



LABORATORY *Essentials*



Bunsen Burners



Standard Burners with Air Regulators Only—

Humboldt Bunsen Burners are high-quality, American-made burners with nickel-plated, die-cast zinc bases. Burners feature aluminum mixing tubes and serrated gas inlet connections. Refer to chart below for specific models and operating parameters, including standard and micro burners, as well as burners with flame stabilizers.

Adjustable Burners with Threaded Needle Valves—

Humboldt's Adjustable burners utilize the same high-quality die-cast bases as our Standard Burners, but provide a precision needle valve to achieve an accurate, adjustable flame. Refer to chart below for specific models and operating parameters, including standard and micro burners, as well as burners with flame stabilizers.

Model	Description	Gas Type	Mixing Tube OD	CFH *See Note below	BTU Output	Overall Height
Standard Models with Air Regulator Only						
H-5820	Standard Burner	Artificial	7/16" (11mm)	3.8	2,280	5-3/8" (137mm)
H-5825	Standard Burner	Natural	7/16" (11mm)	1.33	1,365	5-3/8" (137mm)
H-5835	Standard Burner	LP (Cylinder)	7/16" (11mm)	.55	1,342	5-3/8" (137mm)
H-5860	Standard Burner	Artificial	1/2" (13mm)	6.25	3,750	5-3/8" (137mm)
H-5865	Standard Burner	Natural	1/2" (13mm)	5.33	5,465	5-3/8" (137mm)
H-5870	Standard Burner w/flame stabilizer	Natural	1/2" (13mm)	4	4,100	6-1/8" (156mm)
H-5875	Standard Burner w/flame stabilizer	LP (Cylinder)	1/2" (13mm)	1.75	4,270	6-1/8" (156mm)
H-5770	Standard Micro-Bunsen Burner	Natural	7/16" (11mm)	1.33	1,365	3-1/2" (89mm)
H-5805	Standard Micro-Bunsen Burner	Artificial	7/16" (11mm)	2.8	1,680	3-1/2" (89mm)
Adjustable Models with Threaded Gas Needle Valve						
H-5880	Burner with adjustable gas valve	Artificial	7/16" (11mm)	6.25	3,750	6-1/8" (156mm)
H-5885	Burner with adj. gas valve & flame stabilizer	Natural	1/2" (13mm)	4	4,100	6-1/8" (156mm)
H-5890	Burner with adj. gas valve & flame stabilizer	LP (Cylinder)	1/2" (13mm)	1.75	4,270	6-1/8" (156mm)
H-5810	Micro-Bunsen Burner w/ adj. gas valve	Natural	7/16" (11mm)	1.33	1,365	3-1/2" (89mm)
H-5815	Micro-Bunsen Burner w/ adj. gas valve	LP (Cylinder)	7/16" (11mm)	0.55	1,342	3-1/2" (89mm)

***Note: CFHs and BTU Outputs are figured on:**

5 inch Water Column Pressures for Artificial and Natural Burners

11 inch Water Column Pressures for LP Burners

Inlet OD for all Burners: 5/16" Serrated

Tirrill and High Temperature Burners



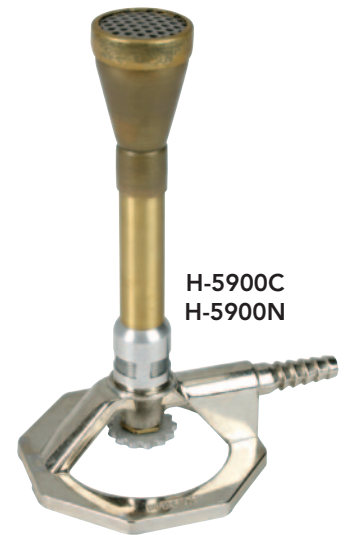
H-6210



H-6220
H-6225



H-5500
H-5550
H-5600



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 below for specifications and ordering information.

High-Temperature Burner—

When an extremely hot flame is required, these Meker-type burners form uniform blue cones of intense heat with no backflashes. One-piece, nickel-plated venturi tube. Die cast, zinc alloy, nickel plated octagonal base.

High-Temperature Burner—

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

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

Model	Description	Gas Type	Mixing Tube OD	CFH *See Note below	BTU Output	Overall Height
H-6210	General Purpose Burner with 1/2" (13mm) dia. Mixing Tube	Artificial	7/16" (11mm)	18	10,800	5-1/4" (133mm)
H-6220	General Purpose Burner with flame stabilizer	Natural	7/16" (11mm)	5.5	5,638	6" (152mm)
H-6225	General Purpose Burner for use with LP Gas	LP (Cylinder)	7/16" (11mm)	3	7,320	6" (152mm)
High-Temperature Burners						
H-5500	High-Temperature Burner Venturi Tube, Meker Top	Artificial	1-1/2" (38mm) Venturi	15.6	9,360	8-1/2" (216mm)
H-5550	High-Temperature Burner Venturi Tube, Meker Top	Natural	1-1/2" (38mm) Venturi	12.5	12,810	8-1/2" (216mm)
H-5600	High-Temperature Burner Venturi Tube, Meker Top	LP (Cylinder)	1-1/2" (38mm) Venturi	4.5	10,980	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)	5.5	13,420	6-3/4" (171mm)
H-5900N	High-Temperature Adjustable. Same as H-5900C except for use with Natural Gas	Natural	9/16" (14mm)	5.6	5,740	6-3/4" (171mm)

***Note: CFHs and BTU Outputs are figured on:**
5 inch Water Column Pressures for Artificial and Natural Burners
11 inch Water Column Pressures for LP Burners
Inlet OD for all Burners: 5/16" Serrated

Specialty Burners



Pilot Flame Burner

Ideal for intermittent use without frequent relighting. The burner features a sleeve-type 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.

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.

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

Model	Description	Gas Type	Inlet OD	CFH *See Note below	BTU Output	Overall Height
Specialty Burners						
H-5970	Pilot Flame Burner	Natural	3/8" (10mm)	5.3	3,180	6-3/8" (162mm)
H-5020	High Temperature Blast Burner	Natural	3/8" (10mm)	44	45,100	8" (203mm)
		Artificial	3/8" (10mm)	37	22,200	8" (203mm)
		LP (Cylinder)	3/8" (10mm)	60	88,200	8" (203mm)
H-6090	Fletcher Burner	Natural	variable	5.6	5,740	6" (152mm)
H-1876	Ring Burner	All	3/8" (10mm)	—	—	11" (279mm)

***Note: CFHs and BTU Outputs are figured on:**
 5 inch Water Column Pressures for Artificial and Natural Burners
 11 inch Water Column Pressures for LP Burners

Specialty Burners



H-5080



H-5100
H-5115



H-5196



H-5845
H-5845

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.

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.

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, see page 6. Brass construction.

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.

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

Model	Description	Gas Type	Inlet OD	CFH *See Note below	BTU Output	Overall Height
Specialty Burners						
H-5080	Universal Blast Burner	N, A	3/8" (10mm)	40	41,000	8" (203mm)
		LP	3/8" (10mm)	60	81,400	8" (203mm)
H-5100	Utility Blast Burner	N, A	3/8" (10mm)	20	20,500	10-3/4" (273mm)
		LP	3/8" (10mm)	16	39,040	10-3/4" (273mm)
H-5845	Pipe Mounting-Type Burner	Natural	1/8" NPT	5.5	5,637.5	6-1/2" (165mm)
		LP	1/8" NPT	—	—	6-1/2" (165mm)
H-5196	Torch Support					

***Note: CFHs and BTU Outputs are figured on:**

5 inch Water Column Pressures for Artificial and Natural Burners
11 inch Water Column Pressures for LP Burners

Flame Test Burners



H-6240C
H-6240N



H-6241C
H-6241N



H-5025

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 rust-proof 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 accessible. Meets UL flame test and ASTM D3713.

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.

N= Natural Gas, C= Cylinder (Liquid Propane) Gas

Model	Description	Gas Type	CFH *See Note below	BTU Output	Overall Height
Flame Test Burners					
H-6240C	Tirrill Burner with Pilot Flame (ASTM D3713)	Cylinder	3.5	8,540	6" (152mm)
H-6240N	Tirrill Burner with Pilot Flame (ASTM D3713)	Natural	4.75	4,868.75	6" (152mm)
H-6241C	Tirrill Burner without Pilot Flame (ASTM D3713)	Cylinder	3.5	8,540	6" (152mm)
H-6241N	Tirrill Burner without Pilot Flame (ASTM D3713)	Natural	4.75	4,868.75	6" (152mm)
H-5025	Tirrill Burner without Pilot Flame (ASTM D5025)	Cylinder	3.85	9,400	6" (152mm)

***Note: CFHs and BTU Outputs are figured on:**

5 inch Water Column Pressures for Artificial and Natural Burners

11 inch Water Column Pressures for LP Burners

Inlet OD for all Burners: 5/16" Serrated

Burner Accessories



H-5110

Burner Grid Top— H-5110

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



H-5115

Burner Grid Top— H-5115

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



H-5910

Burner Grid Top— H-5910

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



H-5570

Heat Intensifier Top— H-5570

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-6860

Flame Stabilizer— H-6860

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.

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



H-2087

Flame Shield— H-1945

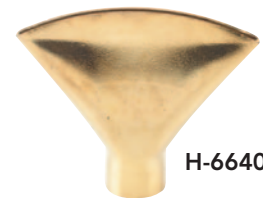
Used to protect flame from drafts. The unit features a set of spring clips designed to fit 7/16" to 5/8" (11mm to 16mm) burner tubes. The cone is spot-welded and is 2" (51mm) in diameter at the bottom.



H-1945

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.



H-6640



H-8280

Gas Cylinder Clamp— H-8280

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 Wing Tops

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)

Tripods/Triangles/Wire Gauze



Tripods

Model	Description	OD	ID
H-24133	Single Ring, 6" (152mm) legs	3-1/2" (89mm)	1-3/4" (45mm)
H-24135	Single Ring, 9" (229mm) legs	3-1/2" (89mm)	1-3/4" (45mm)
H-24400	Single Ring, 9" (229mm) legs	4-1/4" (108mm)	3-1/2" (89mm)
Flanged Concentric Ring Models			
H-24150	Single Ring, 9" (229mm) legs	5" (127mm)	3" (76mm)
H-24160	Single Ring, 9" (229mm) legs	6" (152mm)	4-1/2" (114mm)
H-24180	Single Ring, 9" (229mm) legs	8" (203mm)	6" (152mm)
H-24300	Double Ring, 9" (229mm) legs	5" (127mm)	3" (76mm)
H-24320	Triple Ring, 9" (229mm) legs	6" (152mm)	3" (76mm)
H-24340	Four Ring, 9" (229mm) legs	8" (203mm)	3" (76mm)



Triangles

Description	1-1/2" (38mm)	2" (51mm)	2-1/2" (64mm)	3" (76mm)
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	NA	H-23910	H-23920
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

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

Support Stands



Support Stands

Model	Description	Base	Rod
H-21200	Powder-coated Black finish, cast iron base with plated steel rod	4 x 6-3/4" (102 x 172mm)	5/16 x 18" (H-21340)
H-21210		5 x 8" (127 x 203mm)	3/8 x 20" (H-21350)
H-21220		5-1/2 x 9" (140 x 229mm)	1/2 x 24" (H-21360)
H-21230		6 x 11" (152 x 279mm)	1/2 x 36" (H-21370)
H-21202	Powder-coated Black finish, stamped steel base with plated steel rod	4 x 6" (102 x 152mm)	1/2 x 24" (H-21360)
H-21212		5 x 8" (127 x 203mm)	1/2 x 36" (H-21360)
H-21222		6 x 9" (152 x 229mm)	1/2 x 24" (H-21360)
H-21232		6 x 11" (152 x 279mm)	1/2 x 36" (H-21360)
H-21115 (blk)	Powder-coated cast iron base with steel rod centered at the back of the base	7 x 13" (178 x 330mm)	1/2 x 24" (H-21360)
H-21120 (wht)		7 x 13" (178 x 330mm)	1/2 x 24" (H-21360)
H-21300	Triangular base Powder-coated with plated steel rod	3-1/4" (83mm)	5/16 x 18" (H-21340)
H-21310		4" (102mm)	3/8 x 20" (H-21350)
H-21320		5" (127mm)	1/2 x 24" (H-21360)
H-21330		6-1/2" (165mm)	1/2 x 36" (H-21370)

Support Rods & Table Clamps



H-21160
H-21170

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" x 20" (10mm x 508mm) rod (H-21350) or a 1/2" x 24" (13mm x 610mm) rod (H-21360).



H-8265

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.



H-8255

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-21360



H-21350



H-21240

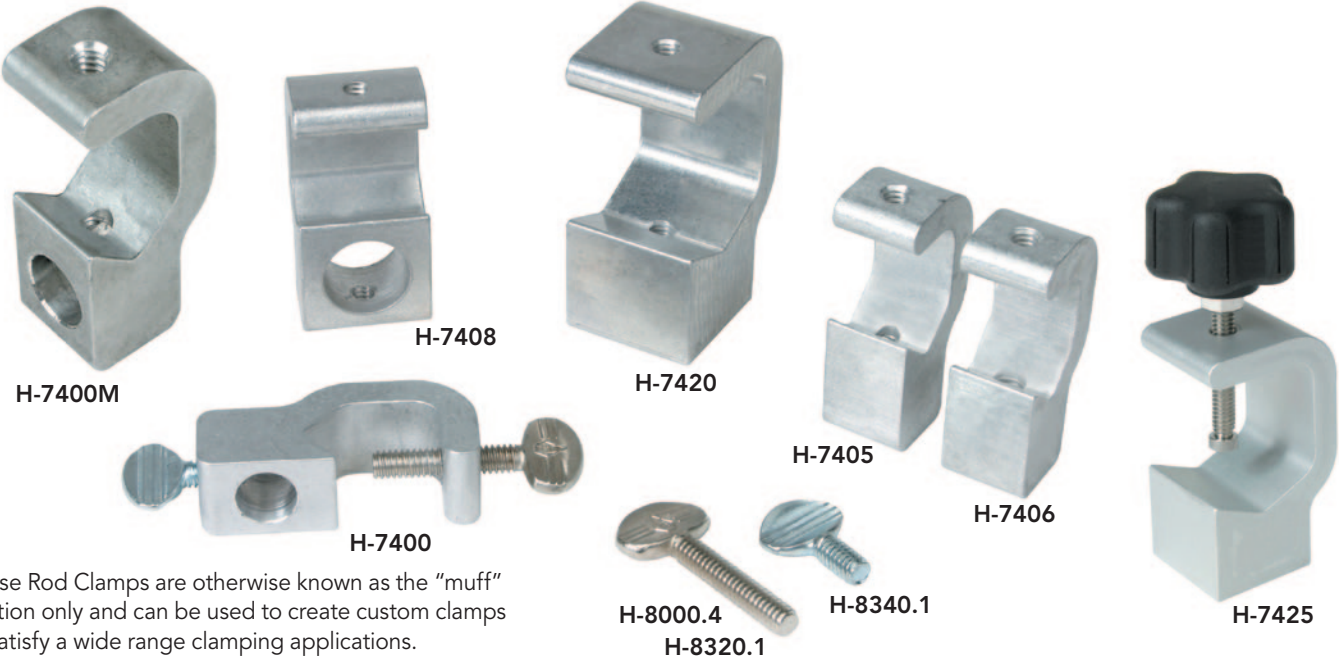
Threaded Base Plates

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.

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

Model	Thread	OD
Threaded Base Plates		
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)

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 screws
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

Contact Humboldt for custom design and application requests.



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.

Specialty Clamps



H-8300
H-8320
H-8325 (Brass)

H-8342

H-8250

Lincoln Type, Double Burette Clamp— H-8250

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.



H-8900

H-8950

H-8585

H-8980

Hook Clamp— H-8900

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).

Thermometer Clamp— H-8950

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).

Test Tube Clamp— H-8585

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

Thermometer Clamp— H-8980

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).

Clamp Holders for Extension Rings

Model	Description
H-8300	Standard: (Die-cast aluminum) with 1/4" steel thumbscrews
H-8320	Standard: (Die-cast aluminum) with 5/16" steel thumbscrews.
H-8325	Standard (Brass): with 5/16" steel thumbscrews.
H-8342	Adjustable: Aluminum, with 1/4"-20 steel thumbscrews. Swivels and locks to any angle.



H-8350

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

Dovetail Clamp— H-8350

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.

Hook Collars— H-8990, H-8995

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.

Support Rings



H-18335



H-18320



H-18331

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 3/4" (19mm) in diameter.

Support Ring (with cut-out)

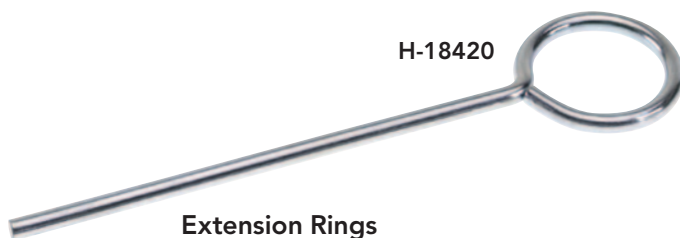
This support ring features a cutout area in the ring that permits easy insertion of leveling bulbs. The ring is 3" (76mm) diameter, cast iron and is plated for corrosion resistance.

Wire Support Rings

Model	Description	Size	ID	OD
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)

Cast Iron Support Rings

Model	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-18331	Support Ring w/ cut-out	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-18420

Extension Rings

Shank of Extension Ring clamps to support rods with clamp holder. Manufactured from steel wire, zinc-plated for corrosion resistance.



H-21700

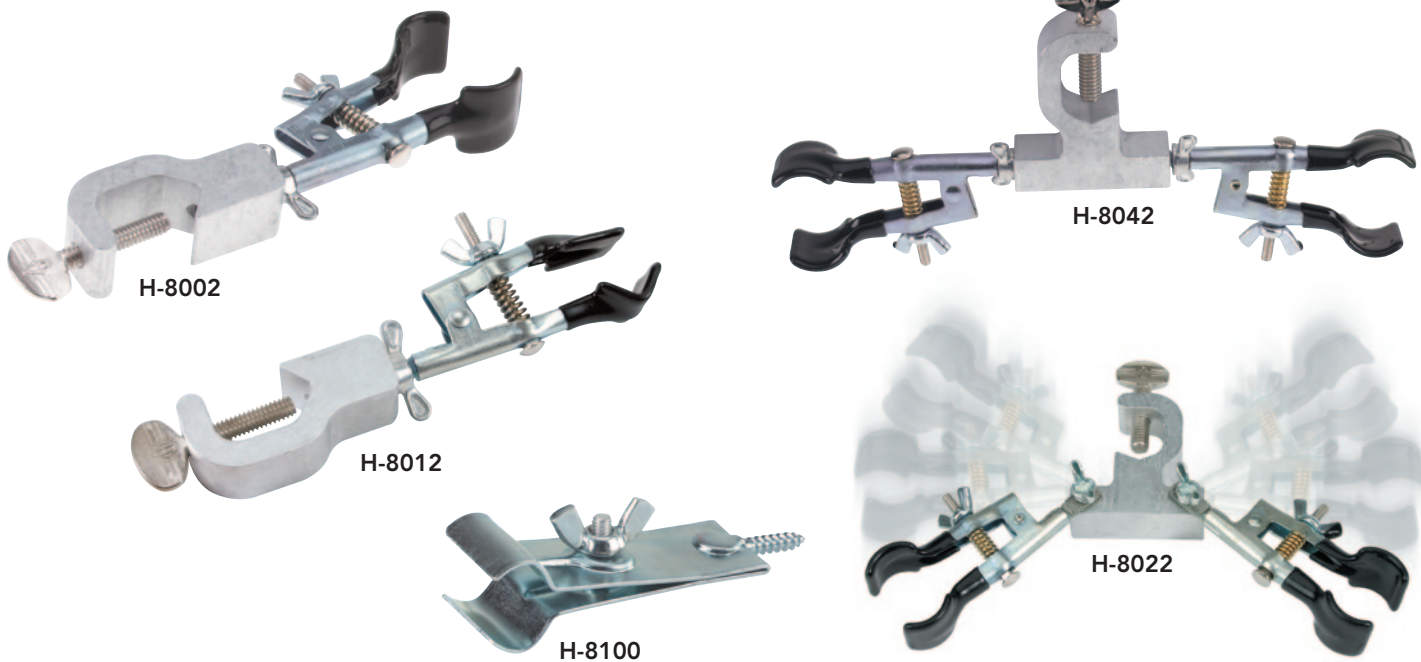
Shelf Support— H-21700

The Support Shelf is manufactured from durable cast iron with a raised rim. The shelf diameter is 5" (127mm) and has a 5/16" thumbscrew in the muff. The unit has a black powder-coated finish.

Extension Rings

Model	Description	Size	ID	OD
H-18420	Plated Steel Wire Support Ring	2"	2-1/16" (52mm)	2-5/8" (67mm)
H-18430	Plated Steel Wire Support Ring	3"	2-15/16" (75mm)	3-1/2" (89mm)
H-18440	Plated Steel Wire Support Ring	4"	3-15/16" (100mm)	4-1/2" (114mm)
H-18450	Plated Steel Wire Support Ring	5"	4-15/16" (125mm)	5-1/2" (140mm)
H-18460	Plated Steel Wire Support Ring	6"	6" (152mm)	6-11/16" (170mm)

Burette Clamps



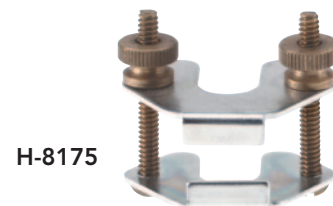
Burette Clamps

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



Extension Clamps

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



S/J Joint Clamps

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

Screw Compressor Clamps



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

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.



Model	Description	Jaw Opening	
		Max Height	Max Width
H-8660	Swivel Lower Jaw (Hoffman)	0-5/8" (0-16mm)	3/4" (19mm)
H-8680	Swivel Lower Jaw (Hoffman)	0-3/4" (0-19mm)	1" (25mm)
H-8700	Open Jaw (Hoffman)	0-1/2" (0-13mm)	3/4" (19mm)
H-8720	Open Jaw (Hoffman)	0-5/8" (0-16mm)	1" (25mm)
H-8730	Closed Jaw (Hoffman)	0-5/8" (0-16mm)	3/4" (19mm)
H-8740	Closed Jaw (Hoffman)	0-3/4" (0-19mm)	1" (25mm)
H-8770	Swinging Jaw Clamp	1/2" (10mm)	
H-8780	Swinging Jaw Clamp	5/8" (15mm)	
H-8790	Swinging Jaw Clamp	3/4" (20mm)	
Heavy Duty Models			
H-8755	Closed-Jaw C-Clamp with Side post for tubing insertion	0-7/8" (0-23mm)	1-1/8" (30mm)
H-8760	Standard Open-Jaw C-Clamp without side post	0-7/8" (0-23mm)	1-1/8" (30mm)



H-8665
H-8685



H-8705
H-8722



H-8735
H-8745

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

"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.

Clamps (Wire)/Adjustable Band Clamps



Model	Description	Jaw Construction	Jaw Opening	Length
H-8575	Test Tube (Semi-Micro)	Self-closing, round jaw, plain brass wire	to 3/4" (19mm)	5" (127mm)
H-8580	Test Tube (Stoddard)	Self-closing, rectangular jaw, plain brass wire	to 1" (25mm)	5" (127mm)
H-8590	Test Tube (Stoddard w/ finger grip)	Self-closing, rectangular jaw, nickel-plated steel wire	to 1" (25mm)	5" (127mm)
H-8595	Test Tube (Stoddard w/ finger grip)	Self-closing, rectangular jaw, plain brass wire	to 1-1/4" (32mm)	6" (152mm)
H-8600	Pinchock (Mohr's)	Small, flat round edge nickel-plated steel wire	to 3/8" (10mm)	2-1/4" (57mm)
H-8610	Pinchock (Mohr's)	Medium, flat round edge nickel-plated steel wire	to 1/2" (13mm)	2-3/4" (70mm)
H-8620	Pinchock (Mohr's)	Large, flat round edge nickel-plated steel wire	to 5/8" (16mm)	3-1/4" (82mm)
H-8630	Pinchock (Day's)	Nickel-plated steel wire	to 3/8" (10mm)	2-5/8" (67mm)



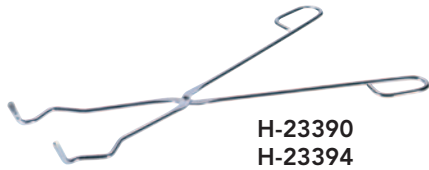
Adjustable Band Clamp

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 duty

Model	Length	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"	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 Handle Kit	
H-7221	Stainless Steel Hook	
H-7021	Stainless Steel Band Stock, 25ft.	

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

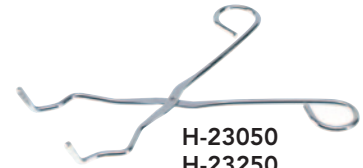
Tongs



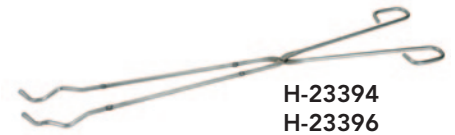
H-23390
H-23394



H-23392-TC



H-23050
H-23250
H-23360
H-23385



H-23394
H-23396
H-23397



H-23400



H-23510

Tongs

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



H-23422



H-23425



H-23440

Tongs

Model	Description	Material	Wire Size	Length
H-23420	Beaker Tongs For 50-1500ml capacity Max. opening: 4-1/2" (114mm)	Steel, plated	1/4" (6mm)	9" (229mm)
H-23422		w/Plastisol-coated Jaws	1/4" (6mm)	9" (229mm)
H-23425	3-Jaw Beaker Tongs Justus-type	Steel, nickel plated	1/4" (6mm)	9-1/4" (231mm)
H-23426	Holds up to 2000ml beaker w/ rubber sleeves	Steel, nickel plated	1/4" (6mm)	9-1/4" (231mm)
H-23440	Beaker Tongs For 100-1500ml capacity Fiberglass-covered Jaws	Stainless Steel	1/4" (6mm)	13-1/2" (318mm)
H-23441	Replaceable Ceramic Sleeves for H-23440	Ceramic Material		
H-23442	Flask Tongs w/ V-jaws Max. opening: 1-7/8" (48mm)	Stainless Steel	1/4" (6mm)	9" (229mm)
H-23600	Dish Tongs handles dishes and other articles from 3 to 4-3/4" (75 -120mm)	Stainless Steel	—	9-1/2" (241mm)

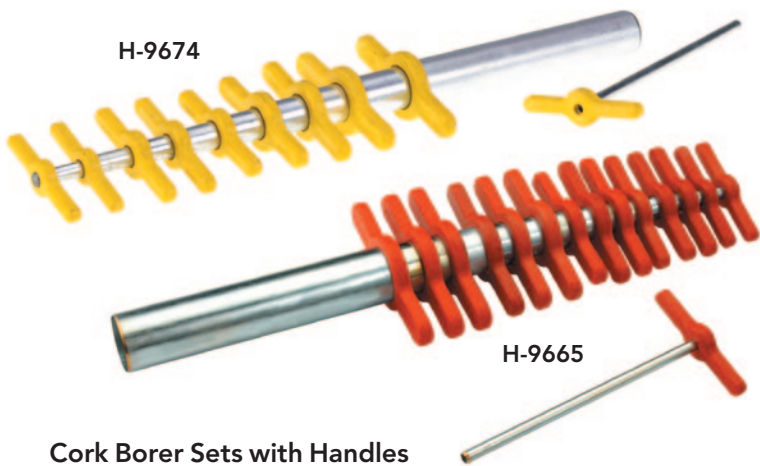


H-23442



H-23600

Cork Borers/Glass Tubing Cutters



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.

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

H-9650

H-9682

Cork Boring Machine— H-9650

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. x 6-1/2" W. x 11" H. (165mm x 165mm x 279mm).

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

Cork Borer Sharpener— H-9680

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.

Cork Press— H-9690

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).

Multi-Blade Cork Borer Sharpener— H-9682

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

Glass Tubing Cutter (Griffin)— H-13520

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

Glass Tubing Cutter (Humboldt)— H-13550

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.



H-13550



H-13610

H-13600



H-13520

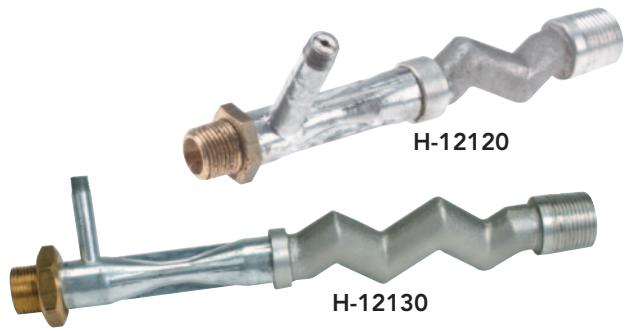
Filter Pumps, Miscellaneous



H-12020



H-12090
H-12100



H-12120

H-12130

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.

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



H-12195—
For use with Aspirator Filter Pumps with 3/8" NPS thread. Consists of coupling and adaptor. (Adapter may be unscrewed and lower section used on threaded faucets).



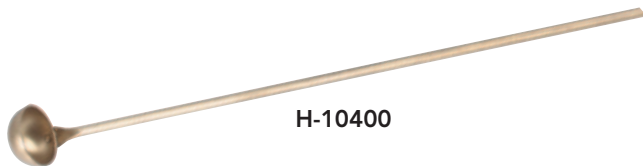
H-12160—
For use with Aspirator Filter Pumps with 3/4" NPT thread. Brass construction.



H-12170—
With 1/4" NPS hose-end for rubber tubing. Brass construction.



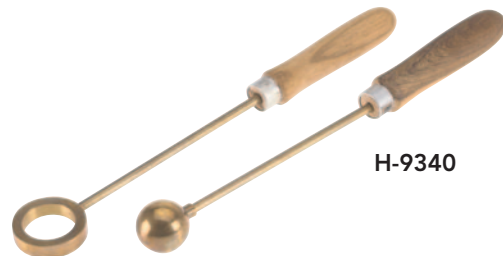
H-12155—
For use with Aspirator Filter Pumps with 3/8" NPT thread. Brass construction.



H-10400

Deflagration Spoon, Brass— H-10400

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-9340

Demonstration Ball and Ring— H-9340

Used to demonstrate the thermo-expansion 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

Mortar & Pestle, Miscellaneous

H-17300



Mortar & Pestle— H-17300

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.

H-17270



Mortar & Pestle (Platiner's)— H-17270

Used for crushing small samples of ore. Made of hardened alloy tool steel. Mortar has flat-bottomed cylindrical cavity with removable sleeve for containing crushed material.

Mortar: 3" (76mm) OD

Cavity: 1" dia. x 1/4" deep (25mm x 6.4mm);

Guide Sleeve: 1-1/2" (38mm) long.

Pestle: 1" dia. x 3" long (25mm x 76mm).

H-17280



Mortar & Pestle— H-17280

Meets U.S. Pharmacopeia 28. Made from hardened tool steel in accordance with specifications for Powdered 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-14000



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 10 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.

H-9700



Hand Tally Counter— H-9700

Used to accurately and quickly 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-24612



Stainless Steel Pneumatic Trough— H-24612

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" x 10" x 4" deep (178mm x 254mm x 102mm).

Hand Centrifuge— H-9405

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

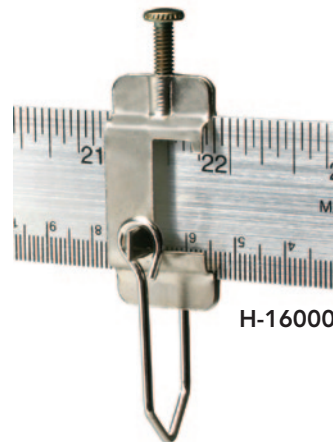
With corrugated tips and spot-welded joint. Overall length is 5" (127mm).

H-12250— Nickel-plated steel.

H-12255— Stainless steel.

Lever Knife-Edge Clamp— H-16000

This multi-purpose unit can be attached to any standard meter stick. In operation, the clamp is used as a knife-edge fulcrum for 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.



Funnel Support— H-21650

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.

Electrolytic Support— H-21400

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.



Pendulum Clamp— H-8400

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.



Water Baths



H-1390

H-1394

Water Baths with Microprocessor-based Temperature Control

- Auto-tuning is fast & effortless
- Dual, digital display simultaneously shows set point and process temperature
- Ramp-to-set point handles critical temperature processes smoothly
- Set point range limiting protects process and equipment
- Percent power limit protects components from stress
- Rapid cycling provides fast system response
- Operator lockout guards against unwanted changes
- All exposed parts are stainless steel. Front panel is water and corrosion resistant.

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. Humboldt Water Baths are fully insulated to help maintain constant temperatures easily. All models include a stainless steel shelf, which supports specimens while allowing 2" of free circulating water above and below specimens. Models H-1390 and H-1394 also utilize a magnetic stirring bar to induce water flow within the bath and ensure a uniform temperature is maintained. Model H-1392 does not have a magnetic stirring bar. All exposed areas are stainless steel and the front control panel is both water and corrosion resistant.

Deluxe Water Bath, 110V 60Hz— H-1390

Deluxe Water Bath, 220V 50/60Hz— H-1390.4F

Microprocessor-based temperature control for precise temperature control throughout the range. Includes magnetic circulator, ensuring constant water temperature, and, a stainless steel shelf, which stands 2" (51mm) above the bottom of the unit for free circulation of water above and below test samples. Volume is 7.76 gallons (29.40L) and dimensions are: ID: 19.5"W x 11.5"D x 8" H (495.3 x 292.1 x 203.2mm). Meets ASTM D1559. Shipping wt. 47 lbs. (21.4kg)

Water Bath, 110V 60Hz— H-1392

Water Bath, 220V 50/60Hz— H-1392.4F

Same as H-1390, except it does not have a magnetic circulator. Shipping wt. 74 lbs. (33.5kg)

Large Deluxe Water Bath, 110V 60Hz— H-1394

Large Deluxe Water Bath, 220V 50/60Hz— H-1394.4F

Same as H-1390, except volume is: 14 gallons (53L) and dimensions are 20" x 20" x 10" deep (508 x 508 x 254mm). Shipping wt. 74 lbs. (33.5kg)



Softening Point Apparatus

Single, Softening Point Apparatus Set— H-1595

Ring and ball method softening point apparatus used for single determinations, asphalts, pitches, tars and most resins. Includes burner, beaker, support stand, 1 ring, wire gauze with ceramic center, thermometer clamp, 1 shouldered ring and stem with hardened steel ball and H-2600.113F thermometer. Meets ASTM D36, E28; AASHTO T53.

Single, Softening Point Apparatus Set— H-1596

Hotplate version of the H-1595.

Double, Softening Point Apparatus— H-1569

Includes 800ml beaker with brass, double set-up fixture with cover and thermometer port with stopper, 2 shouldered rings, 2 ball centering guides and 2 standard balls. Order thermometer separately.

Quad, Softening Point Apparatus— H-1570

Includes 800ml beaker with brass, quad set-up fixture with cover and thermometer port with stopper, 4 shouldered rings, 4 ball centering guides and 4 standard balls. Order thermometer separately.



H-1588



H-1575



H-1595



H-1596

Individual Components

Description	Model	Use With
Brass, shouldered ring, Top: 23mm OD, 19.8mm ID; Bottom: 19mm OD, 15.9mm ID; Top to Shoulder: 4.4mm High; Shoulder to Bottom: 2mm High, 10 per package	H-1575	H-1569
Hardened steel ball, 3/8" 99.5mm) dia.; weight between 3.45 and 3.55g, 10 per package	H-1580	H-1569 H-1595 H-1645
Ball centering guides for shouldered rings, ball is centered on specimen by 3 locator pins	H-1588	H-1575
Ring and stem assembly with 16" (406mm) long brass wire stem with shouldered brass ring	H-1602	H-1595
Ring and stem assembly with 2-1/2" (64mm) long brass wire stem with shouldered brass ring	H-1658	H-1645
Steel clamp hook support suspended thermometers, locks into any position with check nut, Maximum distance from center of muff to hook: 4-1/4" (108mm), minimum distance is: 3-7/8" (89mm)	H-8900	H-2600 Series
Thermometer clamp with adjustable 360° muff, phosphor-bronze jaws, 3-1/2" (89mm) long	H-8950	H-1570
Thermometer clamp similar to H-8950, but holds H-1602 ring and stem and thermometer together	H-8980	H-1595



H-1569



H-8980



H-1658

Thermometers for Softening Point Apparatus

Description	Model
30 to 180°F (ASTM 15F) Thermometer	H-2600.15F
-2 to 80°C (ASTM 15C) Thermometer	H-2610.15C
85 to 392°F (ASTM 16F) Thermometer	H-2600.16F
30 to 200°C (ASTM 16C) Thermometer	H-2610.16C
30 to 350°F (ASTM 113F) Thermometer	H-2600.113F
-1 to 175°C (ASTM 113C) Thermometer	H-2610.113C

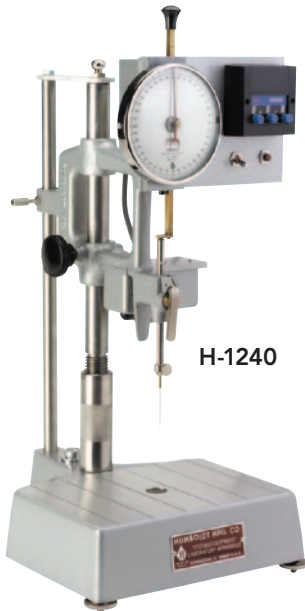
Penetrometers



H-1200

Universal Penetrometer— H-1200
 Direct-reading instrument for precision penetration measurements of bituminous materials, cement, petrolatum and waxes, as well as food, cosmetics and pharmaceutical products. Unit has 5" diameter indicator dial, graduated in 400 divisions of 0.1mm, corresponding to 40mm penetration. Zero preset to eliminate errors. Includes 47.5g plunger with 3.2mm hole, and two loading weights (50g and 100g). Overall dim. 10-1/2" x 13" x 22" (266.7 x 330.2 x 558.8mm). Meets ASTM D5, D217, D1168, D1191, D1321, D1403, D1831, D1855; AASHTO T49, T187 and others.

Electric Penetrometer— H-1240
 Takes our H-1200 Universal Penetrometer and adds an automatic digital timer to it. The timer's release mechanism is switchable between seconds minutes, or hours. Timer may be set in 1/10th second intervals. Plunger releases with push of a button, and automatically stops after the preset time duration. H-1240.5F adds a voltage adapter and internal switch on the timing mechanism to change cycle to 50Hz.



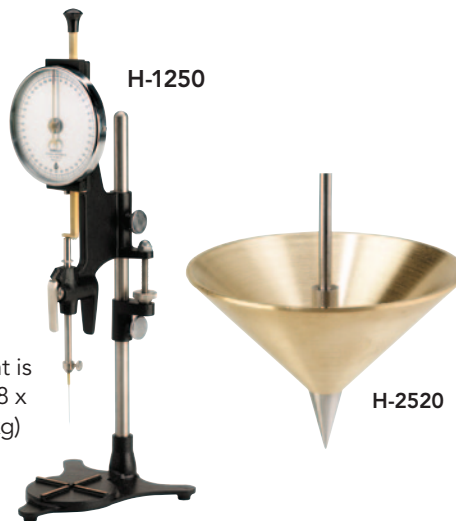
H-1240



H-1240D

Digital Penetrometer— H-1240D
 The H-1240D Penetrometer adds a digital gauge to the H-1240 electric penetrometer to provide precise at-a-glance readings, as well as the ability to automatically start a test with a button push and have the test end after a preset duration. Shipping wt. 32 lbs. (14.5kg)

Portable Penetrometer— H-1250
 Lighter and smaller than H-1200 for field work, unit's micrometer adjusts for accurate settings as well as coarse adjustment for approximate settings. Only one additional 50g loading weight is included. Overall dim. 7" x 7" x 16" (178 x 178 x 406mm). Shipping wt. 8 lbs. (3.6kg)



H-1250

H-2520

Penetration Needles and Cones

H-1280	
H-1280	Standard hardened stainless steel needle, 40-45mm exposed needle length. Wt. 2.5g.
H-1300	Same as H-1280. Certified to ASTM accuracy by independent laboratory. Wt. 2.5g.
H-1302	Same as H-1290. Certified to ASTM accuracy by independent laboratory. Wt. 2.5g.
H-1290	Long hardened stainless steel needle, 50-55mm exposed needle length. Wt. 2.5g.
H-1310	
H-1310	Hardened stainless steel wax penetration needles with tapered point, blunt tip of truncated cone. Ferrule is approx. 3.2mm dia. Wt. 2.5g.
H-1317	Same as H-1310. Certified to ASTM accuracy by independent laboratory.
H-1255	
H-1255	Hardened stainless steel tip with special plunger. Total wt. 60g ± .050g.
H-1320	
H-1320	Resilience ball penetration tool. Total wt. 27.5g.
H-2519	
H-2519	1/4 scale. (Not considered a substitute for full-size cone specified in ASTM D217.) Wt. 9.38g.
H-1270	
H-1270	10° aluminum cone, 3.2mm ferrule, 0.8mm stainless steel blunt tip. Overall length 106mm. Wt. 45g.
H-2520	Hollow 90° brass cone, highly polished stainless steel tip. Removable nut and stem. Wt. 102.5g.
H-2522	Same as H-2520, completely made of stainless steel. Wt. 102.5g.
H-2525	Stainless steel replacement tip, nut and stem.
H-2524	Magnesium cone and plunger, same dim. as H-2520. Total wt. cone and plunger 30.0g.
H-2529	Aluminum. Same dimension as H-2520. Total wt. 35g.

Material Splitters



H-3970,
H-3975



H-3962, H-3964,
H-3966
H-3987, H-3989,
H-3990
H-3992
Removable Hopper:
H-3980, H-3985

Humboldt Sample Splitters

Riffle-type sample splitters divide or halve dry materials such as cement, gravel, powdered ores, coal, coke, sand, soils, etc. Material poured into the hopper is divided into two equal portions by a series of chutes that discharge the material alternately in opposite directions into separate pans. Humboldt splitters are constructed of cold-rolled steel, or in some cases, stainless steel— see chart below for quantity and construction of pans included. Also refer to the chart below for ordering replacement or extra pans. All splitters include pans, scoop and cleaning brush. See chart below for product details on specific models. All splitters comply with ASTM B215, C136, C702, C778, D421, D424, D457, D806, AASHTO T27, T144, T248.

One-Piece Construction Sample Splitters

For rapid, single-step reduction of large sample volumes—ideal for field applications. See models: H-3962, H-3964, H-3966, H-3987, H-3989, H-3990, H-3992.

Removable Hopper Sample Splitters

Same design as above models except these have a removable hopper for easier cleaning. See models: H-3980 and H-3985.

Enclosed Sample Splitters

Enclosed Sample Splitters are ideal for dusty samples, including coal, coke and chaff. Meet ASTM C702, D410, D2013, D3176, D3180; AASHTO T248. See models: H-3970 and H-3975.

Model	Material Size (max.)	Chutes Number	Chutes Width	Hopper W x L inches (mm)	Pans (incl.)	Ship Wgt. lbs. (kg)	Standard Pan		Stainless Steel Pan		
							Pan Model #	H x L x W (L x W) in. (mm)	Pan Model #	L x W x D in. (mm)	
One-Piece Construction Sample Splitters							Replacement Pans for Sample Splitters				
H-3962	.125 (3.18mm)	14	.375 (9.52mm)	6.75" x 8" (171 x 203mm)	4	14 lb (6.3 kg)	H-3981	4.25 x 8.0 x 5.25" (108 x 203 x 133mm)	H-3981S	6.5 x 6.5 x 4.5" (165 x 165 x 114mm)	
H-3964	.166 (4.22mm)	14	.500 (12.7mm)	6.75" x 11" (171 x 279mm)	4	17 lb (7.7 kg)	H-3986	4.5 x 10.5 x 5.5" (114 x 267 x 140mm)	H-3986S	11.25 x 6.5 x 5.5" (286 x 165 x 140mm)	
H-3966	.250 (6.35mm)	14	.750 (19mm)	6.75" x 14.75" (171 x 375mm)	4	27 lb (12.3 kg)			H-3967S	5.125 x 13.25 x 6.625" (130 x 337 x 168mm)	
H-3987	.333 (8.46mm)	16	1.00" (25.4mm)	9" x 20" (171 x 375mm)	4	31 lb (14.1 kg)	H-3988	4.875 x 19 x 6.375" (124 x 483 x 162mm)			
H-3989	.666 (16.92mm)	8	2.00" (50.8mm)	9.5" x 19.5" (171 x 375mm)	4	27 lb (12.3 kg)	H-3988	4.875 x 19 x 6.375" (124 x 483 x 162mm)	H-3988AS	16.375 x 6.5 x 5.25" (416 x 165 x 133mm)	
H-3990	.500 (12.70mm)	10	1.50" (38mm)	9" x 20" (171 x 375mm)	4	50 lb (22.7 kg)	H-3988	4.875 x 19 x 6.375" (124 x 483 x 162mm)	H-3988AS	16.375 x 6.5 x 5.25" (416 x 165 x 133mm)	
H-3992	.833 (21.16mm)	8	2.50" (63.5mm)	9" x 24" (229 x 610mm)	4	50 lb (22.7 kg)			H-3993S	5.125 x 22 x 6.75" (130 x 559 x 171mm)	
Removable Hopper Model Sample Splitters											
H-3980	.166 (21.16mm)	12	.500" (12.7mm)	8.5" x 11" (171 x 375mm)	4	18 lb (8.2 kg)	H-3981	4.25 x 8.0 x 5.25" (108 x 203 x 133mm)	H-3981S	6.5 x 6.5 x 5.5" (165 x 165 x 140mm)	
H-3985	.250 (6.35mm)	12	.75" (19mm)	8.5" x 14" (171 x 279mm)	4	21 lb (9.5 kg)	H-3986	4.5 x 10.5 x 5.5" (114 x 267 x 140mm)	H-3986S	11.125 x 6.5 x 5.5" (283 x 165 x 140mm)	
Enclosed Model Sample Splitters											
H-3970	.125 (3.18mm)	14	.375" (9.52mm)	6.5" x 8" (165 x 203mm)	2	22 lb (10 kg)			H-3977S	7 x 5.75 x 3.75" (178 x 146 x 95mm)	
H-3975	.125 (3.18mm)	24	.375" (9.52mm)	4.5" x 11" (114 x 279mm)	2	28 lb (12.7 kg)			H-3976S	5 x 11.875 x 6.125" (127 x 302 x 156mm)	

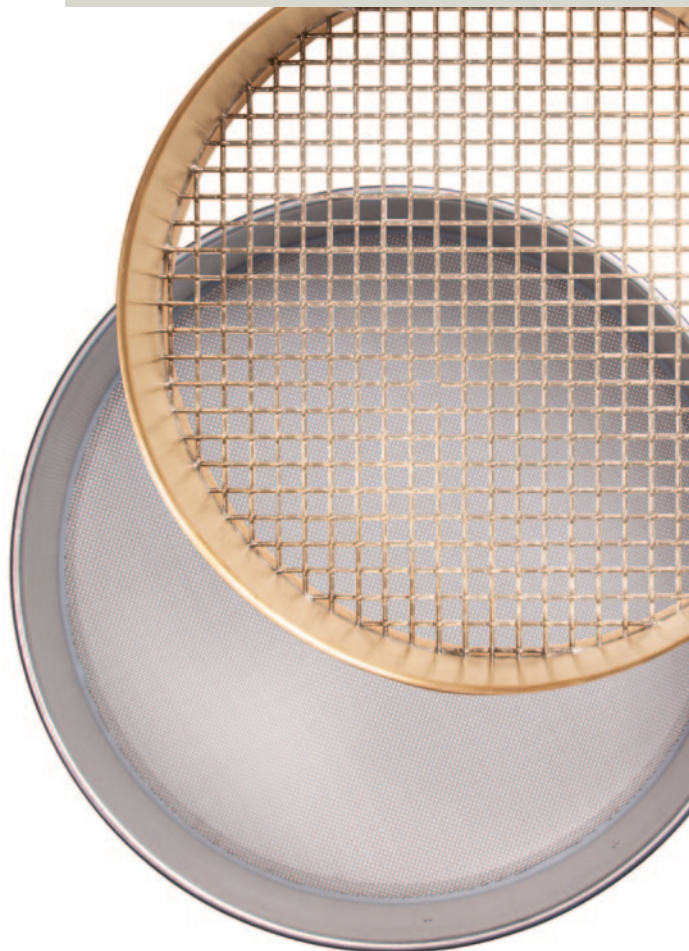
Sieves

USA Standard ASTM Test Sieves



8"

203mm



Coarse Sieve Size	Brass Frame Stainless Mesh		Stainless Frame Stainless Mesh	
	Full Height 2" (50mm)	Half Height 1" (25mm)	Full Height 2" (50mm)	Half Height 1" (25mm)
4" (100mm)	H-3920CS4.000	H-3910CS4.000	H-3920CSS4.000	H-3910CSS4.000
3-1/2" (90mm)	H-3920CS3.500	H-3910CS3.500	H-3920CSS3.500	H-3910CSS3.500
3" (75mm)	H-3920CS3.000	H-3910CS3.000	H-3920CSS3.000	H-3910CSS3.000
2-1/2" (63mm)	H-3920CS2.500	H-3910CS2.500	H-3920CSS2.500	H-3910CSS2.500
2.12" (53mm)	H-3920CS2.120	H-3910CS2.120	H-3920CSS2.120	H-3910CSS2.120
2" (50mm)	H-3920CS2.000	H-3910CS2.000	H-3920CSS2.000	H-3910CSS2.000
1-3/4" (45mm)	H-3920CS1.750	H-3910CS1.750	H-3920CSS1.750	H-3910CSS1.750
1-1/2" (37.5mm)	H-3920CS1.500	H-3910CS1.500	H-3920CSS1.500	H-3910CSS1.500
1-1/4" (31.5mm)	H-3920CS1.250	H-3910CS1.250	H-3920CSS1.250	H-3910CSS1.250
1.06" (26.5mm)	H-3920CS1.060	H-3910CS1.060	H-3920CSS1.060	H-3910CSS1.060
1" (25.0mm)	H-3920CS1.000	H-3910CS1.000	H-3920CSS1.000	H-3910CSS1.000
7/8" (22.4mm)	H-3920CS.875	H-3910CS.875	H-3920CSS.875	H-3910CSS.875
3/4" (19.0mm)	H-3920CS.750	H-3910CS.750	H-3920CSS.750	H-3910CSS.750
5/8" (16.0mm)	H-3920CS.625	H-3910CS.625	H-3920CSS.625	H-3910CSS.625
0.530" (13.2mm)	H-3920CS.530	H-3910CS.530	H-3920CSS.530	H-3910CSS.530
1/2" (12.5mm)	H-3920CS.500	H-3910CS.500	H-3920CSS.500	H-3910CSS.500
7/16" (11.2mm)	H-3920CS.438	H-3910CS.438	H-3920CSS.438	H-3910CSS.438
3/8" (9.5mm)	H-3920CS.375	H-3910CS.375	H-3920CSS.375	H-3910CSS.375
5/16" (8.0mm)	H-3920CS.312	H-3910CS.312	H-3920CSS.312	H-3910CSS.312
0.265" (6.7mm)	H-3920CS.265	H-3910CS.265	H-3920CSS.265	H-3910CSS.265
1/4" (6.3mm)	H-3920CS.250	H-3910CS.250	H-3920CSS.250	H-3910CSS.250
1/8" (3.17mm)	H-3920CS.125	H-3910CS.125	H-3920CSS.125	H-3910CSS.125

Fine Sieve Size	Brass Frame Stainless Mesh		Stainless Frame Stainless Mesh	
	Full Height 3" (75mm)	Half Height 1-5/8" (41mm)	Full Height 2" (50mm)	Half Height 1-5/8" (41mm)
No. 3-1/2 (5.6mm)	H-3920FS3-1/2	H-3910FS3-1/2	H-3920FSS3-1/2	H-3910FSS3-1/2
No. 4 (4.75mm)	H-3920FS4	H-3910FS4	H-3920FSS4	H-3910FSS4
No. 5 (4.0mm)	H-3920FS5	H-3910FS5	H-3920FSS5	H-3910FSS5
No. 6 (3.35mm)	H-3920FS6	H-3910FS6	H-3920FSS6	H-3910FSS6
No. 7 (2.80mm)	H-3912FS7	H-3910FS7	H-3920FSS7	H-3910FSS7
No. 8 (2.36mm)	H-3920FS8	H-3910FS8	H-3920FSS8	H-3910FSS8
No. 10 (2.00mm)	H-3920FS10	H-3910FS10	H-3920FSS10	H-3910FSS10
No. 12 (1.70mm)	H-3920FS12	H-3910FS12	H-3920FSS12	H-3910FSS12
No. 14 (1.40mm)	H-3920FS14	H-3910FS14	H-3920FSS14	H-3910FSS14
No. 16 (1.18mm)	H-3920FS16	H-3910FS16	H-3920FSS16	H-3910FSS16
No. 18 (1.0mm)	H-3920FS18	H-3910FS18	H-3920FSS18	H-3910FSS18
No. 20 (850µ)	H-3920FS20	H-3910FS20	H-3920FSS20	H-3910FSS20
No. 25 (710µ)	H-3920FS25	H-3910FS25	H-3920FSS25	H-3910FSS25
No. 30 (600µ)	H-3920FS30	H-3910FS30	H-3920FSS30	H-3910FSS30
No. 35 (500µ)	H-3920FS35	H-3910FS35	H-3920FSS35	H-3910FSS35
No. 40 (425µ)	H-3920FS40	H-3910FS40	H-3920FSS40	H-3910FSS40
No. 45 (355µ)	H-3920FS45	H-3910FS45	H-3920FSS45	H-3910FSS45
No. 50 (300µ)	H-3920FS50	H-3910FS50	H-3920FSS50	H-3910FSS50
No. 60 (250µ)	H-3920FS60	H-3910FS60	H-3920FSS60	H-3910FSS60
No. 70 (212µ)	H-3920FS70	H-3910FS70	H-3920FSS70	H-3910FSS70
No. 80 (180µ)	H-3920FS80	H-3910FS80	H-3920FSS80	H-3910FSS80
No. 100 (150µ)	H-3920FS100	H-3910FS100	H-3920FSS100	H-3910FSS100
No. 120 (125µ)	H-3920FS120	H-3910FS120	H-3920FSS120	H-3910FSS120
No. 140 (106µ)	H-3920FS140	H-3910FS140	H-3920FSS140	H-3910FSS140
No. 170 (90µ)	H-3920FS170	H-3910FS170	H-3920FSS170	H-3910FSS170
No. 200 (75µ)	H-3920FS200	H-3910FS200	H-3920FSS200	H-3910FSS200
No. 230 (63µ)	H-3920FS230	H-3910FS230	H-3920FSS230	H-3910FSS230
No. 270 (53µ)	H-3920FS270	H-3910FS270	H-3920FSS270	H-3910FSS270
No. 325 (45µ)	H-3920FS325	H-3910FS325	H-3920FSS325	H-3910FSS325
No. 400 (38µ)	H-3920FS400	H-3910FS400	H-3920FSS400	H-3910FSS400
No. 450 (32µ)	H-3920FS450	H-3910FS450	H-3920FSS450	H-3910FSS450
No. 500 (25µ)	H-3920FS500	H-3910FS500	H-3920FSS500	H-3910FSS500
No. 635 (20µ)	H-3920FS635	H-3910FS635	H-3920FSS635	H-3910FSS635
No. 850 (10µ)	H-3920FS850	H-3910FS850	-	-
No. 1000 (2µ)	H-3920FS1000	H-3910FS1000	-	-

Sieves

USA Standard
ASTM Test Sieves



12"
305mm

Coarse Sieve Size	Brass Frame Stainless Mesh			Stainless Frame Stainless Mesh	
	Full Height 3" (75mm)	Inter. Height 2" (50mm)	Half Height 1-5/8" (41mm)	Full Height 2" (50mm)	Half Height 1-5/8" (41mm)
4" (100mm)	H-3912CS4.000	H-3922CS4.000	H-3932CS4.000	H-3912CSS4.000	H-3932CSS4.000
3-1/2" (90mm)	H-3912CS3.500	H-3922CS3.500	H-3932CS3.500	H-3912CSS3.500	H-3932CSS3.500
3" (75mm)	H-3912CS3.000	H-3922CS3.000	H-3932CS3.000	H-3912CSS3.000	H-3932CSS3.000
2-1/2" (63mm)	H-3912CS2.500	H-3922CS2.500	H-3932CS2.500	H-3912CSS2.500	H-3932CSS2.500
2.12" (53mm)	H-3912CS2.120	H-3922CS2.120	H-3932CS2.120	H-3912CSS2.120	H-3932CSS2.120
2" (50mm)	H-3912CS2.000	H-3922CS2.000	H-3932CS2.000	H-3912CSS2.000	H-3932CSS2.000
1-3/4" (45mm)	H-3912CS1.750	H-3922CS1.750	H-3932CS1.750	H-3912CSS1.750	H-3932CSS1.750
1-1/2" (37.5mm)	H-3912CS1.500	H-3922CS1.500	H-3932CS1.500	H-3912CSS1.500	H-3932CSS1.500
1-1/4" (31.5mm)	H-3912CS1.250	H-3922CS1.250	H-3932CS1.250	H-3912CSS1.250	H-3932CSS1.250
1.06" (26.5mm)	H-3912CS1.060	H-3922CS1.060	H-3932CS1.060	H-3912CSS1.060	H-3932CSS1.060
1" (25.0mm)	H-3912CS1.000	H-3922CS1.000	H-3932CS1.000	H-3912CSS1.000	H-3932CSS1.000
7/8" (22.4mm)	H-3912CS.875	H-3922CS.875	H-3932CS.875	H-3912CSS.875	H-3932CSS.875
3/4" (19.0mm)	H-3912CS.750	H-3922CS.750	H-3932CS.750	H-3912CSS.750	H-3932CSS.750
5/8" (16.0mm)	H-3912CS.625	H-3922CS.625	H-3932CS.625	H-3912CSS.625	H-3932CSS.625
0.530" (13.2mm)	H-3912CS.530	H-3922CS.530	H-3932CS.530	H-3912CSS.530	H-3932CSS.530
1/2" (12.5mm)	H-3912CS.500	H-3922CS.500	H-3932CS.500	H-3912CSS.500	H-3932CSS.500
7/16" (11.2mm)	H-3912CS.438	H-3922CS.438	H-3932CS.438	H-3912CSS.438	H-3932CSS.438
3/8" (9.5mm)	H-3912CS.375	H-3922CS.375	H-3932CS.375	H-3912CSS.375	H-3932CSS.375
5/16" (8.0mm)	H-3912CS.312	H-3922CS.312	H-3932CS.312	H-3912CSS.312	H-3932CSS.312
0.265" (6.7mm)	H-3912CS.265	H-3922CS.265	H-3932CS.265	H-3912CSS.265	H-3932CSS.265
1/4" (6.3mm)	H-3912CS.250	H-3922CS.250	H-3932CS.250	H-3912CSS.250	H-3932CSS.250
1/8" (3.17mm)	H-3912CS.125	H-3922CS.125	H-3932CS.125	-	H-3932CSS.125

Fine Sieve Size	Brass Frame Stainless Mesh			Stainless Frame Stainless Mesh	
	Full Height 3" (75mm)	Inter. Height 2" (50mm)	Half Height 1-5/8" (41mm)	Full Height 2" (50mm)	Half Height 1-5/8" (41mm)
No. 3-1/2 (5.6mm)	H-3912FS3-1/2	H-3922FS3-1/2	H-3932FS3-1/2	H-3912FSS3-1/2	H-3932FSS3-1/2
No. 4 (4.75mm)	H-3912FS4	H-3922FS4	H-3932FS4	H-3912FSS4	H-3932FSS4
No. 5 (4.0mm)	H-3912FS5	H-3922FS5	H-3932FS5	H-3912FSS5	H-3932FSS5
No. 6 (3.35mm)	H-3912FS6	H-3922FS6	H-3932FS6	H-3912FSS6	H-3932FSS6
No. 7 (2.80mm)	H-3912FS7	H-3922FS7	H-3932FS7	H-3912FSS7	H-3932FSS7
No. 8 (2.36mm)	H-3912FS8	H-3922FS8	H-3932FS8	H-3912FSS8	H-3932FSS8
No. 10 (2.00mm)	H-3912FS10	H-3922FS10	H-3932FS10	H-3912FSS10	H-3932FSS10
No. 12 (1.70mm)	H-3912FS12	H-3922FS12	H-3932FS12	H-3912FSS12	H-3932FSS12
No. 14 (1.40mm)	H-3912FS14	H-3922FS14	H-3932FS14	H-3912FSS14	H-3932FSS14
No. 16 (1.18mm)	H-3912FS16	H-3922FS16	H-3932FS16	H-3912FSS16	H-3932FSS16
No. 18 (1.0mm)	H-3912FS18	H-3922FS18	H-3932FS18	H-3912FSS18	H-3932FSS18
No. 20 (850µ)	H-3912FS20	H-3922FS20	H-3932FS20	H-3912FSS20	H-3932FSS20
No. 25 (710µ)	H-3912FS25	H-3922FS25	H-3932FS25	H-3912FSS25	H-3932FSS25
No. 30 (600µ)	H-3912FS30	H-3922FS30	H-3932FS30	H-3912FSS30	H-3932FSS30
No. 35 (500µ)	H-3912FS35	H-3922FS35	H-3932FS35	H-3912FSS35	H-3932FSS35
No. 40 (425µ)	H-3912FS40	H-3922FS40	H-3932FS40	H-3912FSS40	H-3932FSS40
No. 45 (355µ)	H-3912FS45	H-3922FS45	H-3932FS45	H-3912FSS45	H-3932FSS45
No. 50 (300µ)	H-3912FS50	H-3922FS50	H-3932FS50	H-3912FSS50	H-3932FSS50
No. 60 (250µ)	H-3912FS60	H-3922FS60	H-3932FS60	H-3912FSS60	H-3932FSS60
No. 70 (212µ)	H-3912FS70	H-3922FS70	H-3932FS70	H-3912FSS70	H-3932FSS70
No. 80 (180µ)	H-3912FS80	H-3922FS80	H-3932FS80	H-3912FSS80	H-3932FSS80
No. 100 (150µ)	H-3912FS100	H-3922FS100	H-3932FS100	H-3912FSS100	H-3932FSS100
No. 120 (125µ)	H-3912FS120	H-3922FS120	H-3932FS120	H-3912FSS120	H-3932FSS120
No. 140 (106µ)	H-3912FS140	H-3922FS140	H-3932FS140	H-3912FSS140	H-3932FSS140
No. 170 (90µ)	H-3912FS170	H-3922FS170	H-3932FS170	H-3912FSS170	H-3932FSS170
No. 200 (75µ)	H-3912FS200	H-3922FS200	H-3932FS200	H-3912FSS200	H-3932FSS200
No. 230 (63µ)	H-3912FS230	H-3922FS230	H-3932FS230	H-3912FSS230	H-3932FSS230
No. 270 (53µ)	H-3912FS270	H-3922FS270	H-3932FS270	H-3912FSS270	H-3932FSS270
No. 325 (45µ)	H-3912FS325	H-3922FS325	H-3932FS325	H-3912FSS325	H-3932FSS325
No. 400 (38µ)	H-3912FS400	H-3922FS400	H-3932FS400	H-3912FSS400	H-3932FSS400
No. 450 (32µ)	H-3912FS450	H-3922FS450	H-3932FS450	H-3912FSS450	H-3932FSS450
No. 500 (25µ)	H-3912FS500	H-3922FS500	H-3932FS500	H-3912FSS500	H-3932FSS500
No. 635 (20µ)	H-3912FS635	H-3922FS635	H-3932FS635	H-3912FSS635	H-3932FSS635
No. 850 (10µ)	H-3912FS850	H-3922FS850	H-3932FS850	-	-
No. 1000 (2µ)	H-3912FS1000	H-3922FS1000	H-3932FS1000	-	-



Sieves

USA Standard
ASTM Test Sieves



4"

101mm

12"

305mm

Coarse Sieve Size	4" Diameter		12" Diameter	
	Brass Frame, Stainless Mesh		Brass Frame, Stainless Mesh	
	1-1/2" Deep	4" Deep	4" Deep	8" Deep
4" (100mm)	-	-	H-3928CS4.000	H-3938CS4.000
3-1/2" (90mm)	-	-	H-3928CS3.500	H-3938CS3.500
3" (75mm)	-	-	H-3928CS3.000	H-3938CS3.000
2-1/2" (63mm)	-	-	H-3928CS2.500	H-3938CS2.500
2.12" (53mm)	-	-	H-3928CS2.120	H-3938CS2.120
2" (50mm)	-	-	H-3928CS2.000	H-3938CS2.000
1-3/4" (45mm)	-	-	H-3928CS1.750	H-3938CS1.750
1-1/2" (37.5mm)	-	-	H-3928CS1.500	H-3938CS1.500
1-1/4" (31.5mm)	-	-	H-3928CS1.250	H-3938CS1.250
1.06" (26.5mm)	-	-	H-3928CS1.060	H-3938CS1.060
1" (25.0mm)	H-3914CS1.000	H-3924CS1.000	H-3928CS1.000	H-3938CS1.000
7/8" (22.4mm)	H-3914CS.875	H-3924CS.875	H-3928CS.875	H-3938CS.875
3/4" (19.0mm)	H-3914CS.750	H-3924CS.750	H-3928CS.750	H-3910CSS.750
5/8" (16.0mm)	H-3914CS.625	H-3924CS.625	H-3928CS.625	H-3938CS.625
0.530" (13.2mm)	H-3914CS.530	H-3924CS.530	H-3928CS.530	H-3938CS.530
1/2" (12.5mm)	H-3914CS.500	H-3924CS.500	H-3928CS.500	H-3938CS.500
7/16" (11.2mm)	H-3914CS.438	H-3924CS.438	H-3928CS.438	H-3938CS.438
3/8" (9.5mm)	H-3914CS.375	H-3924CS.375	H-3928CS.375	H-3938CS.375
5/16" (8.0mm)	H-3914CS.312	H-3924CS.312	H-3928CS.312	H-3938CS.312
0.265" (6.7mm)	H-3914CS.265	H-3924CS.265	H-3928CS.265	H-3938CS.265
1/4" (6.3mm)	H-3914CS.250	H-3924CS.250	H-3928CS.250	H-3938CS.250
1/8" (3.17mm)	H-3914CS.125	H-3924CS.125	H-3928CS.125	H-3938CS.125

Fine Sieve Size	4" Diameter		12" Diameter	
	Brass Frame, Stainless Mesh		Brass Frame, Stainless Mesh	
	1-1/2" Deep	4" Deep	4" Deep	8" Deep
No. 3-1/2 (5.6mm)	H-3914FS3-1/2	H-3924FS3-1/2	H-3928FS3-1/2	H-3938FS3-1/2
No. 4 (4.75mm)	H-3914FS4	H-3924FS4	H-3928FS4	H-3938FS4
No. 5 (4.0mm)	H-3914FS5	H-3924FS5	H-3928FS5	H-3938FS5
No. 6 (3.35mm)	H-3914FS6	H-3924FS6	H-3928FS6	H-3938FS6
No. 7 (2.80mm)	H-3914FS7	H-3924FS7	H-3928FS7	H-3938FS7
No. 8 (2.36mm)	H-3914FS8	H-3924FS8	H-3928FS8	H-3938FS8
No. 10 (2.00mm)	H-3914FS10	H-3924FS10	H-3928FS10	H-3938FS10
No. 12 (1.70mm)	H-3914FS12	H-3924FS12	H-3928FS12	H-3938FS12
No. 14 (1.40mm)	H-3914FS14	H-3924FS14	H-3928FS14	H-3938FS14
No. 16 (1.18mm)	H-3914FS16	H-3924FS16	H-3928FS16	H-3938FS16
No. 18 (1.0mm)	H-3914FS18	H-3924FS18	H-3928FS18	H-3938FS18
No. 20 (850µ)	H-3914FS20	H-3924FS20	H-3928FS20	H-3938FS20
No. 25 (710µ)	H-3914FS25	H-3924FS25	H-3928FS25	H-3938FS25
No. 30 (600µ)	H-3914FS30	H-3924FS30	H-3928FS30	H-3938FS30
No. 35 (500µ)	H-3914FS35	H-3924FS35	H-3928FS35	H-3938FS35
No. 40 (425µ)	H-3914FS40	H-3924FS40	H-3928FS40	H-3938FS40
No. 45 (355µ)	H-3914FS45	H-3924FS45	H-3928FS45	H-3938FS45
No. 50 (300µ)	H-3914FS50	H-3924FS50	H-3928FS50	H-3938FS50
No. 60 (250µ)	H-3914FS60	H-3924FS60	H-3928FS60	H-3938FS60
No. 70 (212µ)	H-3914FS70	H-3924FS70	H-3928FS70	H-3938FS70
No. 80 (180µ)	H-3914FS80	H-3924FS80	H-3928FS80	H-3938FS80
No. 100 (150µ)	H-3914FS100	H-3924FS100	H-3928FS100	H-3938FS100
No. 120 (125µ)	H-3914FS120	H-3924FS120	H-3928FS120	H-3938FS120
No. 140 (106µ)	H-3914FS140	H-3924FS140	H-3928FS140	H-3938FS140
No. 170 (90µ)	H-3914FS170	H-3924FS170	H-3928FS170	H-3938FS170
No. 200 (75µ)	H-3914FS200	H-3924FS200	H-3928FS200	H-3938FS200
No. 230 (63µ)	H-3914FS230	H-3924FS230	H-3928FS230	H-3938FS230
No. 270 (53µ)	H-3914FS270	H-3924FS270	H-3928FS270	H-3938FS270
No. 325 (45µ)	H-3914FS325	H-3924FS325	H-3928FS325	H-3938FS325
No. 400 (38µ)	H-3914FS400	H-3924FS400	H-3928FS400	H-3938FS400
No. 450 (32µ)	H-3914FS450	H-3924FS450	H-3928FS450	H-3938FS450
No. 500 (25µ)	H-3914FS500	H-3924FS500	H-3928FS500	H-3938FS500
No. 635 (20µ)	H-3914FS635	H-3924FS635	H-3928FS635	H-3938FS635
No. 850 (10µ)	H-3914FS850	H-3924FS850	H-3928FS850	H-3938FS850
No. 1000 (2µ)	H-3914FS1000	H-3924FS1000	H-3928FS1000	H-3938FS1000



Sieves

USA Standard
ASTM Test Sieves

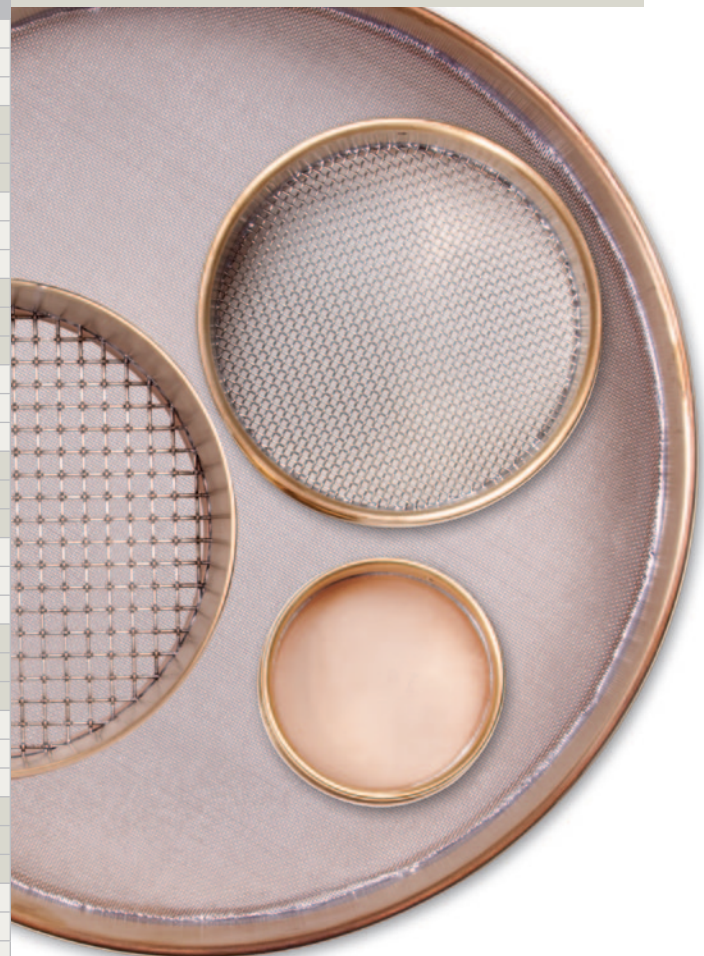


Coarse Sieve Size	Brass Frame, Stainless Mesh			
	3" Diameter 1" Deep	5" Diameter 1-1/2" Deep	6" Diameter 1-1/2" Deep	10" Diameter 3" Deep
4" (100mm)	-	-	-	H-3919CS4.000
3-1/2" (90mm)	-	-	-	H-3919CS3.500
3" (75mm)	-	-	-	H-3919CS3.000
2-1/2" (63mm)	-	-	-	H-3919CS2.500
2.12" (53mm)	-	-	-	H-3919CS2.120
2" (50mm)	-	-	-	H-3919CS2.000
1-3/4" (45mm)	-	-	-	H-3919CS1.750
1-1/2" (37.5mm)	-	-	-	H-3919CS1.500
1-1/4" (31.5mm)	-	-	-	H-3919CS1.250
1.06" (26.5mm)	-	-	-	H-3919CS1.060
1" (25.0mm)	H-3913CS1.000	H-3915CS1.000	H-3916CS1.000	H-3919CS1.000
7/8" (22.4mm)	H-3913CS.875	H-3915CS.875	H-3916CS.875	H-3919CS.875
3/4" (19.0mm)	H-3913CS.750	H-3915CS.750	H-3916CS.750	H-3919CS.750
5/8" (16.0mm)	H-3913CS.625	H-3915CS.625	H-3916CS.625	H-3919CS.625
0.530" (13.2mm)	H-3913CS.530	H-3915CS.530	H-3916CS.530	H-3919CS.530
1/2" (12.5mm)	H-3913CS.500	H-3915CS.500	H-3916CS.500	H-3919CS.500
7/16" (11.2mm)	H-3913CS.438	H-3915CS.438	H-3916CS.438	H-3919CS.438
3/8" (9.5mm)	H-3913CS.375	H-3915CS.375	H-3916CS.375	H-3919CS.375
5/16" (8.0mm)	H-3913CS.312	H-3915CS.312	H-3916CS.312	H-3919CS.312
0.265" (6.7mm)	H-3913CS.265	H-3915CS.265	H-3916CS.265	H-3919CS.265
1/4" (6.3mm)	H-3913CS.250	H-3915CS.250	H-3916CS.250	H-3919CS.250
1/8" (3.17mm)	H-3913CS.125	H-3915CS.125	H-3916CS.125	H-3919CS.125

3" 5" 6" 10"

76mm 127mm 152mm 254mm

Fine Sieve Size	Brass Frame, Stainless Mesh			
	3" Diameter 1" Deep	5" Diameter 1-1/2" Deep	6" Diameter 1-1/2" Deep	10" Diameter 3" Deep
No. 3-1/2 (5.6mm)	H-3913FS3-1/2	H-3915FS3-1/2	H-3916FS3-1/2	H-3919FS3-1/2
No. 4 (4.75mm)	H-3913FS4	H-3915FS4	H-3916FS4	H-3919FS4
No. 5 (4.0mm)	H-3913FS5	H-3915FS5	H-3916FS5	H-3919FS5
No. 6 (3.35mm)	H-3913FS6	H-3915FS6	H-3916FS6	H-3919FS6
No. 7 (2.80mm)	H-3913FS7	H-3915FS7	H-3916FS7	H-3919FS7
No. 8 (2.36mm)	H-3913FS8	H-3915FS8	H-3916FS8	H-3919FS8
No. 10 (2.00mm)	H-3913FS10	H-3915FS10	H-3916FS10	H-3919FS10
No. 12 (1.70mm)	H-3913FS12	H-3915FS12	H-3916FS12	H-3919FS12
No. 14 (1.40mm)	H-3913FS14	H-3915FS14	H-3916FS14	H-3919FS14
No. 16 (1.18mm)	H-3913FS16	H-3915FS16	H-3916FS16	H-3919FS16
No. 18 (1.0mm)	H-3913FS18	H-3915FS18	H-3916FS18	H-3919FS18
No. 20 (850µ)	H-3913FS20	H-3915FS20	H-3916FS20	H-3919FS20
No. 25 (710µ)	H-3913FS25	H-3915FS25	H-3916FS25	H-3919FS25
No. 30 (600µ)	H-3913FS20	H-3915FS20	H-3916FS20	H-3919FS20
No. 35 (500µ)	H-3913FS35	H-3915FS35	H-3916FS35	H-3919FS35
No. 40 (425µ)	H-3913FS40	H-3915FS40	H-3916FS40	H-3919FS40
No. 45 (355µ)	H-3913FS45	H-3915FS45	H-3916FS45	H-3919FS45
No. 50 (300µ)	H-3913FS50	H-3915FS50	H-3916FS50	H-3919FS50
No. 60 (250µ)	H-3913FS60	H-3915FS60	H-3916FS60	H-3919FS60
No. 70 (212µ)	H-3913FS70	H-3915FS70	H-3916FS70	H-3919FS70
No. 80 (180µ)	H-3913FS80	H-3915FS80	H-3916FS80	H-3919FS80
No. 100 (150µ)	H-3913FS100	H-3915FS100	H-3916FS100	H-3919FS100
No. 120 (125µ)	H-3913FS120	H-3915FS120	H-3916FS120	H-3919FS120
No. 140 (106µ)	H-3913FS140	H-3915FS140	H-3916FS140	H-3919FS140
No. 170 (90µ)	H-3913FS170	H-3915FS170	H-3916FS170	H-3919FS170
No. 200 (75µ)	H-3913FS200	H-3915FS200	H-3916FS200	H-3919FS200
No. 230 (63µ)	H-3913FS230	H-3915FS230	H-3916FS230	H-3919FS230
No. 270 (53µ)	H-3913FS270	H-3915FS270	H-3916FS270	H-3919FS270
No. 325 (45µ)	H-3913FS325	H-3915FS325	H-3916FS325	H-3919FS325
No. 400 (38µ)	H-3913FS400	H-3915FS400	H-3916FS400	H-3919FS400
No. 450 (32µ)	H-3913FS450	H-3915FS450	H-3916FS450	H-3919FS450
No. 500 (25µ)	H-3913FS500	H-3915FS500	H-3916FS500	H-3919FS500
No. 635 (20µ)	H-3913FS635	H-3915FS635	H-3916FS635	H-3919FS635
No. 850 (10µ)	H-3913FS850	H-3915FS850	H-3916FS850	H-3919FS850
No. 1000 (2µ)	H-3913FS1000	H-3915FS1000	H-3916FS1000	H-3919FS1000



Sieve Shakers, Sieves, Brushes



Motorized Sieve Shaker for 3" Sieves— H-4326
 Small, simple shaker for use with 3" sieves. Will accommodate up to 6 sieves and uses a 1/20 Hp motor. Includes 3-wire plug for 115V 50/60 operation. Shipping Weight 6 lb (2.7Kg) **See chart below.**



H-4325
H-4330

Motorized Sieve Shaker for 3" to 12" Sieves— H-4325 and H-4330
 Inexpensive, motorized sieve shakers handle most sieving applications. Model H-4325 accommodates 3-8" sieves and H-4330 works with 8-12" sieves. Built-in timer and 1/4 hp motor. **See chart below.**

Sieve Shakers

Cement Wet Washing Sieves

Description	Model 115V 60Hz
2" x 3" high (52 x 76mm) with No. 325 replaceable mesh	H-3807
3" x 3-1/2" high (76 x 89mm) with No. 200 replaceable mesh	H-3804
4" x 4-1/2" high (102 x 114mm) with No. 325 replaceable mesh	H-3809
2" dia. No. 325 replacement mesh disk	H-3807.325
3" dia. No. 200 replacement mesh disk	H-3804.200
4" dia. No. 200 replacement mesh disk	H-3809.200
Replacement Leg	H-3807.4
Replacement Screw	H-3807.5



Cement Wet Washing Sieves
 Stainless steel mesh sieves with nickel-plated brass frame and legs for support when drying on hot plates. Legs are quick and easy to remove to facilitate mesh replacement. **All Wet Washing Sieves are available from 50-400 mesh. Call 1-800-544-7220 to order mesh not listed.**

Sieve Brushes—

Sieve Brush, fine mesh— H-3774

Horsehair, wood handle; 1-1/2" x 1-1/4" dia. (38 x 32mm), 5-1/4" (133mm) overall length.

Sieve Brush, oval shape— H-3799

Horsehair, wood handle; 2-3/4" x 1-1/8" x 3/4" (70 x 29 x 19mm), 10-1/2" (267mm) overall length.

Sieve Brush, fine mesh— H-3770

Horsehair, wood handle; 2-1/2" x 1" x 3/8" (64 x 25 x 10mm), 10-1/2" (267mm) overall length.

Sieve Brush, coarse mesh— H-3772

Wire, wire loop handle; 1-1/2" x 3/4" x 1/8" (38 x 19 x 3mm), 5-1/2" (140mm) overall length.



Description	Model 115V 60Hz	Sieve Dia. in (mm)	Sieve Capacity			ASTM	Timer Minutes	Mounting Required	Motor HP	Dimensions W x D x H in. (mm)	Ship Wt. lbs (kg)
			Full	Inter.	Half						
Motorized Sieve Shaker	H-4325	3 (76)	16	—	—	C136	30	Yes	1/4	15 x 15 x 45 (380 x 380 x 1143)	65 (29.5)
		5 (127)	12	—	—						
		8 (203)	10	—	18						
Large Capacity Motorized Sieve Shaker	H-4330	8 (203)	11	—	19	C136	30	Yes	1/4	21 x 18 x 47 (533 x 457 x 1194)	85 (38.5)
		10 (254)	7	—	—						
		12 (305)	7	11	13						
Motorized Sieve Shaker for 3" Sieves	H-4326	3 (76)	6	—	—		No	1/20		6 (2.7Kg)	

Metal Labware



Aluminum Moisture Dish— H-17150

Inverted slip-in cover with beaded edge for tight sealing, can be handled with crucible tongs. Inside diameter at top 2-1/4" x 3/4" deep (57mm x 19mm). Drawn aluminum construction. Packed 10 per ctn.

Aluminum Moisture Boxes

Diameter	Height	Description	Model
2" (51mm)	7/8" (22mm)	Seamless aluminum flat bottom, straight side box has tight fitting cover that fits bottom of box also.	H-4926
2-1/2" (64mm)	1-3/4" (44mm)		H-4927
3" (76mm)	1" (25mm)	Sample is protected from exposure during weighing operations.	H-4928
3-1/2" (89mm)	2" (51mm)		H-4929



H-4926
H-4927
H-4928
H-4929

Nickel Evaporating Dishes

Capacity	Diameter	Height	Description	Model
40ml	2-1/4" (57mm)	1" (25mm)	Heavy gauge pure nickel dishes have straight sides, flat bottom, pour lip.	H-4924.040
100ml	2-3/4" (70mm)	1-3/8" (35mm)		H-4924.100
200ml	3-3/8" (86mm)	1-13/16" (46mm)		H-4924.200
300ml	3-7/8" (98mm)	2-1/4" (57mm)		H-4924.300



H-4924 Series

Laboratory Beakers

Capacity	Description	Aluminium	Nickel
60ml	Low-form laboratory beakers with pour spout	H-4920.060	H-4921.060
125ml		H-4920.125	H-4921.125
250ml		H-4920.250	H-4921.250
500ml		H-4920.500	H-4921.500
1,000ml		H-4920.1M	H-4921.1M
2,000ml		H-4920.2M	H-4921.2M



H-4920.050

H-4920.1M

Stainless Steel Measures

Capacity	Description	Model
500ml	Measures feature convenient handle and graduations in milliliters and ounces on inside.	H-4923.500
1,000ml		H-4923.1M
2,000ml		H-4923.2M



H-4923.500



H-4923.1M

Nickel Crucibles & Covers

Nickel crucibles from pure heavy sheet nickel. Suitable for fusions, including those with sodium peroxide. Highly resistant to dilute alkalis.

Capacity	Top Dia.	Height	Crucible	Cover
20ml	38mm	35mm	H-4922.020	H-4922C.020
30ml	42mm	45mm	H-4922.030	H-4922C.030
50ml	45mm	51mm	H-4922.050	H-4922C.050
75ml	51mm	57mm	H-4922.075	H-4922C.075
100ml	60mm	64mm	H-4922.100	H-4922C.100
250ml	83mm	83mm	H-4922.250	H-4922C.250
500ml	102mm	92mm	H-4922.500	H-4922C.500
1000ml	127mm	114mm	H-4922.1M	H-4922C.1M



H-4922.050



H-4922C.050

Scoops & Spatulas



Spatula — H-4904, H-4906, H-4907, H-4908, H-4910

Flexible stainless steel blades with straight edges and rounded ends. Blade is riveted into wooden handle. H-4907 meets ASTM C185, C780; AASHTO T137.

Dimensions:

H-4904 – 3/4" (19mm) wide x 4" (102mm) long, straight-edge spatula.

H-4906 – 7/8" (22mm) wide x 6" (152mm) long, straight-edge spatula.

H-4907 – 1/2" (13mm) wide x 6" (152mm) long, straight-edge spatula.

H-4908 – 1-1/4" (32mm) wide x 8" (204mm) long, straight-edge spatula.

H-4910 – 1-1/4" (32mm) wide x 10" (254mm) long, straight-edge spatula.

Stainless Steel Scoops

Model	Teflon® Coated	Scoop Number	Nose	Bowl Volume Water (oz./cu. in.)	Length	Bowl Dimensions Width	Depth	Overall Length
H-3734	H-3734TC	–	Round	3.3 (6.1)	5" (114mm)	2-1/2" (63mm)	1" (25.4mm)	9" (228mm)
H-3735	H-3735TC	–	Flat	6.6 (12.2)	5-1/2" (139mm)	3" (76mm)	1-1/2" (38mm)	9.3" (236mm)
H-3736	H-3736TC	–	Flat	29 (53)	8" (203mm)	5-1/2" (139mm)	2-1/2" (63mm)	13-1/2" (343mm)
H-3738		–	Curved	–	2-1/2" (635mm)	2-1/2" (635mm)	–	9" (228mm)

Aluminum Scoops

Model	Teflon® Coated	Scoop Number	Nose	Bowl Volume Water (oz./cu. in.)	Length	Bowl Dimensions Width	Depth	Overall Length
H-3729	H-3729TC	1	Round	13.5 (24.4)	6-3/4" (172mm)	4" (102mm)	2-1/2" (64mm)	10" (254mm)
H-3730	H-3730TC	–	Square	6.7 (12.2)	6" (152mm)	3-3/4" (95mm)	2" (51mm)	9-1/4" (235mm)
H-3731	H-3731TC	2	Round	20 (36.6)	8-1/4" (210mm)	5-1/4" (133mm)	3" (76mm)	12-1/4" (311mm)
H-3732	H-3732TC	3	Round	33 (61.02)	10-1/4" (260mm)	5-3/4" (146mm)	3-1/2" (89mm)	14-1/2" (368mm)

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