommodates the 9/16" (14mm) shank of the eight, plated-steel borers included with the unit. The steel borers range from 3/16" to 5/8" (4.8mm to 15.9mm) in 1/16" (1.6mm) increments. The machine dimensions are 6-1/2" L. x6-1/2" W. x11" H. (165mm x 165mm x 279mm).

Replacement Parts

H-9655 – Set of eight plated steel borers (same as included with machine above).

H-9650

Cork Borer Sets with Handles

These inexpensive sets are used to bore holes in corks and rubber stoppers. They consist of plated tubing with precision ground cutting edges. The smooth plastic handles are stamped with a number designation, which corresponds to the table below. A punch is included with each set.

Multi-Blade Cork Borer Sharpener

Hollow ground cutting blades in a conical arrangement for fast, effective sharpening of cork borers. Blades are hardened tool steel for long life.

Cork Borer Sharpener

This handy tool is used to sharpen borers from 3/16" to 15/16" (5mm to 24mm). The solid brass cone has a hinged steel blade in a slot; mounted in a hardwood handle.



Description	Model	OD Sizes
Plated Brass Set of 3	H-9661	3/16" to 5/16"
Plated Brass Set of 6	H-9662	3/16" to 1/2"
Plated Brass Set of 9	H-9663	3/16" to 21/32"
Plated Brass Set of 12	H-9664	3/16" to 51/64"
Plated Brass Set of 15	H-9665	3/16" to 15/16"
Plated Steel Set of 6	H-9672	3/16" to 1/2"
Plated Steel Set of 10	H-9674	3/16" to 3/4"



Glass Tubing Cutters

Cork Press The Cork Press is a rotary compression device used for softening and tapering corks ranging in sizes from 0 to 22. The unit is cast aluminum and can be wall or bench mounted.

> Overall dimensions: 10-3/8" W x 5-3/8" H x 3-1/4" D (264mm x 137mm x 83mm).

Glass Tubing Cutter (Humboldt-Type) Attaches to laboratory table tops up to 1-3/4" (45mm) thick. Cuts glass tubing up to 1-1/2" (38mm) diameter. Aluminum alloy casting with gray hammerloid finish. Hardened steel cutting wheel.

Replacement Parts H-13600 – Cutting Wheel. Hardened steel. H-13610 – Cutting Wheel. Carbide.

Glass Tubing Cutter (Griffin-Type) Spring-loaded to stay open until used. Cuts tubing up to 1-1/2" (38mm) diameter. Made of nickel-plated zinc-alloy die-casting.



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H-9690

Replacement Parts H-13600 – Cutting Wheel. Hardened steel. H-13610 – Cutting Wheel. Carbide.

H-13520



Filter Pumps

Aspirator Filter Pumps

Humboldt Aspirator Filter Pumps offer excellent performance for vacuum filtrations under both high and low water pressure conditions. The pumps feature a ball-type, positive-action valve in the suction tube which prevents water backflow if the pressure is reduced.

Description	Model	Water Inlet	Length
Chapman, Swirling-Type, Nickel-plated, designed for greater air entrainment capacity	H-12020	3/8" NPT tapered	5-3/8" (137mm)
Short, Swirling-Type, Nickel-plated, with serrated tail and side arm	H-12090	3/8" NPT tapered	3" (76mm)
Short, Swirling-Type, Stainless Steel, resistant to corrosive liquids/vapors	H-12100	3/8" NPT tapered	3" (76mm)
Richards, Die-cast, white metal body with integrally cast side arm, plated	H-12120	3/8" NPT (1/2" drain, 1/8" NPT vacuum)	7" (178mm)
Brass nozzle; cast aluminum baffle tube	H-12130	3/4" NPT (1" drain, 1/8" NPT vacuum)	12-1/2" (318mm)
Heavy-wall vacuum tubing, sold per foot	H-1446		



H-12100

For use with Aspirator Filter Pumps with 3/8" NPT thread. Brass construction.

H-12155

For use with Aspirator Filter Pumps with 3/4" NPT thread. Brass construction. With 1/4" NPS hose-end for rubber tubing. Brass construction.

H-12170

H-12160



For use with Aspirator Filter Pumps with 3/8" NPS thread. Consists of coupling and adaptor. (Adaptor may be unscrewed and lower section used on threaded faucets).



Mortar & Pestle

Mortar & Pestle

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Designed for crushing hard, tough substances. Made of hardened alloy tool steel. Pestle has ball-end to fit bottom of mortar cavity. Mortar: 3" x 3" x 4-1/2" (76mm x 76mm x 114mm); bore: 2" (51mm) dia. x 3" (76mm) deep. Pestle: 9-1/2" (241mm) overall length.

Replacement Parts H-17301 – Pestle Only. H-17302 - Mortar Only.

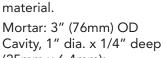


Aluminum Moisture Dish

Developed in accordance with specifications for determining moisture in grain, malt, flour, and dried milk. Inverted slip-in cover with beaded edge for tight sealing. Can be handled with



crucible tongs. Inside diameter at top 2-1/4" x3/4" deep (57mm x 19mm). Drawn aluminum construction. H-17150



Mortar & Pestle (Platiner's)

Used for crushing small samples of ore.

(25mm x 6.4mm); Guide Sleeve: 1-1/2" (38mm) long. Pestle: 1" dia. x 3" long (25mm x 76mm).





Mortar & Pestle

Meets U.S. Pharmacopeia XIX. Made from hardened tool steel in accordance with specifications for Powered Glass Test, Mortar has a flat-bottomed cylindrical cavity. Mortar: 76.2mm. OD cavity: 50.8mm dia. x 43.9mm deep; Pestle: 50.4mm dia., 108mm overall length.

H-17280

Waterbaths

Humboldt water baths feature a microprocessor-based digital controller for precise temperature control throughout their temperature range of ambient to 180°F (82°C) at an accuracy of +/-0.1% of input span. The dual digital display simultaneously shows the set point and the process temperature at a glance. Models H-1390 and H-1394 come with a built-in magnetic circulator to create a flow, which aids in maintaining precise temperature control throughout the units' range. All exposed areas are stainless steel and the front control panel is both water and corrosion resistant. Samples are supported by a stainless steel shelf, which stands 2" (51mm) above the bottom of the unit for free circulation of water above and below test samples.

- Auto-tuning is fast & effortless
- Dual digital display simultaneously shows set point & process temperature
- Ramp-to-set point handles critical temperature processes smoothly

Dimensions/Volume H-1394 20W x 20D x 10H in. (508 x 508 x 254mm) 14 gal. (53L)

H-1390 and H-1392 19.5W x 11.5D x 8H in. (495 x 392 x 203mm) 7.76 gal. (29.4L)

H-1390

- Set point range limiting protects process & equipment
- Percent power limit protects components from stress

H-1394

- Rapid cycling provides fast system response
- Operator lockout guards against unwanted changes

Splitters, Shakers, Sieves

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Sieves

Humboldt has a complete line of USA Standard Sieves in brass frame/brass mesh, brass frame/stainless steel mesh and stainless steel frame/stainless steel mesh. We stock all standard sieves in 8" and 12" in full and half-height sizes. We also carry 3", 4", 5", 6" and 10" sizes. Contact Humboldt for specifications and a complete listing of availability.

Sieve Shakers

Humboldt manufactures several economical sieve shakers to meet basic testing needs. Contact Humboldt for models and specifications.

Sample Splitters

Humboldt manufactures a variety of riffle-type sample splitters for use with dry materials, such as cement, gravel, powdered ores, sand, coal, coke, soils etc. These splitters feature stainless steel construction and include accessory pans, scoops and brushes. Contact Humboldt for models and specifications.

Miscellaneous

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H-22500

Thermometer Cases

These nickel-plated metal armor cases are designed to protect glass thermometers from breakage. The closed-bottom lower section surrounding the bulb has small openings for circulation. The top is fitted with a screw cap and ring.

 $H\mathchar`-22500$ – For use with 12" (305mm) long thermometers.

H-22520 – For use with 14" (356mm) long thermometers.

H-22540 – For use with 16" (406mm) long thermometers.



Brass Deflagration Spoon

Capable of handling intense temperatures, this unit is the ideal instrument for dipping, with a 16" (406mm) long handle and 3/4" (19mm) bowl. H-10400



Designed for rubber tubing. Serrated ends.

Description	Model	OD Sizes
T-Shaped	H-22200	1/4" (6.3mm)
T-Shaped	H-22210	3/8" (9.5mm)
Y-Shaped	H-22220	1/4" (6.3mm)
Y-Shaped	H-22230	3/8" (9.5mm)





H-24612

Pneumatic Trough

Removable sliding shelf is perforated to permit collection of gas samples in inverted gas bottles. Sloping sides permit nesting. The standard trough is stainless steel construction with reinforced wire edges and overflow tube. Dimensions are $7" \times 10" \times 4"$ deep (178mm x 254mm x 102mm).

H-12250

H-12255

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Platform Jacks

This highly stable jack can be adjusted to any height between 2-1/2" to 10" (64mm to 254mm). The jack will accept loads up to 100 lbs. (45.4 kg). The unit is constructed of aluminum top and bottom plates with a baked-enamel finish and plated steel cross members. Height adjustments are achieved by means of a threaded rod attached to a large serrated knob.

H-14000 – Platform Jack with 6" x 5" (152mm x 127mm) top plate. H-14005 – Platform Jack with 8" x 8" (203mm x 203mm) top plate.



Hand Tally Counter

Used to accurately and guickly count pendulum swings, bacteria colonies, drops from pipettes, alpha particles, etc. Tallies up to 9999 by one, quickly resets to zero. Mounted in round 2" (51mm) diameter chrome plated case with finger ring.

H-14000



Hand Centrifuge

This hand-operated centrifuge is ideal for rapid settling of suspended solids from small quantities of liquid in analytical or clinical procedures at speeds up to 2000 RPM. The hand crank and steel worm with bronze spiral gear is set at a 15 to 1 ratio. The long-sweep crank is detachable and disengages when hand motion is stopped, allowing the head to come to a gradual rest. The driving mechanism is completely enclosed and is permanently lubricated in a one-piece cast-iron body. The unit is supplied complete with two metal shields and two 10 ml glass centrifuge tubes (one plain, one graduated). A screw clamp is provided for fastening the unit to tabletops of any thickness up to 1-3/4" (45mm).

Forceps

With corrugated tips and spot-welded joint. Overall length is 5" (127mm). H-12250 - Nickel-plated steel. H-12255 – Stainless steel.

Miscellaneous

H-9405

H-9700

Miscellaneous

Lever Knife-Edge Clamp This multi-purpose unit can be attached to any standard meter stick. In operation, the clamp is used as a knife-edge fulcrum for H-16000 supporting the meter stick in the inverted position. With the metal wire stirrup attached, it can be used as a weight hanger for hooked weights and other suspended objects. Rigid steel knife-edges are correctly aligned with the edges and small pointers of the openings on each side. The side openings permit easy reading of the graduations on the meter stick. A setscrew is incorporated to lock the clamp in any desired position. The fulcrum bevels are sharp and the edges are cut in opposite directions and are perfectly aligned opposite each other and with the small pointers. The body is welded steel, plated for corrosion resistance and includes a wire stirrup. H-9340

Funnel Support The Humboldt Funnel Support is designed to accept up to four funnels. The unit consists

of a hard wood support with four slotted holes and a metal clamp with thumbscrew for support rod mounting.

H-21650

Demonstration Ball and Ring

Used to demonstrate the thermoexpansion of metals. In use, the brass ball will pass through the ring easily when both are at the same temperature, and won't pass through at all when heated. The ball and ring are securely mounted on a rod with a wooden handle

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Dovetail Clamp

This clamp can be instantly detached from vertical surfaces such as heaters. It is constructed of aluminum and incorporates a 5/16"-18 by 1-1/4" steel thumbscrew. The clamp is 1-3/16" wide by 2-15/16" (30mm x 59mm) long and measures 1-3/8" (35mm) from muff center to the dovetail.



H-8350

Hook Collars

Hook Collars are used for attaching pulleys, balances, cords, trusses, pendulums, and other apparatus to support rods. The collars are plated for corrosion resistance and are supplied complete with thumbscrew and hook.



H-8990– Hook Collar for 1/2" (13mm) rod H-8995– Hook Collar for 3/4" (19mm) rod

Pendulum Clamp

This unit clamps to any horizontal or vertical support rod up to 3/4" (19mm) in diameter. The clamp is designed to hold three pendulums spaced 2-1/8" (54mm) apart with points for suspending cords on the same horizontal line, each individually adjustable. The overall length is 10-1/2" (267mm) by 3/4" (19mm) wide.

Electrolytic Support

The "Hoffman Type" Electrolytic Support is used with associated glassware to demonstrate the electrolytic decomposition of water, hydrochloric acid, and other solutions. The unit consists of a cast iron base (H-21225) with insulated binding posts, support rod (H-21360), one burette clamp (H-8022), and one clamp (H-21430). Glassware is not included.



H-21400

Miscellaneous