Carlisle

INDUSTRIAL GAS BURNER EQUIPMENT

MILLVILLE, NEW JERSEY

INDEX

FORWARD

PRODUCT DATA SHEETS

*** FOR COMPLETE RANGE OF ITEMS AVAILABLE, A SEPARATE CATALOG WILL BE SENT UPON REQUEST

Foreword

CARLISLE Continues the business founded in 1918 and takes great pride in the opportunity afforded us in serving the Glass, Metal and Electronic Industries as well as the Chemical and Laboratory Fields along with the Conversion and Utility Companies.

We have been cooperating with the leading Combustion Engineers of the Conversion & Utility Companies throughout the United States and Canada, during the change-over from Manufactured to Natural Gas. This cooperation has resulted in the safest and latest type Burners & Accessories for Natural as well as Reformed, Propane, Hydrogen and Mixed Gas for use with Oxygen, Air or a combination of both.

Our products are produced from the finest materials, and are examined and tested before leaving our plant.

We are continually doing Research on New Products as well as our present Burners and Equipment. As new items become available they are immediately brought to the attention of our customers.

This catalog can only serve to describe our Standard Products. Your inquiries are solicited on Special Burners and Equipment. Our facilities are always at your disposal.

You can be assured of CARLISLE'S prompt and courteous service regardless of your needs.

TERMS OF SALE

QUOTATIONS & PRICES - Prices are subject to change without notice and orders calling for future shipment will be billed according to the price in effect at the time of shipment. Written quotations automatically expire 60 calendar days from the date issued and are subject to termination by notice within that period.

PAYMENT TERMS - Net amount of Invoice in full within 30 days of date of Invoice. If in our opinion the financial condition of the purchaser at any time does not justify continuance of production or shipment on the terms of payment specified, we may require full or partial payment in advance.

SHIPMENT - All prices are F.O.B. point of shipment (unless otherwise specifically stated by us) Method and Route of shipment are at our discretion, unless the purchaser supplies explicit instructions. All shipments are insured at the purchasers expense and made at the purchasers risk. Identification of the goods to the contract shall occur as each shipment is placed in the hands of the carrier.

TAXES - The amount of the present or future sales, revenue, excise or other taxes applicable to the products listed herein shall be added to the purchase price and shall be paid by the purchaser, OR IN LIEU thereof the purchaser shall provide us with a tax exemption certificate acceptable to the taxing authorities.

LIABILITY - We shall not be liable for loss or damage of any kind resulting from delay or inability to ship on account of fire, labor trouble, accident, acts of civil or military disorders, inability of outside suppliers to deliver materials or any other cause beyond our control.

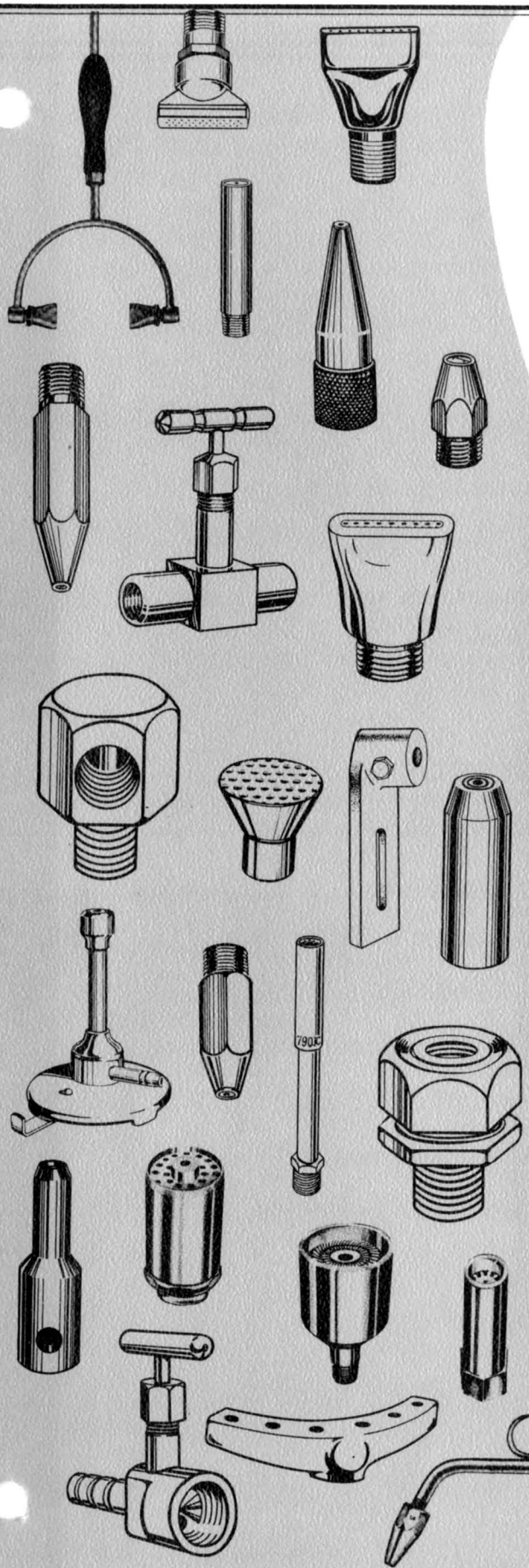
WARRANTY - Seller makes no warranties expressed or implied, of merchantability or of fitness for any particular use and shall not be liable for any loss or damage, directly or indirectly, arising from the use of such merchandise or for consequential damage or injury.

CANCELLATION - An order once placed with and accepted by us may not be cancelled except with the express consent of authorized personnel and upon terms that will indemnify us against loss.

RETURN OF MATERIAL - No merchandise may be returned to us without authorization by prior agreement with authorized personnel. When the return is authorized, transportation charges are to be prepaid. We will not be in any way responsible for any goods shipped to us without prior authorization. No Special material or equipment may be returned nor any burner nozzle or other parts directly exposed to flame.

SERVICE - Merchandise shall be in operation at our plant or at the suppliers plant at which it is built. Purchaser may send a representative to inspect material and to receive demonstration and instructions prior to shipment of merchandise should purchaser so desire. If service is required at purchasers plant, there will be a per diem charge plus expenses for a serviceman.

GUARANTEE - The equipment manufactured by us is guaranteed to be free from defects in workmanship and material under normal use and service. Our responsibilty is expressly limited to material manufactured by us. In the case of merchandise not manufactured by us, our liabilty, if any, is limited to such guarantee as may be given by their respective manufacturers.



A TYPE – A SIZE – A CAPACITY

For Every Application

We do not confine our manufacturing to the standard – special problems for special application will be handled with the utmost of efficiency. Just send us your Blue Prints or Specifications. We will be glad to suggest and quote on any item.

Our research, design and manufacturing skill has not been limited to any one type of burner. Through our engineering know-how and our contact with actual problems in the field, we have developed a line of equipment to meet every need.

Listed below are some of the products bearing the name **– CARLISLE –**

- ANNEALING OVENS
- SURFACE MIXED BURNERS
- BENCH BURNERS
- GLASS BLOWING BURNERS
- LATHE BURNER ASSEMBLIES
- LATHES, CHUCKS, ACCESSORIES
- CROSS FIRE BURNERS
  - Gas-Air Gas Oxygen
- BALL JOINTS
- HEX ELBOWS
- MANIFOLDS
- SLIDING BASES
- FIRE CHECKS
- VENTURI MIXERS
- VALVES
  - Micrometer
  - Brass, Stainless
  - Midget Forged
  - Panel Mount, etc.
  - Ball
- SOFT FLAME BURNERS
- ANNEALING BURNERS
- INSPIRATORS
- DIAMOND WHEELS
- DIAMOND CORE DRILLS
- REGULATORS
- TORCHES
  - Gas-Air Gas-Oxygen
- JEWELERS BLOWPIPES
- BUNSEN BURNERS, ACCESSORIES
- DENTAL WAXING BURNERS
- FISH TAIL BURNERS
  - Gas-Air Gas-Oxygen
- OXYGEN NEEDLE FIRES
- HYDROGEN BURNERS
- FURNACE BURNERS
- FIRE POLISHING BURNERS
- OVEN BURNERS
- BLAST LAMPS
- SWIVELS
- SEALING & SPLICING TORCHES
- IGNITION TORCHES
- RIBBON BURNERS
  - Gas-Air Gas-Oxygen
- BLAST TIPS
- GLASS CUT-OFF MACHINES
  - Abrasive
  - Diamond

Carlisle Gas Burner Corp.

Phones: 609 - 825 - 0627
609 - 825 - 0658

MILLVILLE, NEW JERSEY, 08332

ALSO AVAILABLE FROM CARLISLE GAS BURNER CORP.

Annealing Ovens	Temperature Controllers
Regulators	Pilot Relighter Systems
Minicorders	Saffire Tip Burners
Belt Sanders	Pressure Gauges
Braided Teflon Hose	Polariscopes
Glazing Machines	Diamond Abrasive Equipment
Score & Snap Machines	Ultrasonic Machining Systems

GLASS WORKING LATHES : Woodland Lathe & Machine Company
The Heathway Machine Co.,Ltd.

PLUS, Material from such WELL KNOWN MANUFACTURERS AS :

Eclipse Fuel Engineering Co.	American Gas Furnace Co.
Fisher Regulator Co.	Maxitrol Company
North American Manufacturing	American Chain & Cable Co.
Bryant Industrial, Inc.	Spencer Turbine Co.
Leiman Brothers, Inc.	Maxon Pre-Mix Burner Co.
Dresser Industries, Inc.	Selas Corp.of America
Snap-Tite, Inc.	Rockwell Manufacturing Co.
Marshalltown Manufacturing Co.	Air Products & Chemicals, Inc.
Oswego Package Boiler Co.,Inc.	Janitrol, Inc.
Space Ray Gas Fired Products Inc.	Pyronics, Inc.

PLUS MANY OTHERS

SPECIAL DESIGNED MACHINES & BURNERS FOR EVERY PURPOSE

Carlisle GAS BURNER CORP.

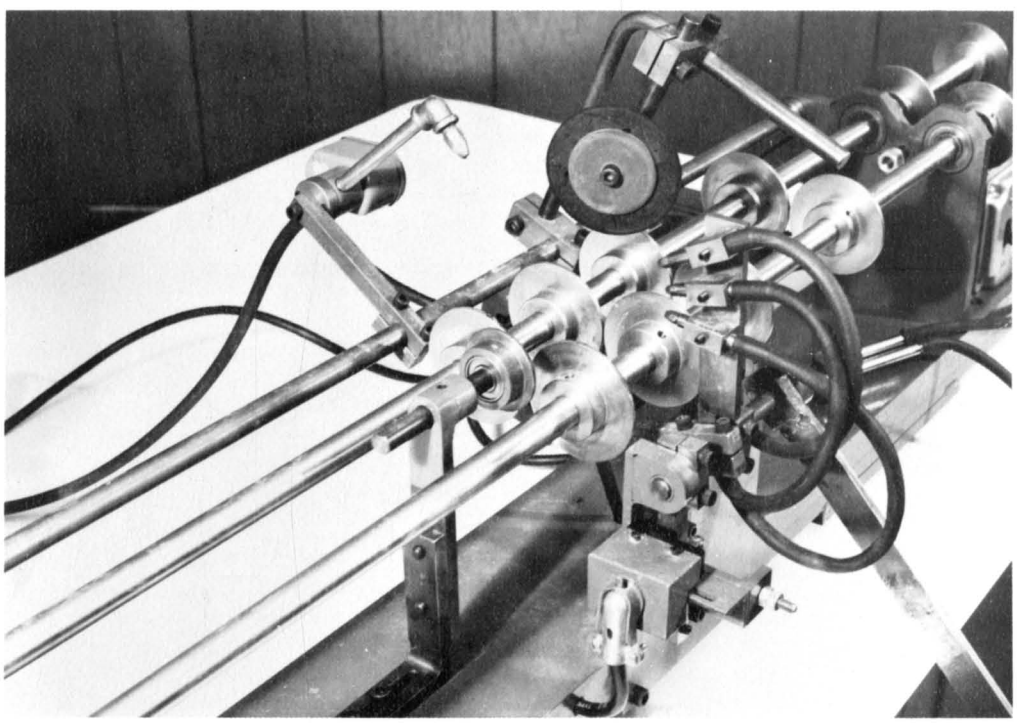
MILLVILLE, N. J.

HOT-CUT MACHINE

Proven in Glass Shops throughout the country, this versatile, easy to operate Machine utilizes the Thermal Shock method of Glass cutting.

Cuts Glass Tubing from 3/8" Diameter to 3" Diameter and Lengths from 1" to 24" with a minimum of set-up time.

EASY TO OPERATE – Depress handle to score Glass with a Diamond
Roll Glass to insure a good score
Raise handle to heat scored area
(An automatic Timer will activate Solenoid and provide a jet spray of water at precisely the right time to crack-off the Glass)
Release handle – Remove cut Glass



This Bench Mounted Machine is supplied READY TO USE
Variable Speed motor driven Rollers
Stainless Steel Main Shaft and Rollers
0-30 Second Timing Unit
Exclusive free floating drive wheel to advance Glass for next cut
Allen adjustment screws for quick, easy change of jobs
115 volt - 60 cycle - single phase controls

FELKER

core-lock

Industrial Diamond Abrasive

Core Drills

Drills 10 to 15 times faster in GLASS, QUARTZ, GRANITE, MARBLE, CONCRETE, TILE, BRICK, PORCELAIN, AGATE, PETRIFIED WOOD, ONYX and other hard, brittle non-metallic materials.

FELKER DI-MET SINCE 1924

Bulletin 80

Carlisle **GAS BURNER CORP.**

MILLVILLE, N. J.

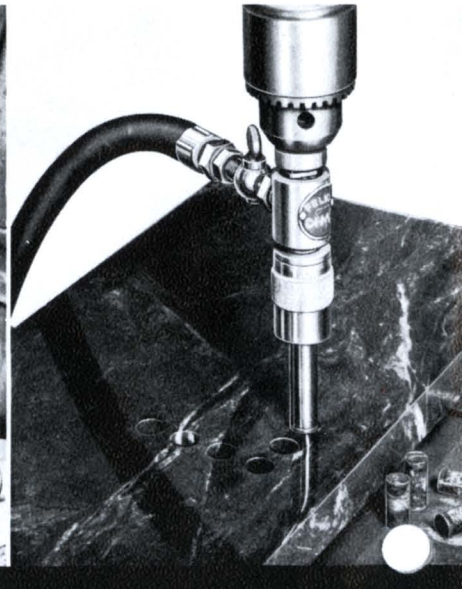
The most revolutionary development ever m

This diamond abrasive core drill, originated by Felker, gives new speed to all users... drills glass, marble, granite, concrete, porcelain, tile, brick, agate, onyx, quartz, petrified wood and many other non-metallic materials! Drills extra deep holes (with special shaft lengths), produces round, smooth holes and cores. An excellent tool for sampling poured concrete, rock specimens, etc., for drilling conduit and pipeline passages through stone and brick walls, for drilling lag bolt holes for mounting machinery on concrete floors, making holes in glass plate and manufactured glass components, cutting lens blanks from optical glass, etc.

Drills clean, straight holes, produces perfect, unbroken cores at HIGH SPEED!

PETRIFIED WOOD and other semi-precious stones are easily cored for inspection and interior coloration. Cores can be sectioned, ground and polished for settings.

MARBLE is drilled in a matter of a few seconds. Holes are straight sided, smooth and true.



GRANITE drills with high speed. Note detail and polish of cores... proof of smooth, accurate cutting.

for drilling all hard, brittle, non-metallic materials!

FLUSHES RIM AS IT DRILLS—Novel design permits circulation of water to coolant head and down through bore to the diamond rim while drilling. Constant flow of coolant washes chips and sludge from kerf... keeps diamond rim cool and clean cutting.

FAST CUTTING—Produces clean holes in seconds! 10 to 15 times faster than any alternate method.

LONG LIFE—Metal bonded diamond rims show negligible wear under extreme operating conditions... cut hole costs to a minimum.

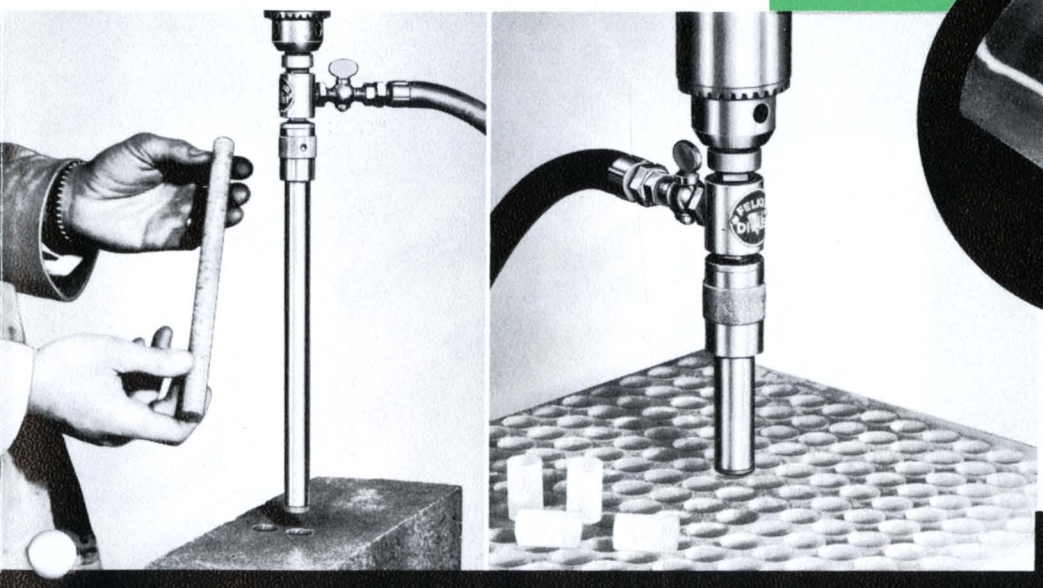
EASY APPLICATION—No special equipment is required. Use these core drills in standard equipment such as drill presses, and portable electric drills.

REPLACEABLE DRILLS—When drills are worn out collets can be salvaged. Drills are replaced at our factory.

WIDE RANGE OF DRILL SIZES — From ⅛" to 2½" O.D. in fractional steps. Larger diameters available. Standard lengths drill 2 1/16" of hole. Special shaft lengths to order.

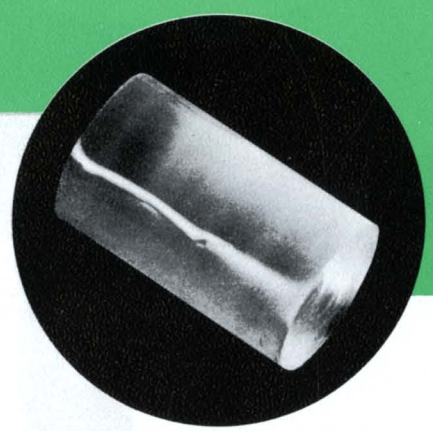
CAN YOU MATCH THESE CUTTING SPEEDS?

Material	Drill Size	Depth of Cut	Time per Inch	Coolant
*Plate Glass	½"	1"	10 Seconds	Water
Concrete	½"	1"	14 Seconds	Water
Verd—Antique Marble	½"	1"	20 Seconds	Water
Wall Tile	½"	1"	4 Seconds	Water
Fired Porcelain	½"	1"	9 Seconds	Water
Vitrified Zirconium Oxide	½"	1"	24 Seconds	Water
Flint Brick	½"	1"	16 Seconds	Water
Granite	½"	1"	14 Seconds	Water
Silicon Carbide Brick	½"	1"	50 Seconds	Water
Mexican Onyx	½"	1"	8 Seconds	Water
Fused Quartz	½"	1"	18 Seconds	Water
Quartz	½"	1"	50 Seconds	Water and Soluble Oil
Moss Agate	½"	1"	90 Seconds	Water and Soluble Oil
Petrified Wood	½"	1"	50 Seconds	Water and Soluble Oil



FIRE BRICK—an unusually hard material, is drilled without difficulty. Drill shanks of this length are available on order.

HEAVY PLATE GLASS—one of the most difficult materials in which to produce large holes by conventional means. The job is done on an ordinary drill press.



GLASS CORE is from the glass plate at left. Frequently manufacturers utilize the cores (for lens blanks, for instance) instead of requiring holes.

Felker also manufactures special Core-Lock Diamond Abrasive Core Drills from ¼" to 14" in diameter for the construction industry in both resettable and throw-away types.

DRILL HEAD ASSEMBLY

Complete Felker core drill assembly consists of three separate pieces.

No. 1 Drill Head and Collet
for Drills ⅛" to ¾" O.D.
⅜" Stem
¾"—16 NF Thread

No. 2 Drill Head and Collet
for Drills 13/16" to 1½" O.D.
½" Stem
1½"—12 NS Thread

No. 3 Drill Head and Collet
for Drills 1 9/16" to 2½" O.D.
¾" Stem
2½"—12 NS Thread

PRESSURE COOLANT HEADS—A straight shank is provided for easy chucking, threaded at the lower end for special Felker collets. Shank is surrounded by a special brass jacket equipped with pack-off glands and a coolant cock. Three sizes of pressure coolant heads accommodate the complete range of available drill sizes.

FELKER COLLETS—Brass body is internally threaded to fit pressure coolant heads. Individually bored to size for diamond drill. (Drill diameter must be specified when ordering.) Entire collet and drill assembly are easily unscrewed from head for core removal or replacement of drills. Three sizes.

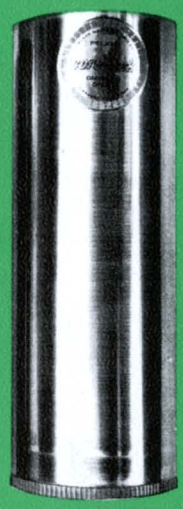
FELKER DI-MET SINCE 1924

FELKER *core-lock*

Construction Type Surface Set Diamond Core Drills

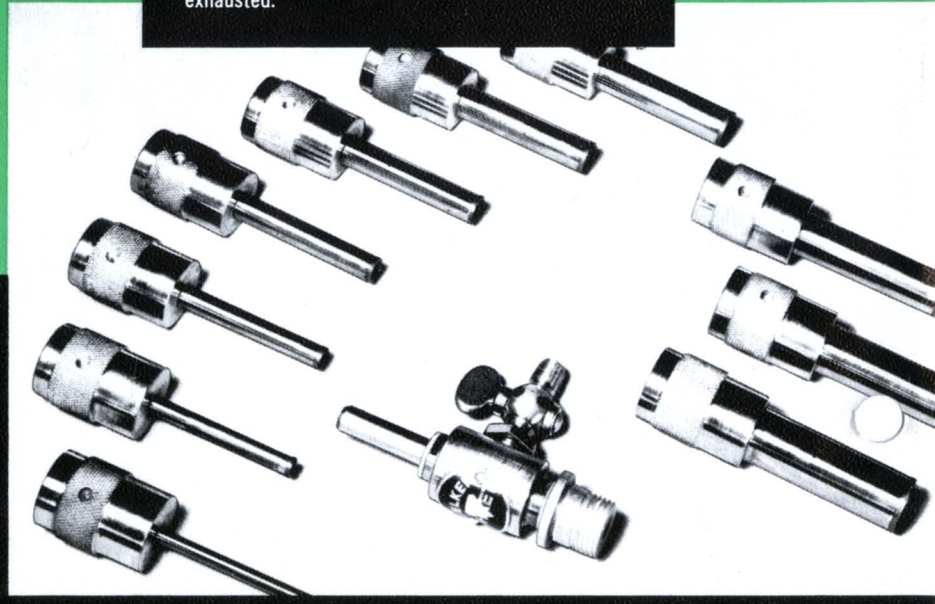
This new series of core drills has been designed for drilling in reinforced concrete, block, brick, tile, and other materials commonly used in the construction field. They are equally suited to rugged, highly-abrasive service in industrial applications.

Of two types, specify surface-set, resettable core drills for extremely rugged service, especially if large amounts of steel reinforcing are encountered. Economy, "Throw-Away" diamond core drills are recommended for lighter service, where low initial cost is a factor. Sizes available are ¼" to 14" in diameter with larger sizes available on request. Write for descriptive literature.

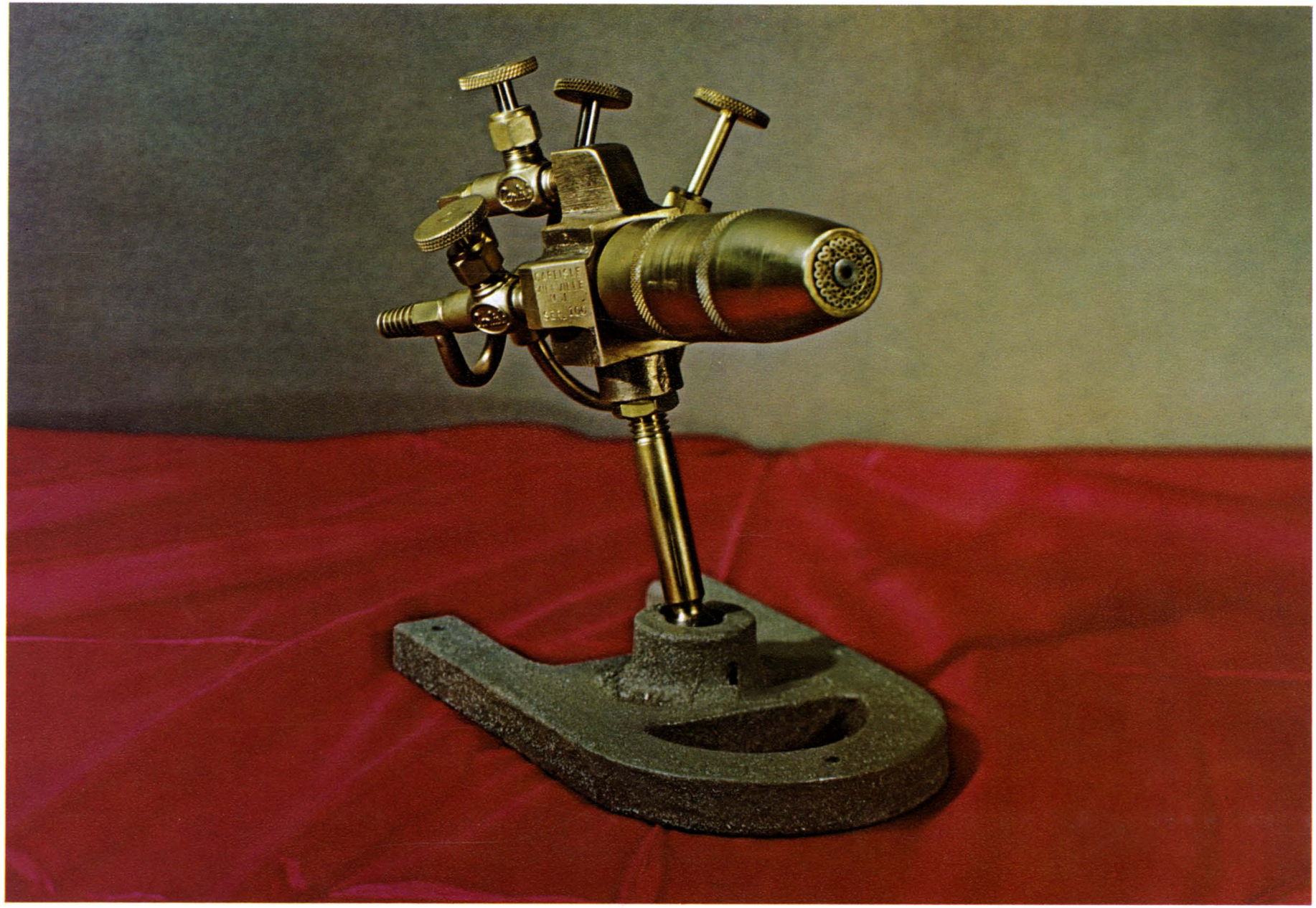


CORE DRILLS—Made of ground seamless tubing, equipped with high strength metal-bonded diamond rims. Shaft is precision fitted and soldered in collet, insuring a permanently true-running tool.

Wide range of drill diameters which can be accommodated with a single pressure coolant head is shown here. Each drill is soldered within its collet; separate collets are thus required for each drill size. Collets can be reused after the drill life is exhausted.



Carlisle (CC) Burner



Carlisle (CC) Burner

FEATURING THE FOLLOWING IMPROVEMENTS . . .

★ IMPROVED CENTER FIRE

★ NEWLY DESIGNED HEAD, PRODUCES . . . Greater Heat Intensity
. . . Quiet Operation

★ PROPERLY SIZED MIXER for Pre-Mixed Center Fire . . . Reduces Chances of a Flash-Back

★ LARGER DIAMETER . . . SURFACE-MIXED . . . Outer Fire

★ IMPROVED FLAME CHARACTERISTICS

★ FINE THREAD NEEDLE VALVES for Controlling Center Fire

★ QUICK OPENING VALVES for Controlling Outer Fire

★ CENTER TUBE & PILOTED TIP MADE FROM ALLOY STEEL

★ REQUIRES ONLY TWO HOSE CONNECTIONS

★ MORE EVEN GAS and OXYGEN DISTRIBUTION

★ NEWLY DESIGNED INTERNAL SEALS

★ MORE ECONOMICAL TO OPERATE

★ IMPROVED BASE allows GREATER ANGULATION

★ OPERATES ON HYDROGEN, NATURAL & L. P. GASES

RECOMMENDED OPERATING PRESSURE . . . GAS - 5 PSI . . . OXYGEN - 10 PSI.

A Gas Booster is recommended where the above Pressures are not available.

THE FOLLOWING EXTRA EQUIPMENT IS AVAILABLE FOR USE WITH THE CARLISLE (C C) BURNER . . .

INDEPENDENT PILOT

MOUNTING for Glass Working Lathe

EL-2 SOLENOID Operated GAS SAVER

MANUFACTURED by . . . CARLISLE GAS BURNER CORP.
Millville, New Jersey

Carlisle GAS BURNER CORP.

MILLVILLE, N. J.

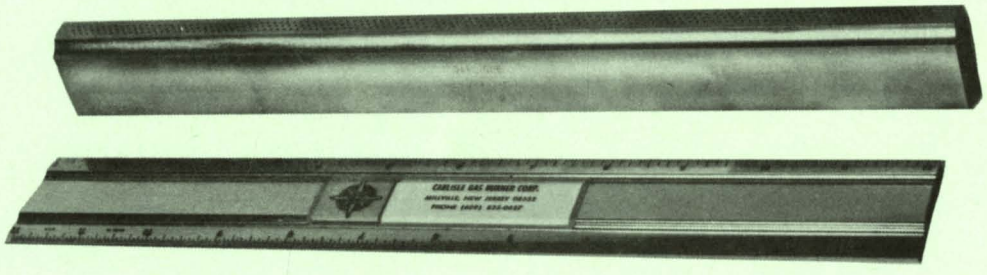
112F SERIES
DRILLED PORT OXYGEN BURNERS

Constructed from either Brass or Alloy Steel

Staggered 3 Row Drilled Port Pattern

Available in Flame Lengths from 1" to 12"

Uniform Flame regardless of Length of Flame



This Burner finds many uses in problem areas where cold spots or multi-Burner assemblies cannot be tolerated.

It is excellent for sealing operations (such as heavy wall "HARD GLASS" Pipe), in Fire Polishing, Forming, etc.

Although normally used on Gas & Oxygen, these Burners can be set up to bleed air for cooling the fire if necessary.

In as much as these units are PRE-MIXED, the proper equipment such as a properly sized Venturi Mixer, Control Valves and a Fire Check should be used.

ORDERING INFORMATION:

No. 112F-4-B would indicate a Brass Burner with a 4" Flame Length

No. 112F-2-S would indicate an Alloy Burner with a 2" Flame Length

SURFACE MIXED

SMT RIBBON BURNERS

SMT RIBBON BURNERS have been designed for MAXIMUM Safety, Durability and Performance.

A HOT, SHARP FIRE is produced by use of a continuous row of Stainless Steel Hypodermic Tubing, thus ELIMINATING ANY COLD SPOTS. Stainless Steel Manifolds are used to prevent Burner from warping due to reflected heat.

CARLISLE SMT BURNERS will operate under extremely high velocities as required when working quartz and yet can be PULLED BACK to an almost invisible flame without causing a flash-back.

These Burners may be safely operated in ANY POSITION and will burn Natural Gas and Oxygen as well as Hydrogen and Oxygen. The Burner itself remains relatively cool at all times.

Venturi Mixers are not required since the Gases MIX AT THE SURFACE OF THE BURNER ONLY, thus eliminating the possibilities of a flash-back.

The Burner is adjustable by placing a sheet of wet asbestos, under slight pressure, over the undesired portion of the Burner.

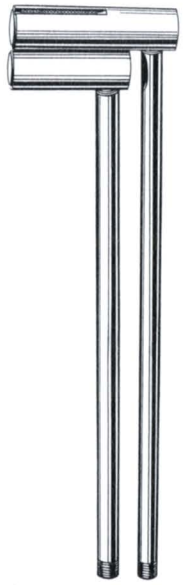
CARLISLE SMT BURNERS are available in . . .

Style A - Machine Mount
Style B - Bench Model
Style C - Machine Mount

FLAME Lengths - From 1/2" up

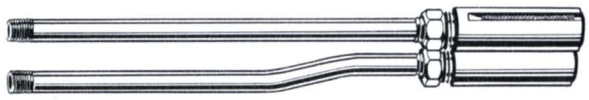
When ordering specify style and length of flame required.

If special designed SMT Burners are required please submit blue-print or sketch.



STYLE A

STYLE B



STYLE C

Carlisle GAS BURNER CORP.
MANUFACTURERS OF INDUSTRIAL GAS BURNERS
MILLVILLE, NEW JERSEY

THE FOLLOWING PIPE SIZES ARE USED TO MANUFACTURE THE SINGLE ROW OF BURNERS SHOWN ON REVERSE SIDE

BURNERS from 1/2" to 5" Flame Space — Any Style

BODY	3/8" Sch.80 Pipe
FEEDS	1/8" Sch.40 Pipe

BURNERS from 5 1/2" to 14 1/2" Flame Space — Any Style

BODY	3/4" Sch.80 Pipe
FEEDS	1/4" Sch.40 Pipe

BURNERS from 15" to 19" Flame Space — Any Style

BODY	1" Sch.80 Pipe
FEEDS	3/8" Sch.40 Pipe

BURNERS from 20" to 24" Flame Space — Any Style

BODY	1 1/4" Sch.80 Pipe
FEEDS	1/2" Sch.40 Pipe

Some variations in feed arrangements and sizes can be made.

If you have special requirements, contact us or send a sketch to determine feasibility.

ALSO AVAILABLE IN TWO & THREE ROWS OF PORTS USING LARGER BODIES THAN OUR STANDARD SINGLE ROW BURNERS.

WATER-COOLING IS AVAILABLE UPON REQUEST.

NEW MACHINE MOUNT TYPE (STYLE BC) IS FED FROM CENTER OF BURNER.

Carlisle GAS BURNER CORP.

MILLVILLE, N. J. 08332

HV-900 BURNER

The HV-900 Burner employs the High Velocity principle of Combustion in Modified Form . . . . . A Gas-Oxygen flame, at elevated pressures, burning through a reduced port area will exit at much higher velocities than is normally obtainable.

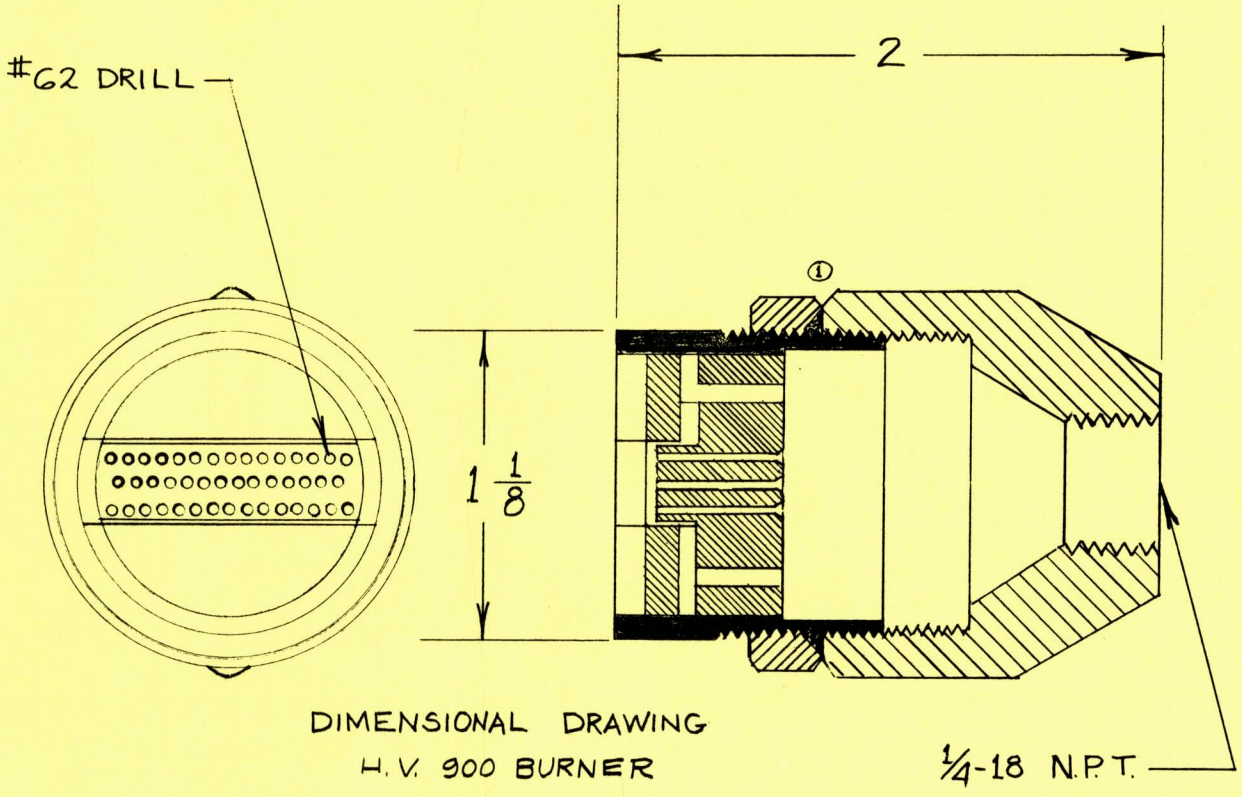
This permits the transfer of more usable energy to the mass being heated but with the same consumption of Gases as a normal Burner.

One drawback of this system is the high turbulence of the flame. BUT . . . This very reason makes this Burner most advantageous for working Quartz or Heavy Wall Borosilicate Glass. HYDROGEN CANNOT BE USED with this Burner.

AVAILABLE . . . . . As a single Unit
As a Bench Burner with Stand, Mixer & Valves
As a Torch
As Lathe Burner Assemblies

GAS PRESSURE SHOULD BE 10 PSI BUT NEVER LESS THAN 5 PSI . . . . . .

Piping, Valves, Fire Check & Mixer should be 1/4" NPT . . . . . .

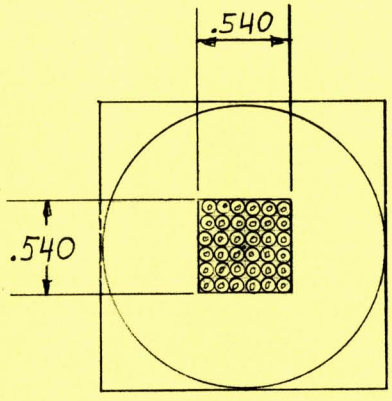


DIMENSIONAL DRAWING
H.V. 900 BURNER

Carlisle GAS BURNER CORP.

MILLVILLE, N. J.

NO. 104-373 MOD

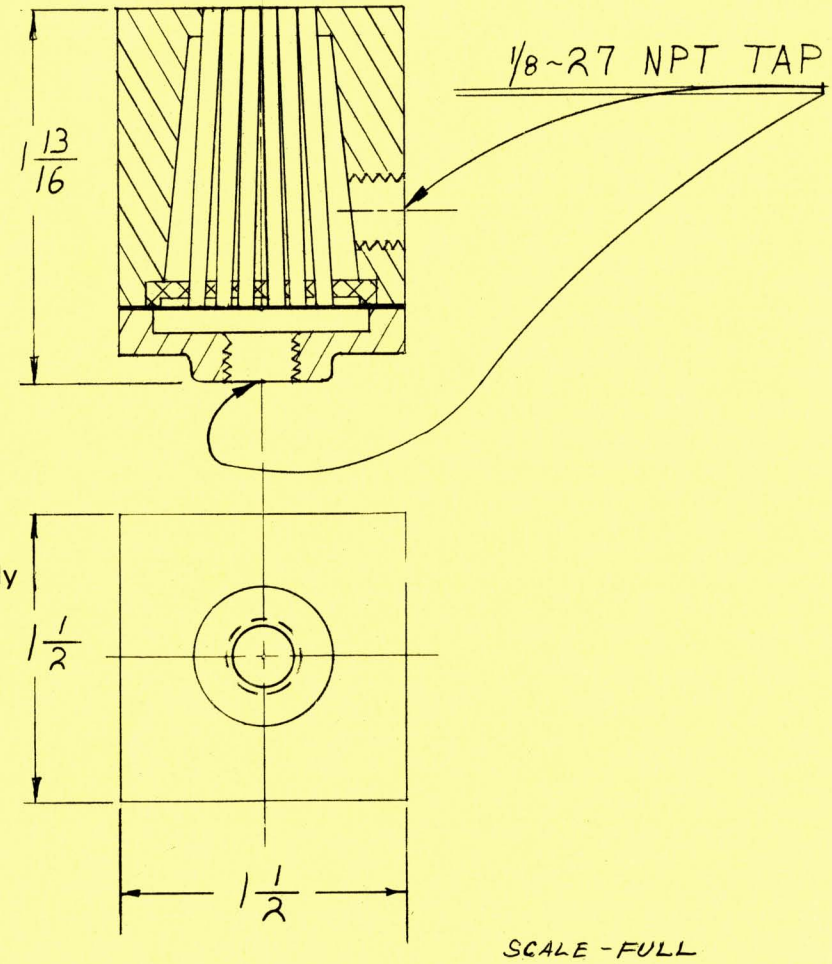


The Carlisle "373" burner is another in our line of Surface-Mixed Burners that can be used on Gas-Oxygen, Hydrogen-Oxygen, Hydrogen-Air or Gas-Air-Oxygen.

While primarily designed to burn with a relatively soft and intensely hot fire, it can also be used with a turbulent, high-velocity flame.

Although the Burner has infinitely variable flame characteristics it should be noted that when using this Burner on a low soft flame, oxidizing effects should be maintained. Reducing or Normalizing fires in the low flow range will cause premature burn-out of the Stainless Steel Tubes.

The "373" Burner uses approximately 90 cfh of Natural Gas at 5 psig and 200 cfh of Oxygen at 10 psig.



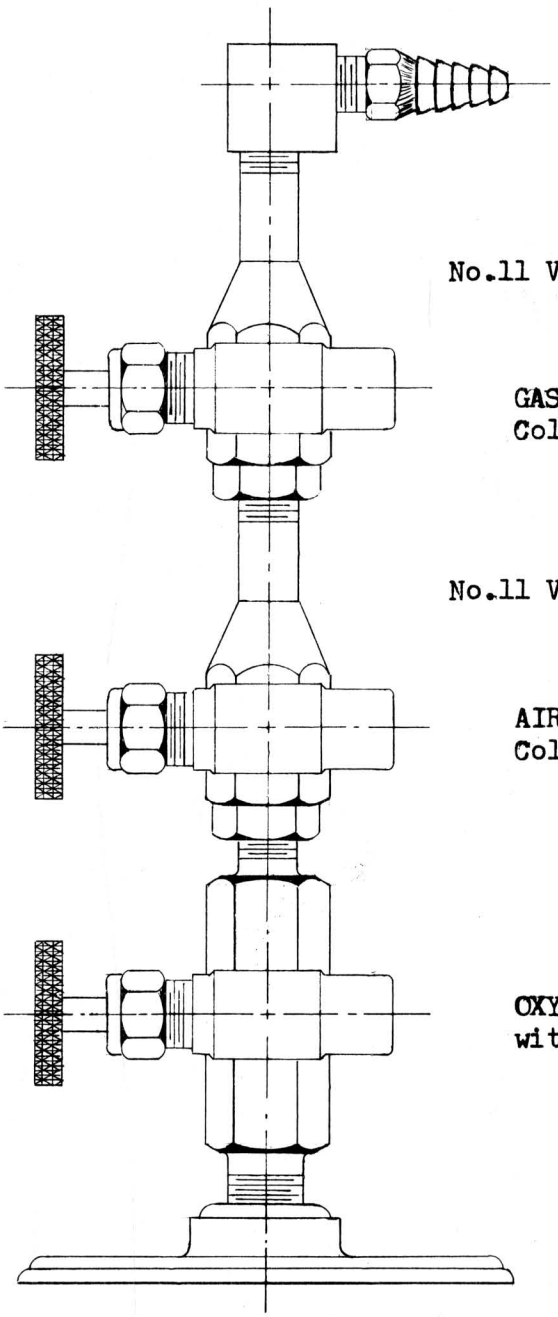
SCALE - FULL

ALSO AVAILABLE IN LARGER MODEL ..... NO. 105-385

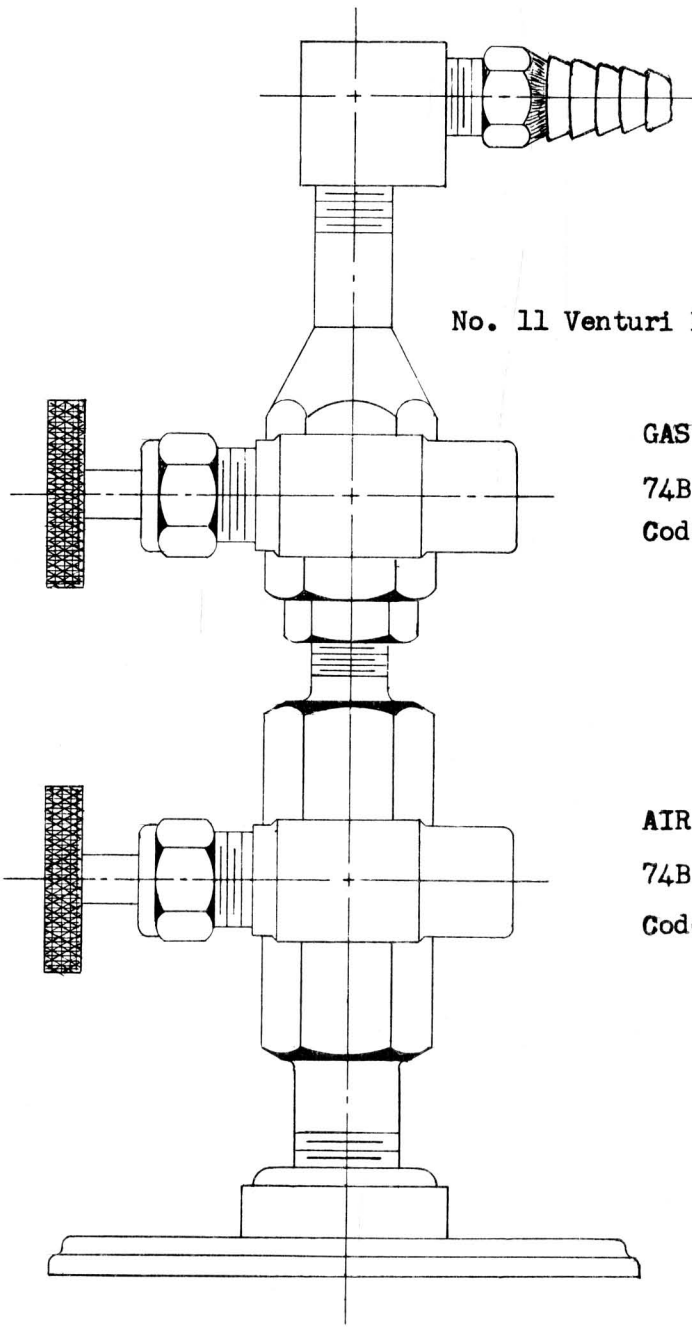
Carlisle GAS BURNER CORP.

MILLVILLE, N. J.

018 VC-3 BENCH STAND
GAS - AIR - OXYGEN



018 VC BENCH STAND
GAS ~ AIR OR GAS OXYGEN



Carlisle GAS BURNER CORP.

MILLVILLE, N. J.

Carlisle Glass Testing Polariscope

MODEL PSC-112

Polarizing field is of full 10" diameter. The 4" analyzing eyepiece is located 12½" from the polarizer. The instrument can be swung to any position, from the vertical to the horizontal. Optional Tint Plate is mounted in a fixed position behind the eyepiece.

Eyepiece can be removed so that polarizer can be mounted behind lathe and eyepiece can be hand-held or spectacles are available.

There is also an accessory stage available for this model. This accessory stage can be used either as a protection for the polarizing film, or a stage on which may be placed a number of similar objects to be inspected by comparison; or a base for an immersion cell. The glass of this stage is free from strain.

Model PSC-112 - - - Standard Unit as shown on reverse side

Model PSC-112S - - Standard Unit and spectacles

Model PSC-112T -- Standard Unit with Tint Plate

Model PSC-112ST - - Standard Unit with Spectacles and Tint Plate

Model PSC-112AS- - Standard Unit with Accessory Stage #208

Model PSC-112AST - Standard Unit with Accessory Stage and Tint Plate

For foot operated ON-OFF switch, add suffix-2. Standard Unit with foot switch would be Model PSC-112-2.

Power Source - 120/60/1


Carlisle

Carlisle GAS BURNER CORP.

MILLVILLE, N. J.

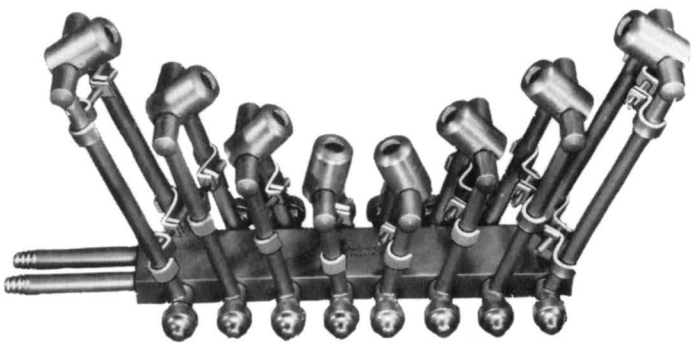
BURNER ASSEMBLIES

for

GLASS WORKING LATHES

CARLISLE GLASS LATHE BURNER ASSEMBLIES FEATURE MANY NEW IMPROVEMENTS. . . . .

- NEWLY DESIGNED ADJUSTABLE CLIPS
- IMPROVED BURNER HEADS
- ARMS MADE FROM HEAVIER TUBING
- HEADS MADE OF HEAT RESISTING ALLOY
- INDIVIDUAL VALVES CONTROLLING EACH HEAD ON 7-JET ASSEMBLIES



CARLISLE Stainless Steel Heads are recommended for use under HIGH TEMPERATURE conditions to withstand the reflected heat that results from working Hard Glass such as Quartz.

Burner heads are Nozzle Mixed, thus Minimizing the chances of a flashback. They will operate on Gas & Oxygen as well as Hydrogen & Oxygen at Gas or Hydrogen Pressures of 1 lb. or less and Oxygen at 10 to 15 lbs. Pressure.

The Large 7-Jet Assemblies may be ordered with Individual Valves for controlling each Head separately. This makes for an economical operation, especially when using Hydrogen.

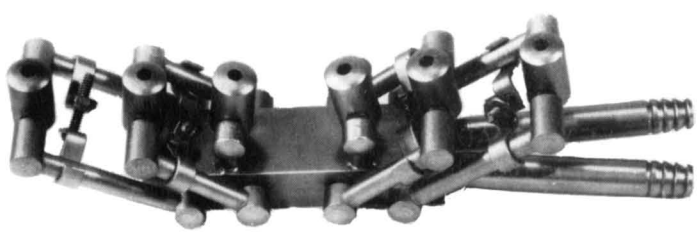
Order Seven-Jet Assemblies as follows:

ASSEMBLY	WITH BRASS TIPS	WITH STAINLESS TIPS	WITH INDIVIDUAL VALVES
2-Burner	7J-2B	7J-2S	ADD SUFFIX LETTER "V" to number.
4-Burner	7J-4B	7J-4S	
6-Burner	7J-6B	7J-6S	
8-Burner	7J-8B	7J-8S	
10-Burner	7J-10B	7J-10S	

SINGLE-JET ASSEMBLIES (as well as Seven-Jet Assemblies) are made with the two center arms movable the same as the rest of the arms on the assembly.

Order Single-Jet Assemblies as follows:

ASSEMBLY	WITH BRASS TIPS	WITH STAINLESS TIPS
2-Burner	1J-2B	1J-2S
4-Burner	1J-4B	1J-4S
6-Burner	1J-6B	1J-6S
8-Burner	1J-8B	1J-8S
10-Burner	1J-10B	1J-10S
12-Burner	1J-12B	1J-12S



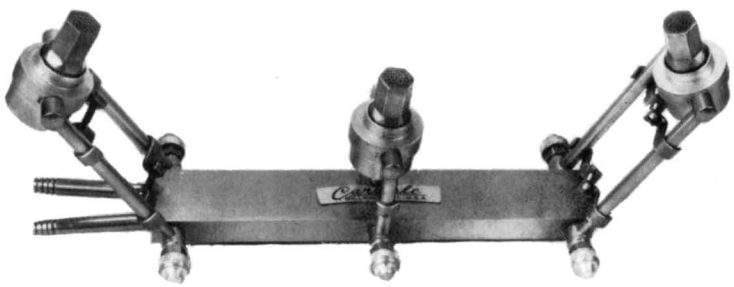
When ordering replacement parts specify: Name of Manufacturer; Style and Material of Heads; Style and Length of Arms; Style of Clips Desired.

Carlisle GAS BURNER CORP.

SURFACE - MIXED BURNER ASSEMBLIES

for

GLASS WORKING LATHES



CARLISLE NEW SURFACE-MIXED Lathe Burners operate quietly and with MAXIMUM SAFETY. Will burn on Hydrogen & Oxygen as well as Gas & Oxygen.

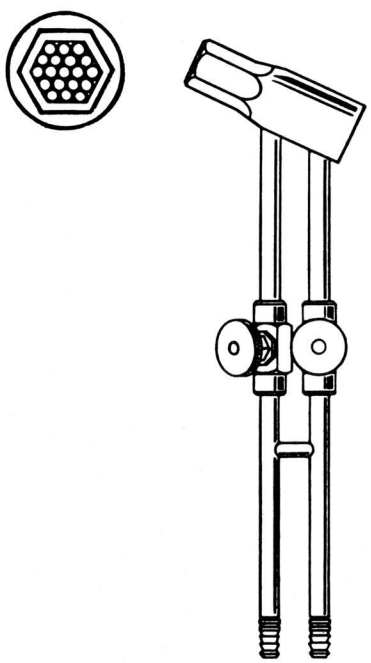
Burner Heads are made of Heat Resisting Alloy. The Gases mix at the SURFACE OF THE BURNER ONLY, thus eliminating the possibilities of a Flash-back.

CARLISLE SURFACE-MIXED Assemblies are recommended for working Hard Glass and will easily work 7" Quartz.

Assemblies are made in 3 Head, 4 Head and 6 Head Units with adjustable clips and individual Valves for controlling each Fire separately.

THE "HEX HEAD" HAND TORCH

(Surface - Mixed)



For an EXTRA FIRE for the Glass Working Lathe we recommend using "The Hex Head" Hand Torch.

The Head of this Torch and the Heads of the Surface-Mixed Lathe Burner Assembly are identical both in construction and performance.

"THE HEX HEAD" Hand Torch also finds many uses in bench work and may be ordered with a stand if so desired.

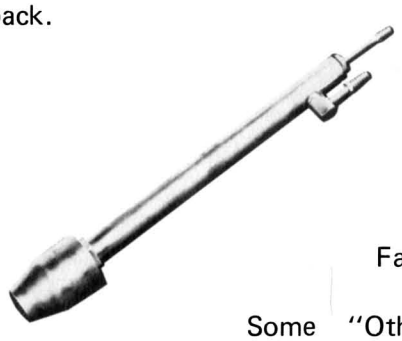
Carlisle GAS BURNER CORP.

MILLVILLE, N. J.

NEW C-1150 HAND TORCH AND C-705 LATHE BURNER ASSEMBLIES

Another addition to the Surface-Mixed Line, this Torch can be safely used with Hyrogen-Oxygen, Natural Gas-Oxygen or Propane-Oxygen without the need of special mixing equipment or the dangers of a flash-back.

Ideal for use in the Glass Shop for working large diameter Tubing or Pipe.

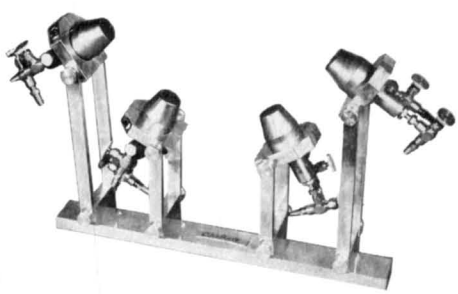


Perfect for use by the Glassblower in Quartz Fabrication.

Some "Other than Standard" uses include: As a High Temperature Furnace Burner (approx. 2 - 3 cu. ft. heating); Mass Spectroscopy; Color Photomatry; U. V. and I. R. Detection; Crystal Growing; etc.

The Lathe Burner Assembly is available 2, 3 and 4 heads. Entirely surfaced-mixed, each head is supplied with individual Valves making this a most versatile unit. Temperatures Ranges from 1800 deg. C to 4500 Deg. C.

ORDER as follows:	2 Head	Number	C-705-2
	3 Head	Number	C-705-3
	4 Head	Number	C-705-4



The Hand Torch can be modified to fit your specific requirements:

. . . . Available in shorter Water Cooled models

. . . . Can be supplied with Valves on a Bench Stand

. . . . Handles can be added

. . . . Heads can be angled to fit customers requirements

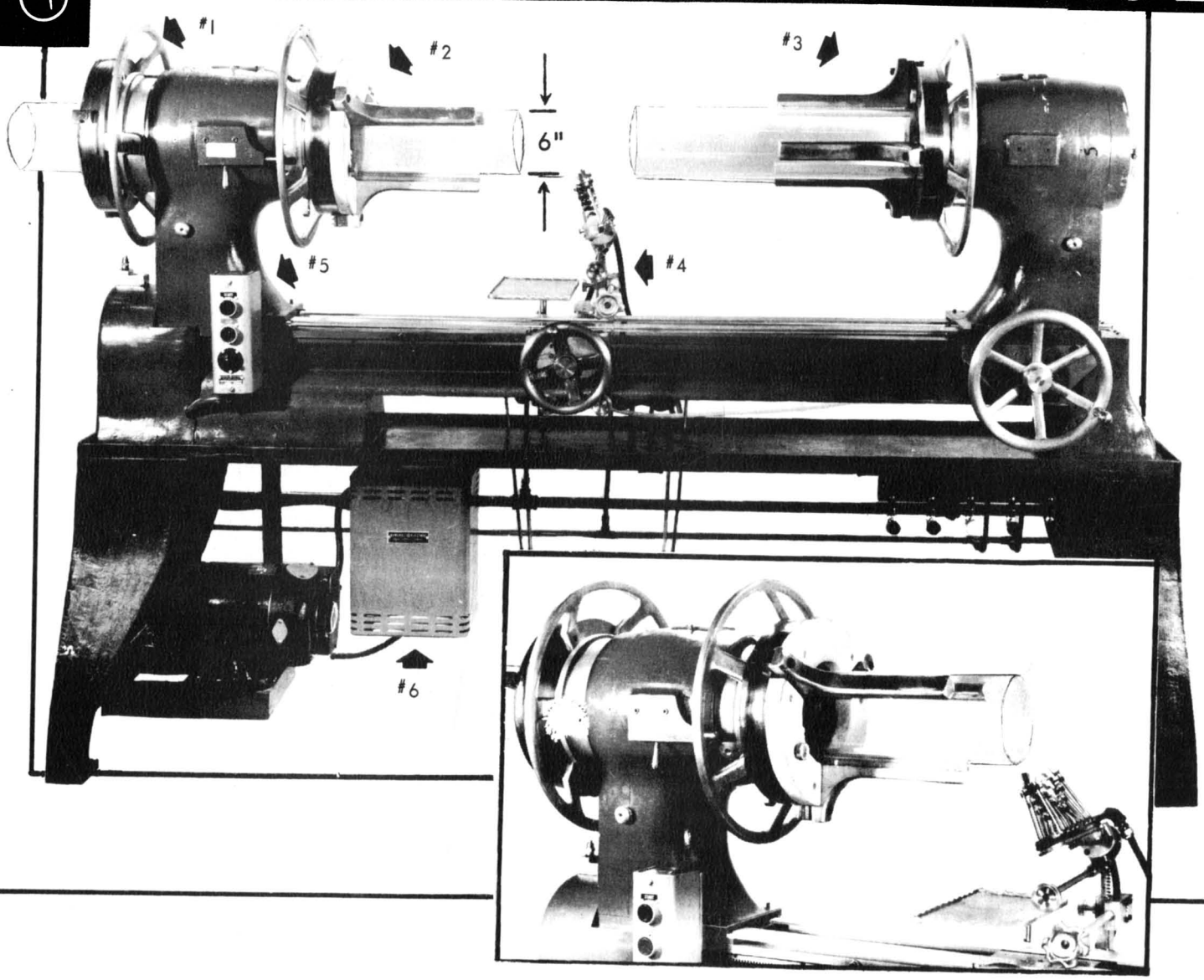
Bulletin 330-626

Carlisle GAS BURNER CORP.

MILLVILLE, N. J.

LABORATORY GLASS LATHE

NEW MODEL 66-26



FEATURES

Spindle Bore 6-1/16", Complete with Electronic Speed Control (POTENTIOMETER), Double Ended Headstock Spindle, with two Chucks on Adjustable Rack and Pinion Mount. (See #4)

This Lathe with 3 Chucks as shown, plus every item seen in picture, already to operate including Gas, Air and Oxygen Piping. This Lathe furnished with Double Ended Spindle.

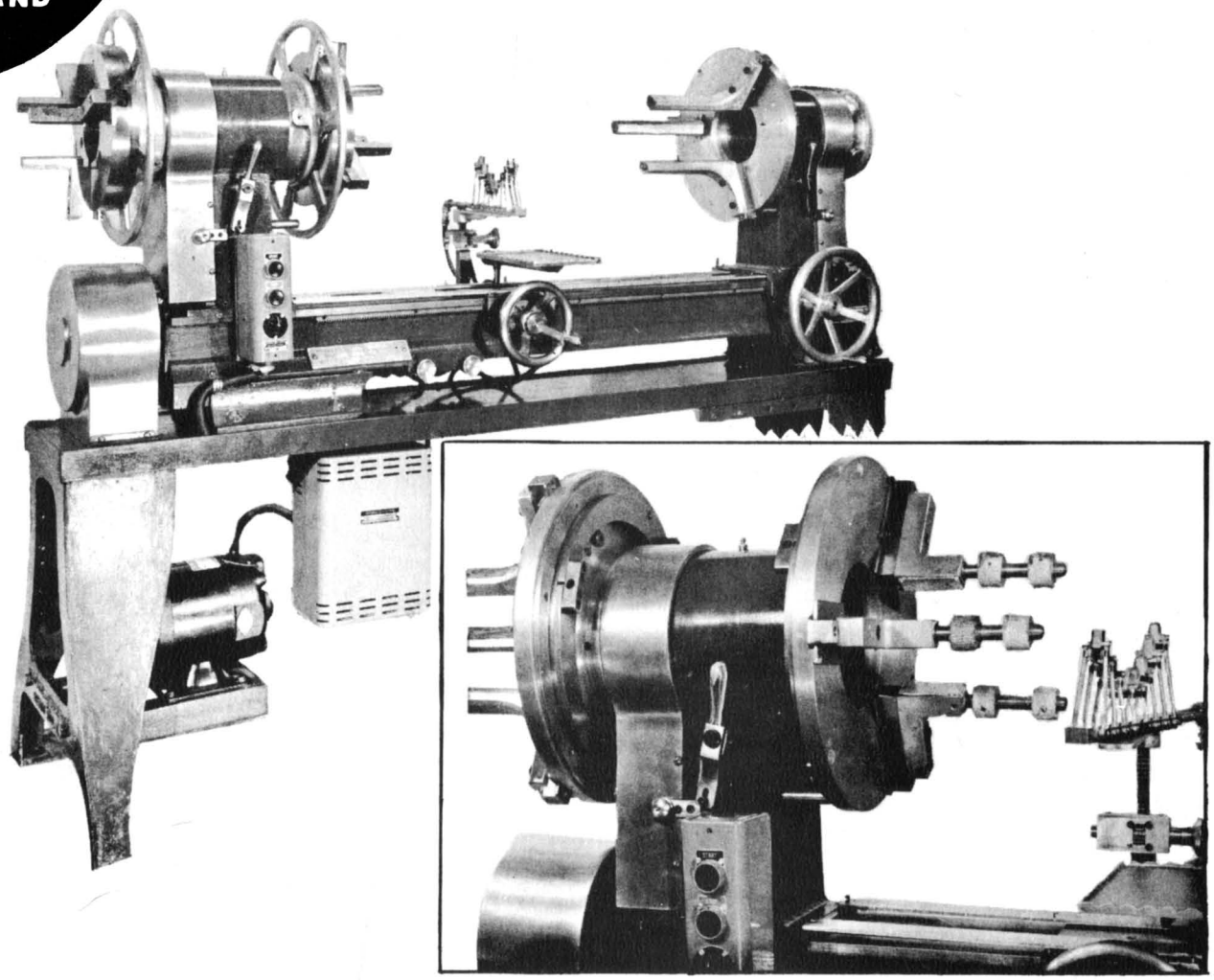
Foot Notes: #1, #2 & #3 Chucks are No. 11½-C #4 Tilting Burner Unit. #5, Electronic Speed Control with "Start"-"Stop" Switch and Potentiometer. #6, Conversion Box.

Weight of complete Lathe	1,000 lbs.
Max. length Spindle Nose to Nose	48"
Swing Diameter	27"
Length overall	75"
Spindle Bore	6-1/16"
Total Height of Machine	58"

MODEL
64-20-D

You're ahead with a
WOODLAND LATHE

LABORATORY GLASSWORKING LATHE



DESCRIPTION

Spindle Bore 5 1/16", complete with Electronic Speed Control, (Potentiometer) Double Ended Headstock Spindle with two Chucks:- Handwheel operated or Camaction operated. Two sets of different jaws as illustrated, plus two Chuck Locks, one 8 Tip Burner on Adjustable Rack and Pinion Mount.

Foot pedal control of air supply and of gas and oxygen volume. Steel stand with cast iron legs, and all pipes and valves for gas, air and oxygen.

Only a solid bed, resting on a heavy steel stand, will give you vibration free performance. Each spindle is running in two heavy Timken roller bearings and packed in grease for lifetime.

This, and all our other machines, are all complete and ready to run as soon as you have the pipes and electric power connected.

We build 10 different sizes of Glass Working Lathes from the smallest for thermometers to the largest with 10" spindle bore by 14' total length.

Since 1938

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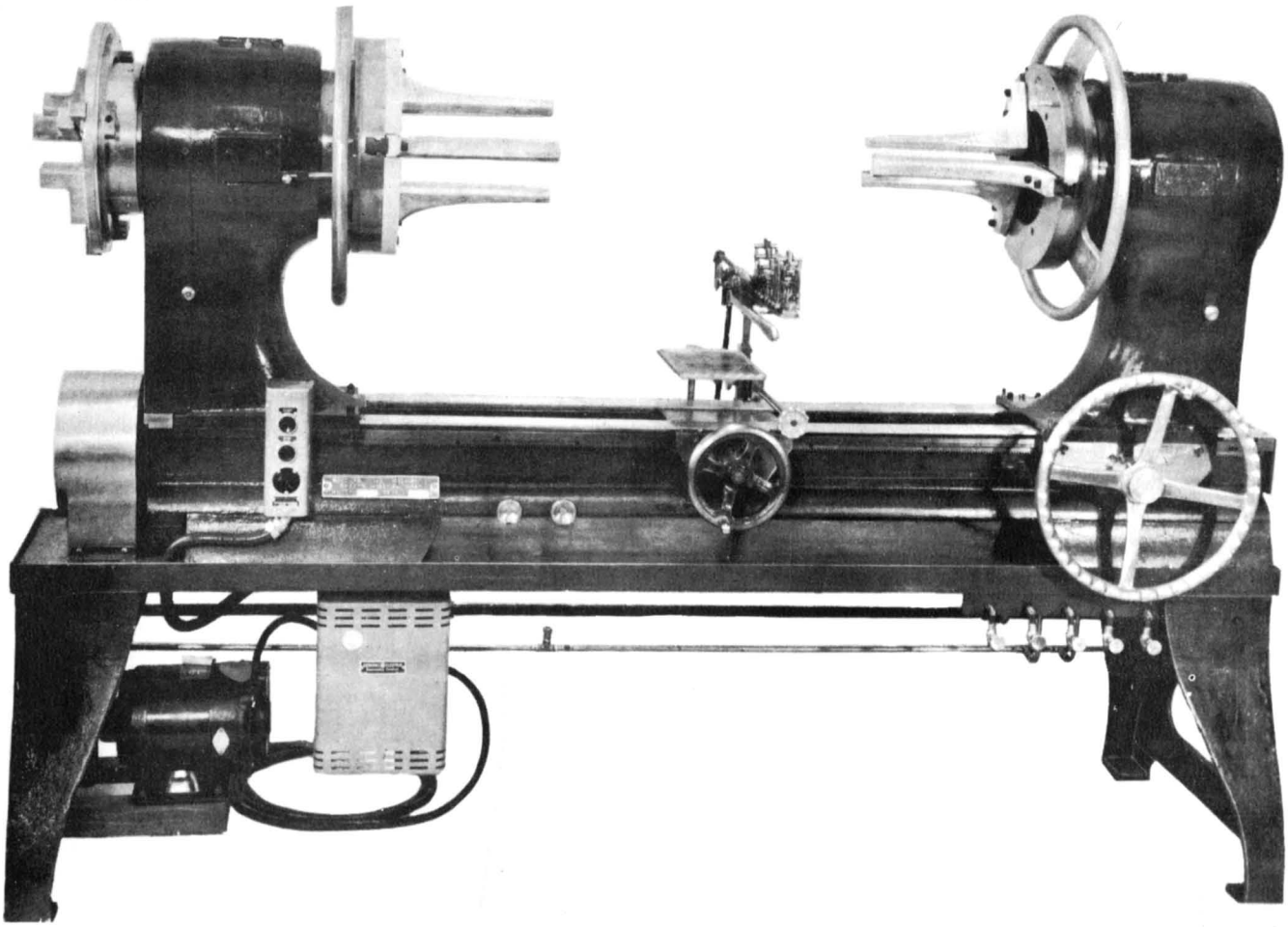
Carlisle GAS BURNER CORP.

MILLVILLE, N. J.



Model 65-35 with One Double-Ended Spindle-Bore 7 7/8" & 8 1/4"

LATHE SPECIFICATIONS

1. Spindle Bore 7-7/8" (200 mm). or 8¼"
2. Largest Swing Diameter 36"
3. Maximum Length Overall 86"
4. Length between Spindles 72"
5. Overall Height 60"
6. Approximate Weight 1600 lbs.
7. This same Model also available with 8¼" dia. Spindle-Bore

STANDARD EQUIPMENT

1. Two Face Plates 11" dia.
2. Left Front Knob - Air Valve for controlling Air in either Spindle.
3. Right Front Knob - Hand Carburetion Control
4. Foot Pedal Control of Oxygen..Gas Volume
5. Single Speed 1/2 HP - 110-220 V.
6. Variable Speed Pulley Assembly
7. Gas-Air-Oxygen Piping & Valves

ACCESSORIES IN PICTURE

1. Extra Heavy METAL TABLE with CAST IRON LEGS
2. ELECTRONIC SPEED CONTROL (Latest Type) (Infinite Speeds from 0-100 RPM)
3. END CHUCK for Guiding Long Tubing through Spindle.
4. Two UNIVERSAL CHUCKS #14-C (Handwheel Operated) from 1/2" to 20" with Reversible Jaws
5. One CUT-OFF BURNER UNIT

We also have a number of EXTRAS and TOOLS for this Lathe.

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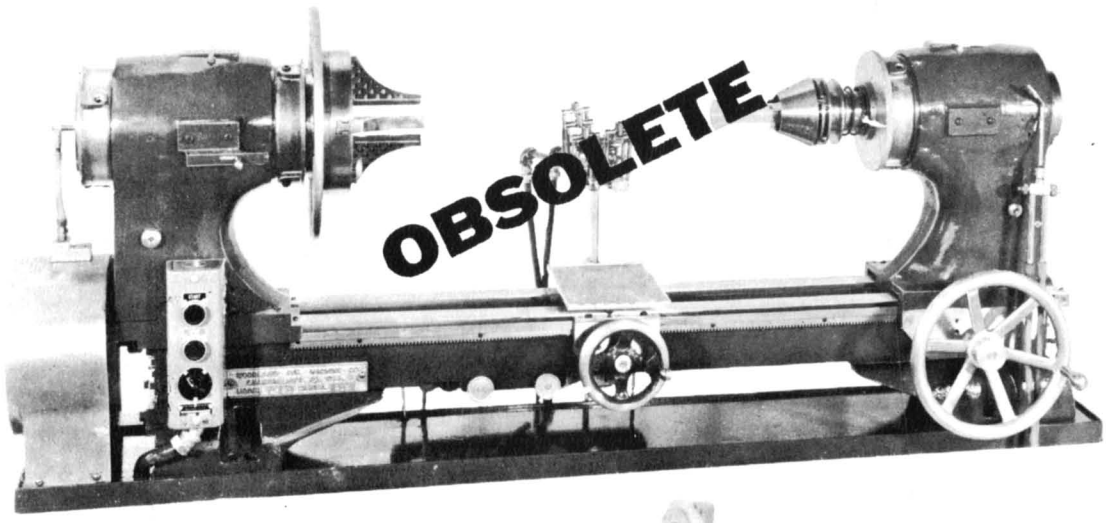
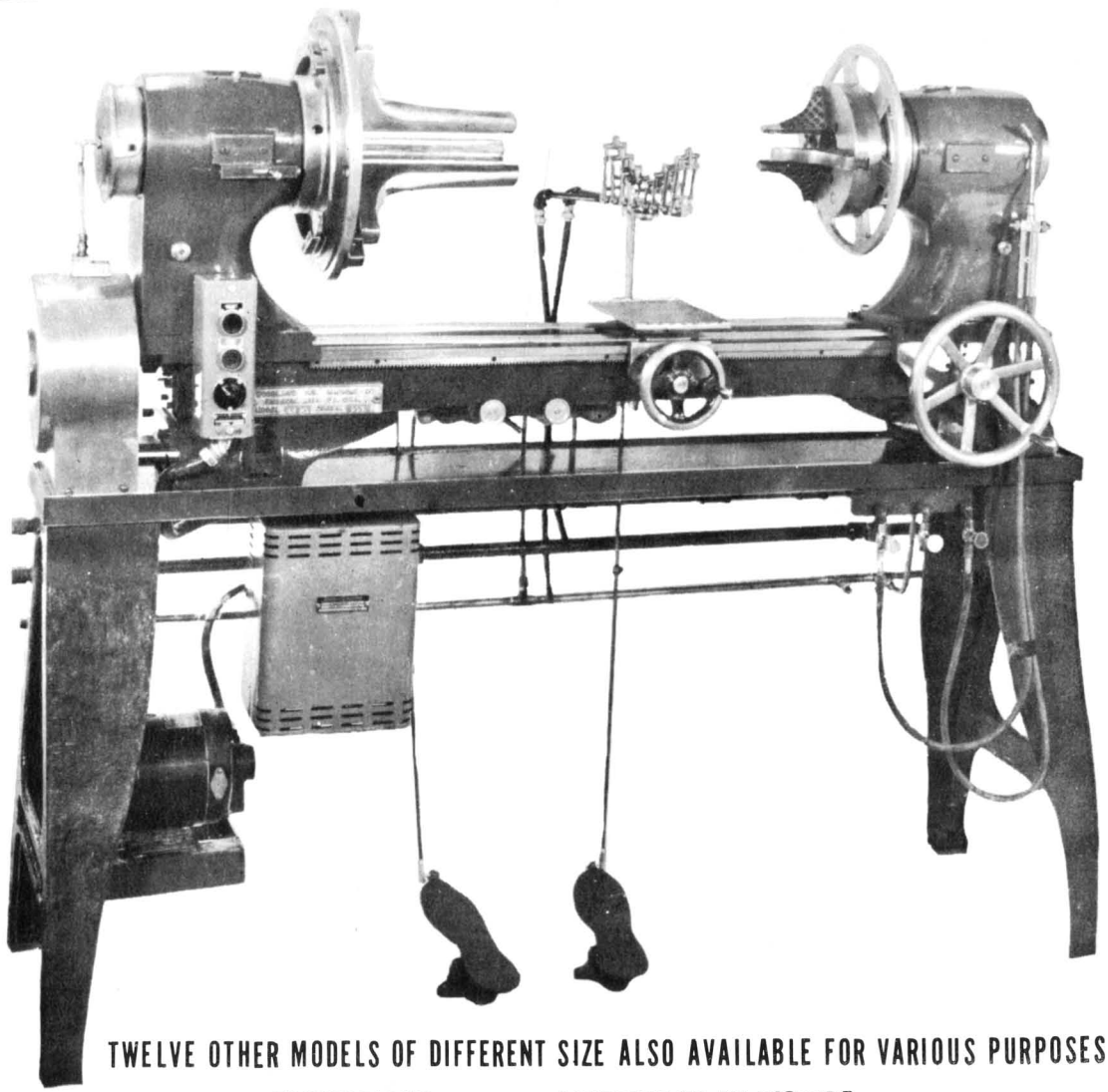


NEW
BENCH MODEL
45-20-B
Spindle Bore $4\frac{1}{2}$"

NEW
FLOOR MODEL
45-20-F
Spindle Bore $4\frac{1}{2}$"



Since 1938

THIS IS OUR NEW 4-1/2" SPINDLE BORE LATHE

Also ask about our NEW 7-7/8 or 8-1/4" SPINDLE BORE -

TWELVE OTHER MODELS OF DIFFERENT SIZE ALSO AVAILABLE FOR VARIOUS PURPOSES

STANDARD EQUIPMENT

1. Two Face Plates and Wrenches
2. Air Control Valve for Both Spindles
3. Gas-Oxygen Foot Pedal Control
4. Hand Carburetion Control
5. Gas-Air-Oxygen Piping & Valves (Floor Model)

LATHE SPECIFICATIONS

1. Spindle Bore 4-1/2"
2. Swing Diameter 20-1/2"
3. Maximum Length Overall 64"
4. Length between Spindles 36"
5. Approximate Weight 550 lbs.
6. Single Speed 1/2 HP - 110-220 V.

ACCESSORIES IN PICTURE

1. Metal Table with Cast Iron Legs
2. Electronic Speed Control
3. Three-Jaw Chuck #8-C, Handwheel Operated
4. Two Universal Chucks #13 Cam-Action Operated
5. One Single Hand Torch with 3 Exchangeable Tips
6. One Self-Aligning Spring Chuck #4-1/2 with Handle

We also have a Number of EXTRAS AND TOOLS for This Lathe.

Carlisle GAS BURNER CORP.

MILLVILLE, N. J.

	Description	Chuck No.	Sizes	W/Brass Jaws	W/Stainless Steel Jaws
1	**SELF – ALIGNING SPRING CHUCKS** Complete with handle. 1/8" to 4" diameter	No. 1	1/8" to 3/4"	Discontinued	
		No. 2	1/4" to 1"	$ 98.00	$135.00
		No. 3	3/4" to 1 3/4"	125.00	160.00
		No. 4	11/2" to 2 1/8"	145.00	175.00
		No. 4½	1 1/8" to 2 1/8"	160.00	198.00
		No. 5	1 3/4" to 3"	215.00	275.00
		No. 6	2 3/4" to 4"		430.00
		No. 7	3/4" to 2 1/8"		250.00
		No. 8	1/4" to 2" (Scroll)		398.00
		No. 9	3 – 16mm		
		Adaptor with Jacobs Chuck		55.00	
2	**CAM ACTION CHUCKS** with 2 Sets of Jaws. Adaptor for jaws made to order	No. 10	1/2" to 8" - 3 jaws	$325.00	
		No. 11	1/2" to 10" - 3 jaws	350.00	
		No. 12	1" to 10" - 4 jaws	375.00	
		No. 13	1/2" to 12" - 3 jaws	425.00	
		No. 14	1" to 12" - 4 jaws	460.00	
		No. 15	1" to 16" - 3 jaws	498.00	
		No. 16	1" to 20" - 3 jaws	595.00	
		No. 17	2" to 30" - 3 jaws	675.00	
		No. 18	2" to 30" - 4 jaws	698.00	
3	**UNIVERSAL CHUCKS** (Cam Action) for Cathode Ray Tubes of all types & shapes; Universal Chucks are designed on a rectangular pattern.	No. 19	6" to 21"	$575.00	
		No. 20	6" to 24"	650.00	
		No. 21	6" to 30"	695.00	
		No. 22	6" to 36"	775.00	
		No. 27	6" to 27"	695.00	
4	**HYDRAULIC CHUCKS** (Electrically Operated) Fastest for Production Runs of any Tubes	Price includes all parts for Complete Cylinder and Chuck		$1,095.00	

SPINDLE & CHUCK INFORMATION

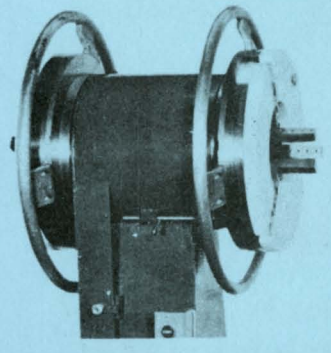
SPINDLE

WE RECOMMEND THIS GENERAL SPINDLE SET-UP FOR ALL LARGER LATHES.

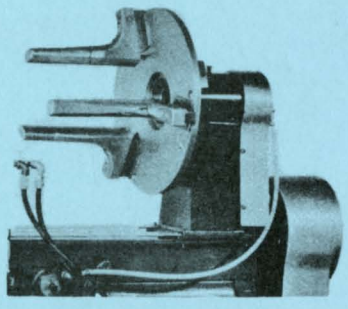
The HEADSTOCK Spindle double-ended for a chuck at each end of spindle. This will hold any length Glass Tubing firm.
For TAILSTOCK a plain spindle.
You should have two CHUCKS on the Lathe; each chuck "Inward".
HEADSTOCK Chuck closed counterclockwise, and facing each other.
TAILSTOCK Chuck closed clockwise; (each chuck then closes against the operator) and is provided with Lockscrews.
For EXTRA LONG WORK through spindle, you should have a third chuck at end of HEADSTOCK spindle (See Bulletin #41).

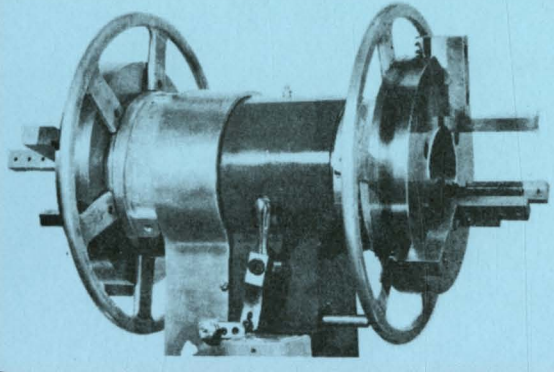
CHUCKS

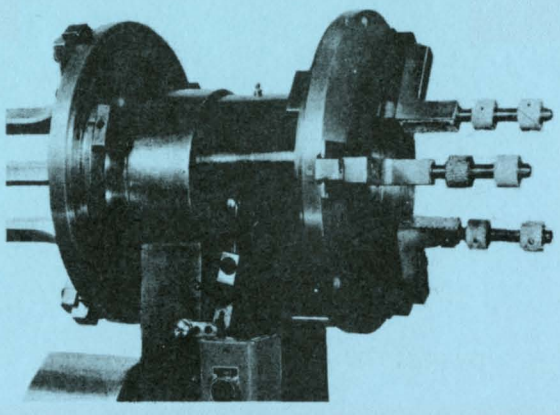
Our CAM-ACTION Chucks are well known for their versatility and due to 3 different sets of jaws, an unlimited chucking possibility is available. See Price List #29-L and Illustration Sheet.
HANDWHEEL OPERATED SCROLL Chucks, Series "C" are limited in size of work you can chuck; but otherwise well liked by glassblowers, and are recommended for very close chucking work.
We have these Chucks, Series "C", in 8" x 11" x 14" diameter
SELF-ALIGNING SWING CHUCKS for diameter from 1/16" to 4" especially designed for Production Work. See our Chuck Price List #21-C.



Just let us know your requirements.
We will try to recommend
the right chuck for the job.



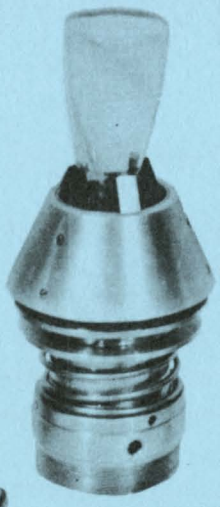




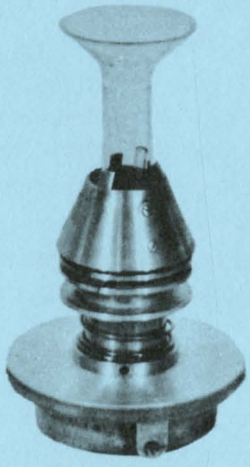
Since 1938

In the GLASS, CHEMICAL, ELECTRONIC, OIL, VACUUM, and CATHODE TUBE INDUSTRIES

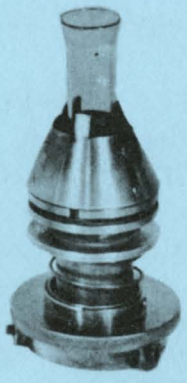
CHUCKS



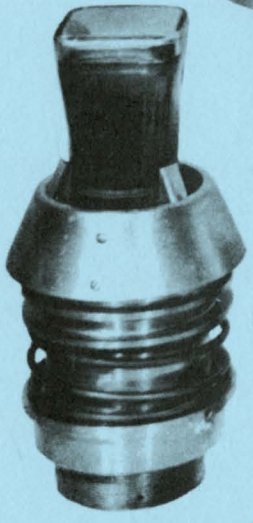
No. 5



No. 4½

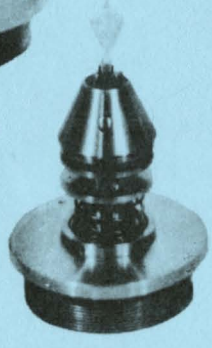


No. 4

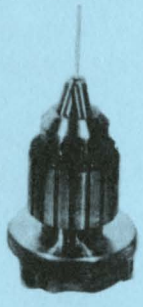


No. 6

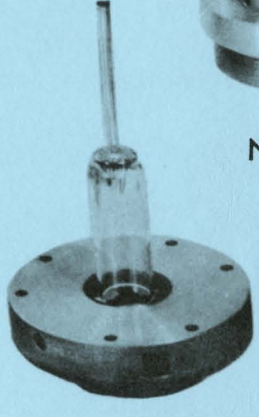
No. 3



No. 1 - 1/8" to 3/4"
No. 2 - 1/4" to 1"



No. 9
Jacobs Chuck and Adaptor



No. 8
(¼" to 2⅛" Scroll Chuck)

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Carlisle **GAS BURNER CORP.** **MILLVILLE, N. J.**

Bulletin 330-332
Also see Bulletin 330-331

Carlisle GAS BURNER CORP.

MILLVILLE, N. J.

New Fuel Proportioner for Lathes

CLUTCH FOR ECONOMIZER

THE STANDARD ECONOMIZER as pictured in our Bulletin #331, is used on Glassworking Lathes and known to any Glassblower to be versatile and easy to operate.

The Fires are "ON" Only as long as the Foot Pedal is "Depressed". However, it is "hindering" to a Glassblower on LARGER JOBS where the fires are kept "on" for longer time periods. We have, for this reason, incorporated a

NEW CLUTCH ECONOMIZER (HAND KNOB OPERATED)

which is operated as follows:

1. Depress Fuel Foot Pedals to any position for which you select your Fire, and "hold" in this position by engaging this new Hand Clutch with just a twist of the hand knob to the right (at front of Lathe). The Fires will now stay on (without depressing Foot Pedal) until you shut off.
2. To shut off the fuel supply (fire), just loosen the Hand Knob to the right.

In this way you can set the Fires on Lathe to ANY POSITION between the open and closed position without having to maintain pressure on the foot pedal.

3. Otherwise, the Economizer is also operated with the Foot Pedal in the usual manner.

PRICE of this complete PROPORTIONER (Economizer)

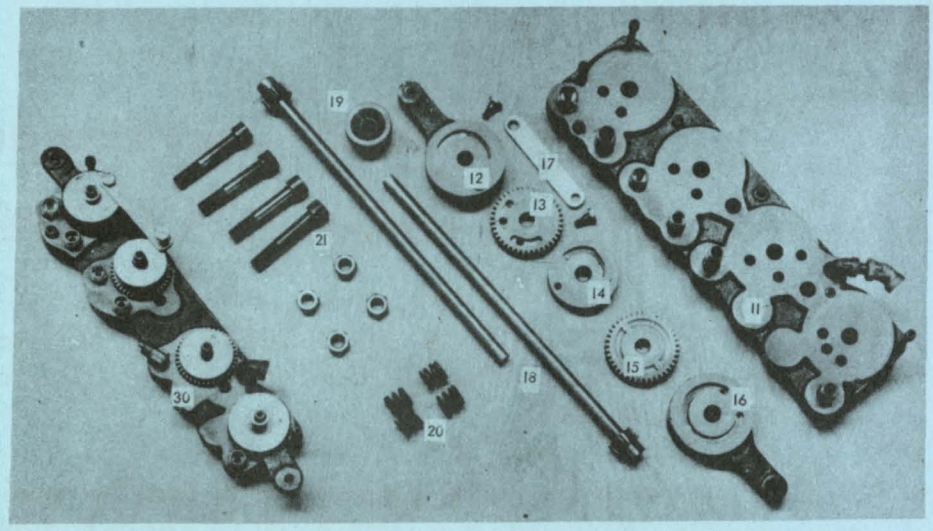
We CANNOT SHIP CLUTCH ONLY, since the present used Economizer is not suitable for Clutch. We will, however, credit you for your old Economizer on the purchase of this NEW PROPORTIONER.

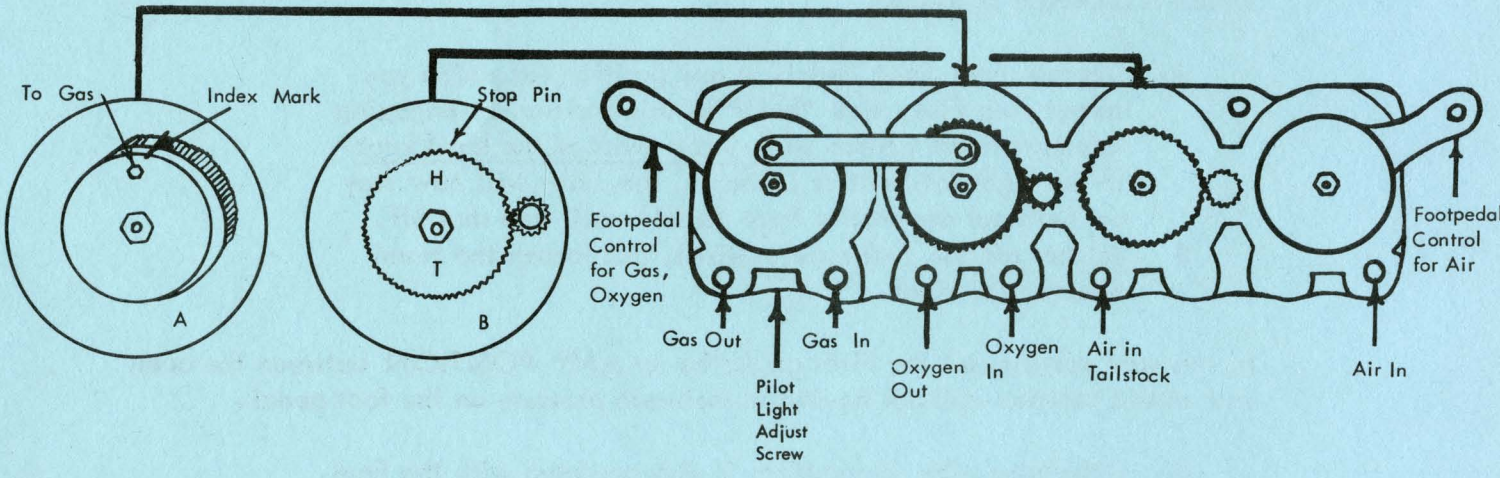
ECONOMIZER UNITS

For: GAS-AIR-OXYGEN-FIRES or OXYGEN-HYDROGEN-FIRES.

ILLUSTRATION INDEX

11. Large Economizer Casting
12. Gas-Adjust Casting
13. Oxygen Adjust Gear
14. Oxygen Adjust Casting
15. Air Adjust Gear
16. Air Adjust Casting
17. Gas-Oxygen Link
18. Shaft and Gear for Adjustment
19. Brass knob for 18
20. Springs for discs
21. 1/2" Allen Screws
30. Assembled small Economizer





The Economizer units used on our lathes are illustrated above. Before turning on Gas, Air and Oxygen, make sure that all connections are tight and foot controls are against the 'OFF' Stops. If controls do not return freely, adjust spring for proper tension. DO NOT MAKE ANY FURTHER ADJUSTMENTS UNLESS THE UNIT HAS BEEN TAMPERED WITH.

As shown in Illustration 'A' above, the index mark on the outer disk of the oxygen-gas control should coincide with the number '1' on the inner gear disk. This is the most commonly used setting for gas-oxygen flames.

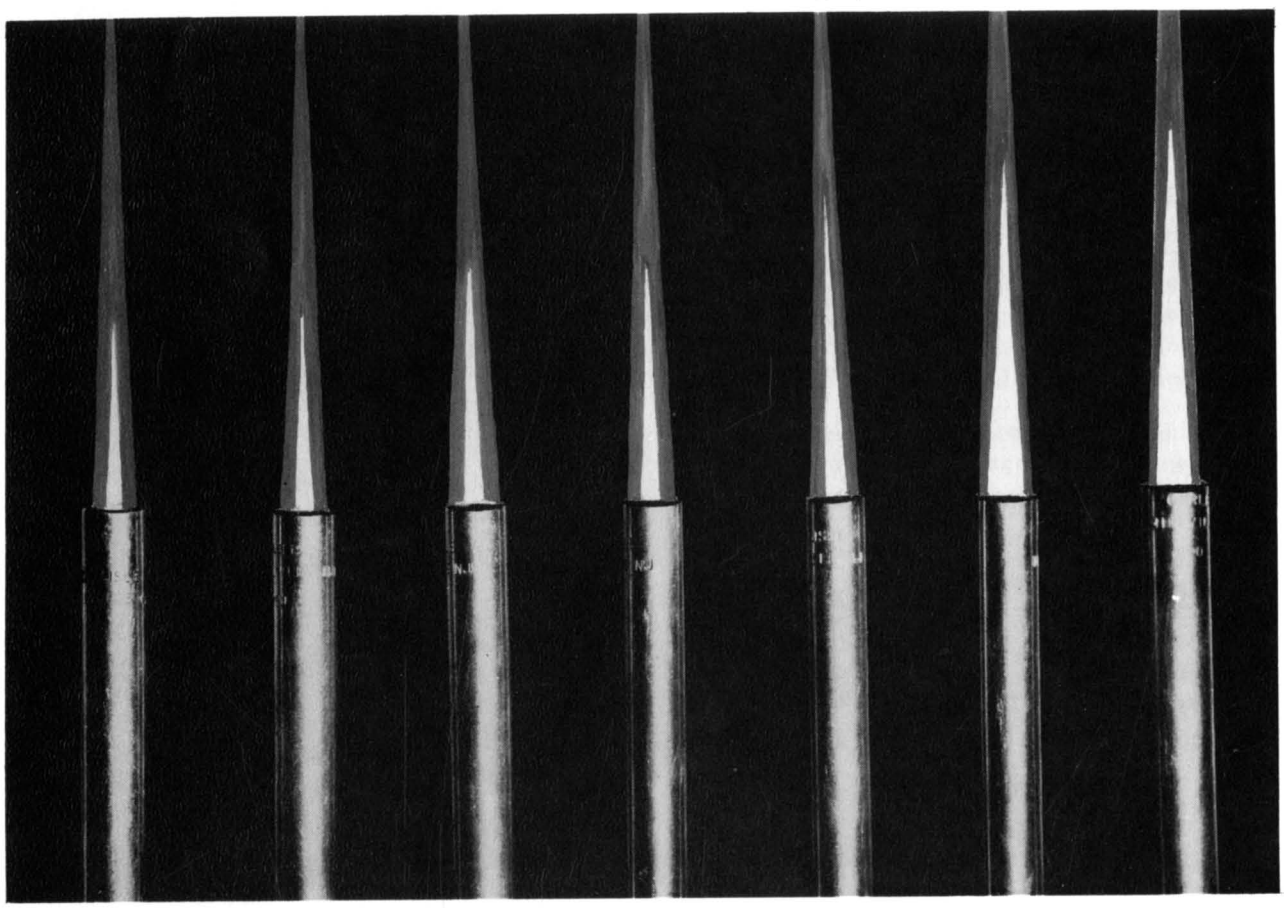
The Air Direction Valve, controlled from the front of the lathe, has two stop pins on the gear disk. The smallest section between these pins should mesh with the control handle gear. When properly assembled in this manner, the letters 'H' and 'T' on the gear disk indicate direction of air according to which is at the top (Ill. B above)

The pilot light adjustment screw is set properly before shipment. If necessary to adjust, set it to allow a pilot flame to burn with foot control at the 'OFF' stop.

Carlisle GAS BURNER CORP.

MILLVILLE, N. J.

GLASS FIRES



3201 3181 3171 3151 3141 3131 3111

Carlisle Glass Fire Tips are widely used in the manufacture of Electronic Tubes, Neon Signs, Incandescent Lamps, Lenses, Scientific Glassware, and many other places where a concentration of heat is required, such as, shaping, sealing and pre-heating.

Constructed of the finest materials, Carlisle Glass Fire Tips are specially designed for use with Natural Gas and Air as well as Bottled Gases and Manufactured Gas.

Glass Fire Burners are available with either the new Gear Type Insert or Ribbon Construction Insert (see selection chart on reverse side). Burners over 2" in length may be had with a copper insert for flexibility. Also available are Glass Fire Burners for use with Gas - Oxygen (see Brochure on Oxygen Burners).

Carlisle GAS BURNER CORP.

SELECTION CHART

NEW STYLE BURNERS WITH 1/8" MALE THREADS AND GEAR PILOTING

BURNER NO.	CENTER PORT	BURNER NO.	CENTER PORT
No. 3221	70	No. 3151	49
No. 3201	60	No. 3141	47
No. 3181	55	No. 3131	44
No. 3171	52	No. 3111	33

All above Burners available in lengths up to 3¼" and with copper inserts on Burners over 2" in length.

NEW STYLE BURNERS WITH 1/8" MALE THREADS AND RIBBON PILOTING

BURNER NO.	CENTER PORT	BURNER NO.	CENTER PORT
No. 917R	60	No. 790R	49
No. 551R	55	No. 558R	44
No. 525R	56	No. 557R	33
No. 1015R	52		

All above Burners also available in lengths up to 3¼" and with copper inserts on Burners over 2" in length.

NEW STYLE BURNERS WITH 5/16-27 FEMALE THREADS, GEAR PILOTING, All 1" Length

BURNER NO.	CENTER PORT	BURNER NO.	CENTER PORT
No. 3227	70	No. 3187	55
No. 3177	52	No. 3137	44
No. 3207	60	No. 3117	33
No. 3157	49	No. 3138	29

NOTE: LENGTHS OF BURNERS ARE INDICATED BY USING THE FOLLOWING LETTERS:

LETTER	BURNER LENGTH	LETTER	BURNER LENGTH
A	1-1/4"	F	2-1/2"
B	1-1/2"	G	2-3/4"
C	1-3/4"	H	3"
D	2"	J	3-1/4"
E	2-1/4"		

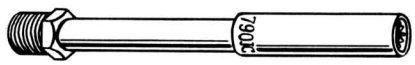
For ordering Burners 1" in length no Suffix Letter is used, state number only.

When Copper Inserts are desired add the Suffix Letter "C" – EXAMPLE: 790RJC indicates a 3¼" long Burner with a Copper Insert and Ribbon Piloting.

3181FC would indicate a 2½" long Burner with a Copper Insert and Gear Piloting.

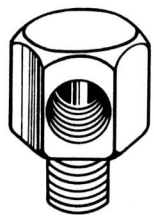
COPPER INSERTS

Copper Inserts can be supplied in Burners of 2" or more in length. Added flexibility and easier alignment of Burners is obtained through use of Copper Inserts.



See Selection Chart for Instructions on how to order Copper Inserts.

HEX ELBOWS



Hex Brass Elbows are used for accurate alignment of Burners.
Connections are....
1/4" Pipe Thd. Inlet
1/8" Pipe Thd. Outlet

BALL JOINTS

Carlisle Ball Joints are used with Glass Fires for accurate adjustment of flame direction.

No. 500 Ball Joint – Ball 9/16" dia. with 1/8" fem. pipe thd. and socket with 1/8" male pipe thd. and lock nut.

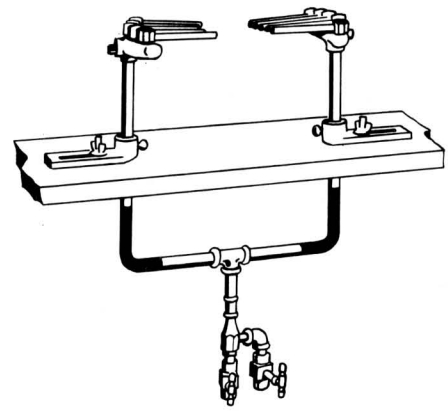
No. 1036 Ball Joint – Ball 3/4" dia. with 1/4" fem. pipe thd. and socket with 1/4" male pipe thd. and lock nut.

No. 500S Ball Joint – The same as the No. 500 above except the No. 500S is made from Alloy Steel.

VERTICAL RISERS

Standard Vertical Risers are 12" long unless other lengths are specified by the customer.

GLASS FIRES IN A CROSS FIRE SET UP

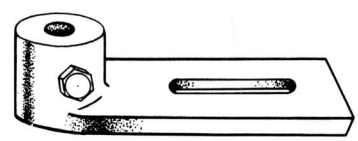


Glass Fire Burners find many uses in a Cross Fire Set-up where used with Hex Elbows or Ball Joints with Manifolds and Sliding Bases.

To obtain best results we recommend the use of Carlisle Venturi Mixers and Carlisle Valves as described in the following Bulletins.

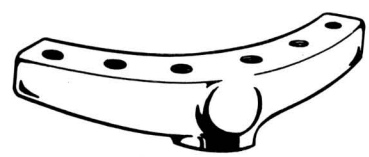
SLIDING BASES

Carlisle Cast Aluminum Sliding Bases are used to permit adjustment of Fires Vertically or Horizontally.



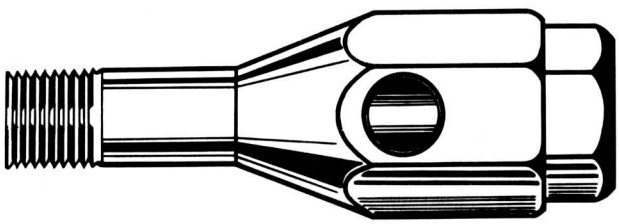
MANIFOLDS (cast bronze)

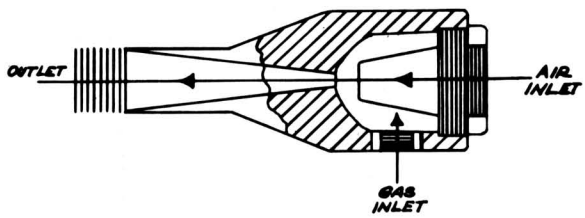
Manifolds are available with from 3 to 8 place openings. Elbow Connections are 1/4" Pipe Thd. on 1-1/8" Center. Inlet Connections are 3/8" Pipe Thd.



Manifolds may be fed either from the Bottom or the Back as required.

VENTURI MIXERS





Carlisle mixers are carefully constructed and are recommended to obtain a consistent flow of a pre-determined mixture of Gas and Air.

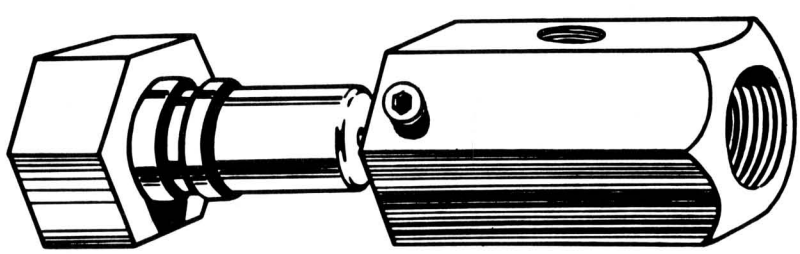
These mixers are specially designed to insure a maximum intake of Gas and a thorough mixing of Gas and Air.

Venturi Mixers are designed to use Air from 12-24 ounces per sq. inch pressure and gas from 2-8 inches water column pressure.

Unless pipe lines are undersized, Gas Boosters are un-necessary.

MIXER NO.	DIMENSIONS		PIPE SIZE		
	Overall Length	Body Size	Air Inlet	Gas Inlet	Outlet
11	2-3/4"	3/4" Hex	1/8"	1/8"	1/8"
11-S	2-5/8"	1" Hex	1/8"	1/8"	1/4"
12	3-3/8"	1" Hex	1/4"	1/4"	1/4"
12-S	3"	1" Hex	1/4"	1/4"	3/8"
13	3-5/8"	1" Hex	3/8"	1/4"	3/8"
14	4-3/8"	1-1/4" Hex	3/8"	3/8"	1/2"
15-5	4-3/16"	1-3/4" Hex	3/4"	1/2"	3/4"
15	4-9/16"	2" Hex	1"	1/2"	1"

#15 (Shown below) is a specially designed Heavy Industrial Mixer. This mixer is precision built so that the Mixer Body and Mixer Cap are held together by vacuum.



Carlisle GAS BURNER CORP.

MILLVILLE, N. J.

OXYGEN BURNERS

(Piloted)

CARISLE Piloted Oxygen Tips have a knurled insert which enhances the stability of the flame.

Gas-Oxygen Tips find many uses in the forming of Glass for Radio & Television Tubes, Scientific Apparatus, Incandescent Lamps, etc. They are also widely used in Silver Soldering, Cross Fire set-ups, as Single Fires, etc.

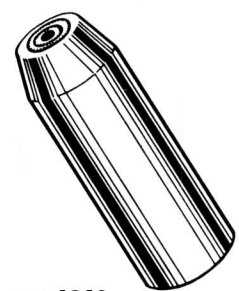
Especially designed for use with Natural Gas, Mixed Gas, Propane and Hydrogen with Oxygen.

To reduce the chances of a Flash-back it is recommended that Carlisle Fire Checks be used.

OX 1300-A

BURNER NUMBER	GENERAL CHARACTERISTICS				FLAME CHARACTERISTICS	
	STANDARD CTR. DRILL	BRASS BODY	LENGTH	THREAD	FOCAL LENGTH	OVERALL LENGTH
OX1300-A	# 55	7/16 Hex	1 1/4"	1/8" Male	3/8"	7"
OX1301-A	# 49	7/16 Hex	1 1/4"	1/8" Male	1/2"	4 1/2"
OX1301-B	# 31	7/16 Hex	1 1/4"	1/8" Male	1/2"	4 1/2"
OX1142-A	# 58	7/16 Hex	1 1/4"	1/8" Male	3/8"	7"
OX1142-C	# 58	1/2 Hex	1"	1/8" Fem.	3/8"	7"
OX1142-J	# 68	7/16 Hex	1 1/4"	1/8" Male	1/8"	3"

BURNER NUMBER	GENERAL CHARACTERISTICS				FLAME CHARACTERISTICS	
	STANDARD CTR. DRILL	STAINLESS BODY	LENGTH	THREAD	FOCAL LENGTH	OVERALL LENGTH
OX 1319	# 34	5/8 Round	1 3/4"	1/4 NPT	5/8"	8 1/2"
OX 1320	# 29	5/8 Round	1 3/4"	1/4 NPT	3/4"	11"
OX 1321	# 25	5/8 Round	1 3/4"	1/4 NPT	1"	12 1/2"



OX 1319

Carlisle Oxygen 'IT' Tips are made from Alloy Steel and are available with 1, 2, or 3 port holes. This Oxygen Burner is piloted by means of a milled slot (.008). The design of this Oxygen Tip makes it almost impossible for a blow-off to occur.

IT-2

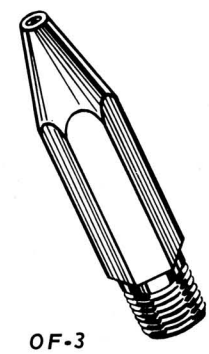
BURNER NUMBER	GENERAL CHARACTERISTICS					FLAME CHARACTERISTICS	
	NO. OF CTR. HOLES	DRILL SIZE	BODY	LENGTH	THREAD	LENGTH FOCAL	OVERALL LENGTH
IT-1	1	# 76	7/16 Hex	15/16"	1/8"	1/8"	1"
IT-2	2	# 76	7/16 Hex	15/16"	1/8"	1/8"	1 7/8"
IT-3	3	# 78	7/16 Hex	15/16"	1/8"	1/8"	2 3/4"

PILOTED OXYGEN BURNERS Cont'd

8-DX

BURNER NUMBER	GENERAL CHARACTERISTICS					FLAME CHARACTERISTICS	
	CENTER DRILL	BODY	LENGTH	THREAD	MAT.	FOCAL LENGTH	OVERALL LENGTH
8-A	70	1/4 Hex	1/2"	1/4x27M	Alloy	1/4"	3"
8-B	70	15/64 Dia.	1/2"	6/32F	"	1/4"	3"
8-C	75	15/64 Dia.	1/2"	6/32F	"	1/4"	2 5/8"
8-D	68	15/64 Dia.	1/2"	6/32F	"	1/4"	4"
8-E	68	15/64 Dia.	1/2"	6/32F	"	1/4"	5"
8-F	75	1/4 Hex	1/2"	1/4x27M	"	1/4"	2 5/8"
8-G	68	15/64 Dia.	1/2"	6/32F	"	1/4"	5"
8-H	68	1/4 Hex	1"	1/4x27M	"	1/4"	6"
8-L	79	1/4 Hex	1/2"	1/4x27M	"	1/8"	2"
8-M	80	1/4 Hex	1/2"	1/4x27M	"	1/8"	2"
8-N	68	1/4 Hex	1/2"	1/4x27M	"	1/4"	6"
8-P	65	1/4 Hex	1/2"	1/4x27M	"	1/4"	7"
8-DX	58	1/4 Hex	1/2"	1/4x27M	"	3/8"	3 1/2"
8-DXS	58	1/4 Hex	3/8"	1/4x27M	"	3/8"	3 1/2"

BURNER NUMBER	GENERAL CHARACTERISTICS				FLAME CHARACTERISTICS	
	STANDARD CTR. DRILL	BODY	LENGTH	THREAD	FOCAL LENGTH	OVERALL LENGTH
OF-1	# 65	7/16 Hex	2"	1/8" Male	1/4"	3 1/2"
OF-2	# 65	7/16 Hex	1 7/16"	1/8" Male	3/16"	1 1/4"
OF-3	# 63	7/16 Hex	2"	1/8" Male	1/4"	5"
OF-4	# 63	7/16 Hex	1 7/16"	1/8" Male	3/16"	3"
OF-5	# 77	7/16 Hex	2"	1/8" Male	3/8"	8"
OF-19	# 58	7/16 Hex	2"	1/8" Male	5/8"	4 1/2"



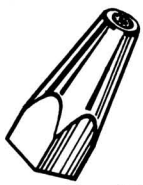
OF-3

693D

BURNER NUMBER	GENERAL CHARACTERISTICS				FLAME CHARACTERISTICS	
	STANDARD CTR. DRILL	BODY	LENGTH	THREAD	FOCAL LENGTH	OVERALL LENGTH
1635D	30	.405	2"	1/8 MPT	3/8"	3 1/2"
1636D	33	.405	2"	1/8 MPT	3/8"	4 1/2"
1637D	44	.405	2"	1/8 MPT	3/8"	4 1/4"
1638D	50	.405	2"	1/8MPT	3/8"	5 1/4"
1639D	60	.405	2"	1/8 MPT	1/4"	5"
693D	55	.405	2"	1/8 MPT	3/8"	6 1/4"
960D	76	.405	2"	1/8 MPT	1/8"	2"

PILOTED OXYGEN BURNERS Cont'd

OX-1 to OX-5 are made to fit Carlisle's UNIversal Torch



OX-2

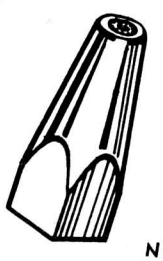
BURNER NUMBER	GENERAL CHARACTERISTICS				FLAME CHARACTERISTICS	
	STANDARD CTR. DRILL	BODY	LENGTH	THREAD	FOCAL LENGTH	OVERALL LENGTH
OX-1	# 70	3/8 Hex	15/16"	1/4 x 28	1/8"	4 1/2"
OX-2	# 65	3/8 Hex	15/16"	1/4 x 28	1/4"	3 1/4"
OX-3	# 56	3/8 Hex	15/16"	1/4 x 28	5/16"	4 1/2"
OX-4	# 53	3/8 Hex	15/16"	1/4 x 28	3/8"	5"
OX-5	# 50	3/8 Hex	15/16"	1/4 x 28	7/16"	5 1/2"

OX-1-MP to OX-5-MP are made to fit the Hoke Oxygen Torch

BURNER NUMBER	GENERAL CHARACTERISTICS				FLAME CHARACTERISTICS	
	STANDARD CTR. DRILL	BODY	LENGTH	THREAD	FOCAL LENGTH	OVERALL LENGTH
OX 1-MP	# 60	1/4 Hex	7/8"	3/16 x 40	1/8"	2"
OX 2-MP	# 56	1/4 Hex	7/8"	3/16 x 40	1/4"	4"
OX 3-MP	# 54	1/4 Hex	7/8"	3/16 x 40	3/8"	6"
OX 4-MP	# 51	1/4 Hex	7/8"	3/16 x 40	7/16	6 1/2"
OX 5-MP	# 45	1/4 Hex	7/8"	3/16 x 40	1/2"	7 1/2"

OX 1-MP

NOX-1 to NOX-5 are made to fit the 3A National Torch



NOX-3

BURNER NUMBER	GENERAL CHARACTERISTICS				FLAME CHARACTERISTICS	
	STANDARD CTR. DRILL	BODY	LENGTH	THREAD	FOCAL LENGTH	OVERALL LENGTH
NOX-1	70	1/2"	1 1/4"	7/16-24	1/8"	4 1/2"
NOX-2	65	1/2"	1 1/4"	7/16-24	1/4"	3 1/4"
NOX-3	56	1/2"	1 1/4"	7/16-24	5/16"	4 1/2"
NOX-4	53	1/2"	1 1/4"	7/16-24	3/8"	5"
NOX-5	50	1/2"	1 1/4"	7/16-24	7/16"	5 1/2"

OXYGEN BURNERS

(Un-piloted)

The following Un-Piloted Oxygen Burners are made from brass and operate at a lower velocity than the Piloted type Burners.

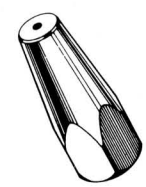
O-1 to O-5 are made to fit Carlisle's UNIversal Torch

O-2

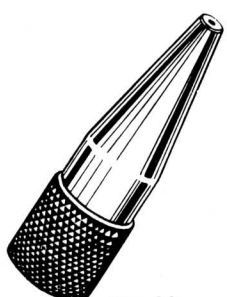
BURNER NUMBER	GENERAL CHARACTERISTICS				FLAME CHARACTERISTICS	
	STANDARD CTR. DRILL	BODY	LENGTH	THREAD	FOCAL LENGTH	OVERALL LENGTH
O-1	70	3/8"	1"	1/4-28	3/16"	4½"
O-2	65	3/8"	1"	1/4-28	1/2"	6"
O-3	56	3/8"	1"	1/4-28	9/16"	9"
O-4	53	3/8"	1"	1/4-28	5/8"	9¾"
O-5	50	3/8"	1"	1/4-28	3/4"	10½"

AK-1 to AK-5 are made to fit Carlisle's UNIversal Torch

BURNER NUMBER	GENERAL CHARACTERISTICS				FLAME CHARACTERISTICS	
	STANDARD CTR. DRILL	BODY	LENGTH	THREAD	FOCAL LENGTH	OVERALL LENGTH
AK-1	70	½"	1¼"	3/8-32	3/16"	4½"
AK-2	65	½"	1¼"	3/8-32	1/2"	6"
AK-3	56	½"	1¼"	3/8-32	9/16"	9"
AK-4	53	½"	1¼"	3/8-32	5/8"	9¾"
AK-5	50	½"	1¼"	3/8-32	3/4"	10½"



AK-3

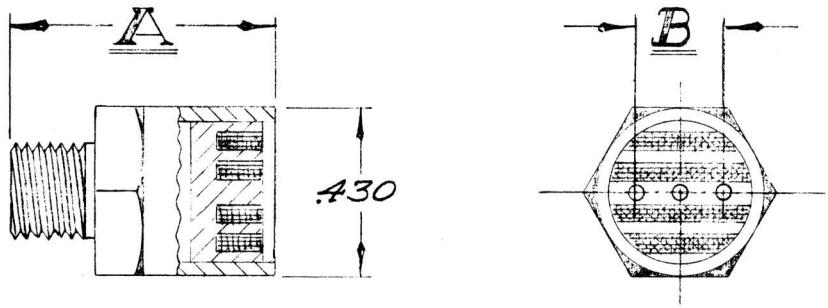


OX-80

BURNER NUMBER	GENERAL CHARACTERISTICS			
	CTR. PORT	BODY	LENGTH	THREAD
OX-80	1 MM	11/16"	2¼"	1/4 MPT
OX-81	1½ MM	11/16"	2¼"	1/4 MPT
OX-82	2 MM	11/16"	2¼"	1/4 MPT
OX-83	2½ MM	11/16"	2¼"	1/4 MPT
OX-84	3 MM	11/16"	2¼"	1/4 MPT
OX-85	3½ MM	11/16"	2¼"	1/4 MPT
OX-86	4 MM	11/16"	2¼"	1/4 MPT
OX-87	4½ MM	11/16"	2¼"	1/4 MPT
OX-88	5 MM	11/16"	2¼"	1/4 MPT
OX-89	5½ MM	11/16"	2¼"	1/4 MPT
OX-90	6 MM	11/16"	2¼"	1/4 MPT
OX-91	6½ MM	11/16"	2¼"	1/4 MPT
OX-92	7 MM	11/16"	2¼"	1/4 MPT
OX-93	7½ MM	11/16"	2¼"	1/4 MPT
OX-94	8 MM	11/16"	2¼"	1/4 MPT
OX-95	8½ MM	11/16"	2¼"	1/4 MPT
OX-96	9 MM	11/16"	2¼"	1/4 MPT

CARLISLE GAS BURNER CORP.
MILLVILLE, NEW JERSEY

NO. 9 SERIES BURNERS



BURNER NUMBER	NO. OF HOLES	DRILL SIZE	B	FLAME	A	THREAD
9	4	#75	3/16	STR.	11/16	1/4-40
9A	4	#75	3/16	STR.	37/64	1/4-27
9E	1	#75	~~	STR.	11/16	1/4-32
9F	1	#70	~~	STR.	11/16	1/4-27
9G	1	#64	~~	STR.	11/16	1/4-27
9H	4	#75	3/16	STR.	11/16	1/4-27
9J	3	#65	1/8	STR.	11/16	1/4-27
9K	2	#76	3/32	STR.	11/16	1/4-27
9L	1	#55	~~	STR.	11/16	1/4-27
9M	7	#70	9/32	STR.	19/32	1/4-27
9P	4	#61	1/4	STR.	11/16	3/16-32
9Q	2	#65	1/8	STR.	11/16	1/4-27
9S	5	#71	7/32	STR.	11/16	1/4-27
9T	2	#55	1/8	STR.	11/16	1/4-27
9U	4	#57	3/16	STR.	11/16	1/4-27
9V	1	#57	~~	STR.	11/16	1/4-27
9W	1	#75	~~	STR.	11/16	1/4-27

Carlisle GAS BURNER CORP.

MILLVILLE, N. J.

DRAWN STEEL CASE PRESSURE Gauges

Drawn Steel Case

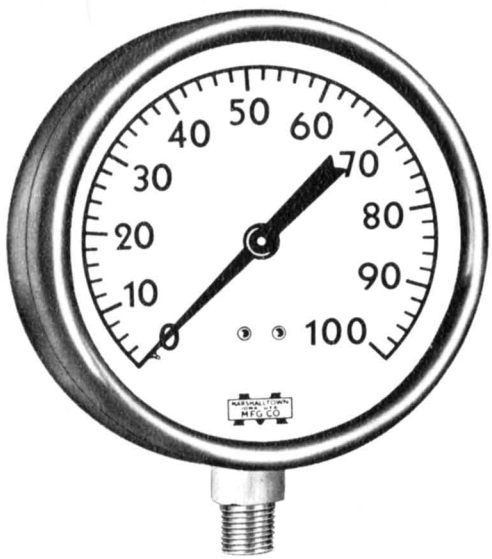


Fig. No. 23

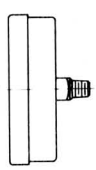


Fig. No. 23C

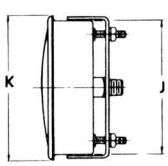


Fig. No. 23B

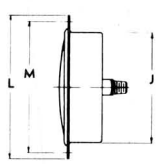


Fig. No. 23D

Size	J	K	L	M
2	2 1/16	2 1/4	2 3/4	2 1/2" B.C., 3 - 9/64 Holes
2 1/2	2 19/32	2 7/8	3 15/32	3" B.C., 3 - 9/64 Holes
3 1/2	3 23/32	4	4 7/8	4 7/16" B.C., 3 - 3/16 Holes

USAGE—For pressures above atmospheric. Usable on air, oil, gas or water or any other pressure medium which does not deteriorate brass. Install protective syphon when used on steam.

DIAL SIZES—2", 2 1/2", 3 1/2" and 4 1/2", except that the 4 1/2" is not available in Fig. Nos. 23B and 23D.

CASE—Drawn steel - phosphatized for rust resistance and finished in oven baked black enamel.

RING—Same as above.

BOURDON TUBE—Phosphor Bronze.

MOVEMENT—Brass - Independent Mounting.

ACCURACY—Within 2% of total scale range in middle half of scale - 3% elsewhere.

FIG. NO. 23

1/4" male bottom connection is standard. When so specified, a 1/8" male bottom connection can be furnished on 2" and 2 1/2" sizes.

VARIATIONS

FIG. NO. 23C

1/4" male center back connection is standard on all sizes. When so specified, 1/8" male center back connection available in the 2" and 2 1/2" sizes.

FIG. NO. 23B

Flush mounted type with U-clamp and studs for clamping to panel. 1/4" male center back connection is standard. Plastic crystal is standard. Fig. No. 23B not available in 4 1/2" size.

FIG. NO. 23D

Flush mounted type with front flange having three mounting holes for fastening to the panel. 1/4" male center back connection is standard. Plastic crystal is standard. Fig. No. 23D not available in 4 1/2" size.

STANDARD DIALS

	Pounds Per Square Inch										
Total Graduation	15	30	60	100	160	200	300	400	600	800	1000
Figure Intervals	3	5	10	10	20	20	30	50	100	100	100
Graduating Marks	1/2	1	2	2	5	5	10	10	20	20	20

Carlisle GAS BURNER CORP.

DRAWN STEEL CASE DIAPHRAGM

Gauges

Drawn Steel Case

Fig. No. 83

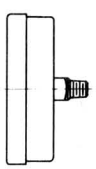


Fig. No. 83C

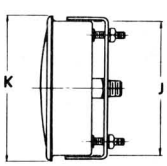


Fig. No. 83B

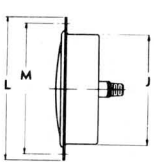


Fig. No. 83D

SIZE	J	K	L	M
2½	2 19/32	2⅞	3 15/32	3" B.C., 3 - 9/64 Holes
3½	3 23/32	4	4⅞	4 7/16" B.C., 3 - 3/16 Holes

USAGE—For the measurement of pressure or vacuum between 10 pounds per sq. in. and 10 inches of water—a range where a Bourdon tube gauge is not practical.

DIAL SIZES—2½", 3½" and 4½".

CASE—Drawn steel - phosphatized for rust resistance and finished in oven baked black enamel.

RING—Same as above.

DIAPHRAGM—Phosphor bronze.

MOVEMENT—Brass - Independent mounting.

ACCURACY—Except as noted, within 1% of total scale range in middle half of scale - 2% elsewhere. Ranges under 30 inches of water or equivalent - within 1% in middle half of scale - 3% elsewhere.

FIG. NO. 83

¼" male bottom connection is standard. ⅛" male bottom connection can be furnished on the 2½" size only when specified.

FIG. NO. 83R
(Not Illustrated)

A retard diaphragm gauge made in the 2½" size only and in the one standard dial graduation - 0 to 15 ounces with ¼ ounce graduations and retarded to 5 pounds. ¼" bottom connection is standard.

VARIATIONS

FIG. NO. 83C

¼" male center back connection is standard on all sizes.

FIG. NO. 83B

Flush mounted type with U-clamp and studs for clamping to panel. ¼" male center back connection is standard. Plastic crystal is standard. Fig. No. 83B not available in 4½" size.

FIG. NO. 83D

Flush mounted type with front flange having three mounting holes for fastening to the panel. ¼" male center back connection is standard. Plastic crystal is standard. Fig. No. 83D not available in 4½" size.

STANDARD DIALS

	Single Scale Ounces Per Sq. In. or Inches of Water (Pressure or Vacuum)								Lbs. Per Sq. Inch			Dual Scale Oz.	In.	Oz.	In.
Total Range	10	15	30	60	100	160	200	300	3*	5	10	20	35	32	55
Figure Intervals	2	3	5	10	10	20	20	30	½	1	2	2	5	4	5
Smallest Sub-Division	⅛	¼	½	1	2	2	2	5	1/16	1/16	⅛	½	1	½	1

*2½" size only

These dials are also available within capacity limits of the gauges for graduating in millimeters of mercury, centimeters of water and inches of mercury. Compound gauges made to order in 2½" and 3½" sizes.

Carlisle GAS BURNER CORP.

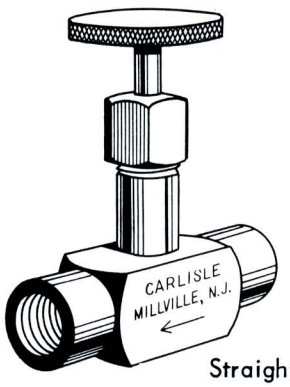
MILLVILLE, N. J.

FINE THREAD METERING VALVES

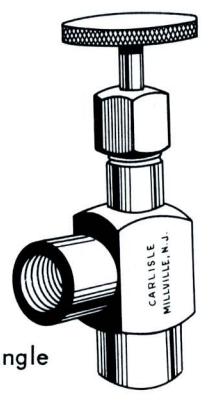
(Needle Type)

Carlisle Brass Micrometer Valves have been carefully designed and precision built to assure maximum efficiency and are recommended for use with all types of Gases as well as with Air or Oxygen.

Teflon packing is used on all Carlisle Valves for maximum corrosion resistance. On the No. 40 Series Valves, Disc Handles and Stainless Steel Stems are standard. Other style handles are available upon request.



Straight



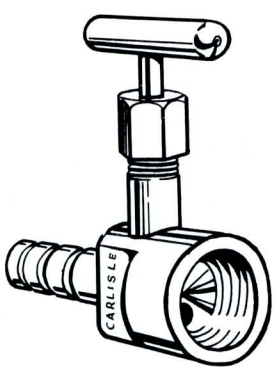
Angle

The sturdy construction of the No. 40 Series Valves enables them to be used with High Pressure Gases. Every Carlisle Valve is leak-tested under high pressure.

SELECTION CHART

VALVE NO.	BODY STYLE	INLET	OUTLET	HEIGHT	WIDTH	STEM THREAD	ORIFICE
40S	Straight	1/8" Fem.	1/8" Fem.	2-7/8"	2"	5/16-40	.1935
40A	Angle	1/8" Fem.	1/8" Fem.	3-1/4"	1-1/4"	5/16-40	.1935
41S	Straight	1/4" Fem.	1/4" Fem.	2-7/8"	2"	5/16-40	.1935
41A	Angle	1/4" Fem.	1/4" Fem.	3-1/4"	1-1/4"	5/16-40	.1935
42S	Straight	3/8" Fem.	3/8" Fem.	3"	2-1/4"	3/8-32	.2770
42A	Angle	3/8" Fem.	3/8" Fem.	3-3/8"	1-3/4"	3/8-32	.2770
43S	Straight	1/2" Fem.	1/2" Fem.	3-7/8"	2-1/4"	7/16-32	.3480
43A	Angle	1/2" Fem.	1/2" Fem.	3-3/8"	1-3/4"	7/16-32	.3480
44S	Straight	3/4" Fem.	3/4" Fem.	4"	3-5/8"	1/2-27	.4062
44A	Angle	3/4" Fem.	3/4" Fem.	5"	2-1/4"	1/2-27	.4062
45S	Straight	1" Fem.	1" Fem.	5-5/16"	4-1/8"	5/8-24	.5000
45A	Angle	1" Fem.	1" Fem.	6"	2-13/16"	5/8-24	.5000
46A	Angle	1/8" Male	1/8" Fem.	3-1/4"	1-1/4"	5/16-40	.1570

No. 46A is a special designed Valve with a long tapered Stainless Steel Stem, for extremely fine control.



HOSE CONNECTION VALVES

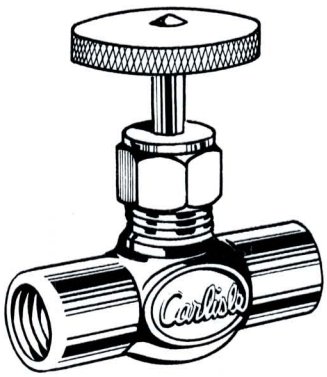
No. 38A Carlisle Hose Connection Valves are made from fine Brass Forgings and have been engineered to permit a close adjustment of Gas, Air or Oxygen.

3/8" Pipe Size – 1/4 x 40 Stem – .1495 Orifice

Rubber Tubing Size – 3/16" ID

Carlisle GAS BURNER CORP.

MIDGET VALVES



Carlisle Midget Valves are manufactured from Brass Forgings which are dense-grained and free from porosity.

Stainless Steel Stems are Standard in all Midget Valves and are available in either a BLUNT Point for quick opening and larger capacity or VEE Point for finer adjustment.

Every Valve is leak-tested under high pressure and is manufactured according to the highest standards. Teflon packing is used for corrosion resistance and maximum safety when using Oxygen.

Disc Handles (as shown) are standard; if Tee Handles are desired, specify when ordering.

For Maximum capacity, the No. 50 Series Valves are recommended. See selection chart below.

SELECTION CHART

STRAIGHT BODY STYLE
BLUNT STEM POINT – .170 ORIFICE

VALVE NO.	INLET	OUTLET	HEIGHT	WIDTH
90B	1/8 Male	1/8 Male	2-1/8	1-3/4
91B	1/4 Male	1/4 Male	2-1/8	1-3/4
92B	1/8 Fem.	1/8 Fem.	2-1/8	1-3/4
93B*	1/4 Fem.	1/4 Fem.	2-1/8	1-3/4
94B	1/8 Fem.	1/8 Male	2-1/8	1-3/4
95B	1/8 Male	1/8 Fem.	2-1/8	1-3/4
96B	1/4 Fem.	1/4 Male	2-1/8	1-3/4
97B	1/4 Male	1/4 Swage	2-1/8	1-3/4
98B	1/4 Swage	1/4 Swage	2-1/8	1-3/4
99B**	1/4 Male	1/4 Flare	2-1/8	1-3/4
100B**	1/4 Flare	1/4 Flare	2-1/8	1-3/4

STRAIGHT BODY STYLE
VEE STEM POINT – .059 ORIFICE

VALVE NO.	INLET	OUTLET	HEIGHT	WIDTH
80V	1/8 Male	1/8 Male	2-1/8	1-3/4
81V	1/8 Fem.	1/8 Fem.	2-1/8	1-3/4
82V	1/4 Male	1/4 Male	2-1/8	1-3/4

* Indicates Valves Produced from Brass Extrusions.

** Price of Valve does not include Flare Nut.

ANGLE BODY STYLE
BLUNT STEM POINT – .170 ORIFICE

VALVE NO.	INLET	OUTLET	HEIGHT	WIDTH
70B	1/8 Male	1/8 Male	2-1/2	1-1/4
71B	1/4 Male	1/4 Male	2-1/2	1-1/4
72B	1/8 Fem.	1/8 Fem.	2-1/2	1-1/4
73B*	1/4 Fem.	1/4 Fem.	2-1/2	1-1/4
74B	1/8 Fem.	1/8 Male	2-1/2	1-1/4
75B*	1/4 Fem.	1/4 Male	2-1/2	1-1/4
76B	1/4 Male	1/4 Swage	2-1/2	1-1/4
77B	1/4 Swage	1/4 Swage	2-1/2	1-1/4
78B**	1/4 Male	1/4 Flare	2-1/2	1-1/4
79B**	1/4 Flare	1/4 Flare	2-1/2	1-1/4

ANGLE BODY STYLE
VEE STEM POINT – .059 ORIFICE

VALVE NO.	INLET	OUTLET	HEIGHT	WIDTH
60V	1/8 Male	1/8 Male	2-1/2	1-1/4
61V	1/8 Fem.	1/8 Fem.	2-1/2	1-1/4

STRAIGHT BODY STYLE
BLUNT STEM POINT – .219 ORIFICE

VALVE NO.	INLET	OUTLET	HEIGHT	WIDTH
50V	1/4 Male	1/4 Male	2-1/2	1-7/8
51V*	1/4 Fem.	1/4 Fem.	2-1/2	1-7/8
52V*	1/4 Male	1/4 Fem.	2-1/2	1-7/8

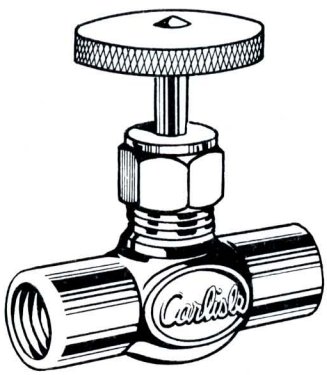
NOTE: FLARE STYLE VALVES ARE FOR USE WITH a 45 deg. SAE Flare Nut

Carlisle GAS BURNER CORP.

MILLVILLE, N. J.

STAINLESS STEEL FORGED

MIDGET VALVES



Carlisle Midget Valves are manufactured from Stainless Steel Forgings which are dense-grained and free from porosity.

Stainless Steel Stems are Standard in all Midget Valves and are available in either a BLUNT Point for quick opening and larger capacity or VEE Point for finer adjustment.

Every Valve is leak-tested under high pressure and is manufactured according to the highest standards. Teflon packing is used for corrosion resistance and maximum safety when using Oxygen.

Disc Handles (as shown) are standard; if Tee Handles are desired, specify when ordering.

SELECTION CHART

STRAIGHT BODY STYLE
BLUNT STEM POINT – .170 ORIFICE

VALVE NO.	INLET	OUTLET	HEIGHT	WIDTH
90BS	1/8 Male	1/8 Male	2-1/8	1-3/4
91BS	1/4 Male	1/4 Male	2-1/8	1-3/4
92BS	1/8 Fem.	1/8 Fem.	2-1/8	1-3/4
94BS	1/8 Fem.	1/8 Male	2-1/8	1-3/4
95BS	1/8 Male	1/8 Fem.	2-1/8	1-3/4

ANGLE BODY STYLE
BLUNT STEM POINT – .170 ORIFICE

VALVE NO.	INLET	OUTLET	HEIGHT	WIDTH
70BS	1/8 Male	1/8 Male	2-1/2	1-1/4
71BS	1/4 Male	1/4 Male	2-1/2	1-1/4
72BS	1/8 Fem.	1/8 Fem.	2-1/2	1-1/4
74BS	1/8 Fem.	1/8 Male	2-1/2	1-1/4
75BS	1/8 Male	1/8 Fem.	2-1/2	1-1/4

STRAIGHT BODY STYLE
VEE STEM POINT – .059 ORIFICE

VALVE NO.	INLET	OUTLET	HEIGHT	WIDTH
80VS	1/8 Male	1/8 Male	2-1/8	1-3/4
81VS	1/8 Fem.	1/8 Fem.	2-1/8	1-3/4
82VS	1/4 Male	1/4 Male	2-1/8	1-3/4

ANGLE BODY STYLE
VEE STEM POINT – .059 ORIFICE

VALVE NO.	INLET	OUTLET	HEIGHT	WIDTH
60VS	1/8 Male	1/8 Male	2-1/2	1-1/4
61VS	1/8 Fem.	1/8 Fem.	2-1/2	1-1/4

Carlisle GAS BURNER CORP.

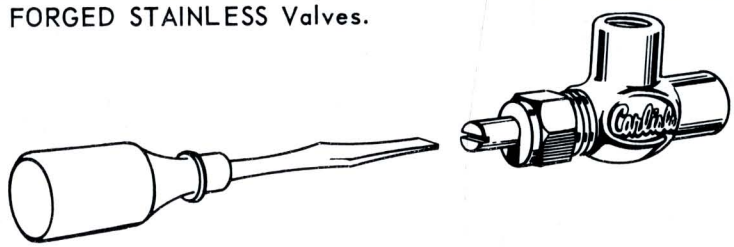
NEW ___ FINE THREAD METERING VALVES . . . . Needle Type
Long Tapered Stems . . . .

VALVE NO.	BODY STYLE	INLET	OUTLET	HEIGHT	WIDTH	STEM THREAD	ORIFICE
47A	Angle	1/8" F	1/8" M	3-1/4"	1-1/4"	5/16-40	.1570
48A	Angle	1/8" F	1/8" F	3-1/4"	1-1/4"	5/16-40	.1570

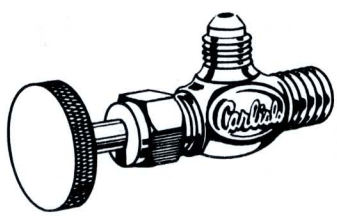
NEW ___ FINE THREAD METERING VALVES . . . . UNION TYPE

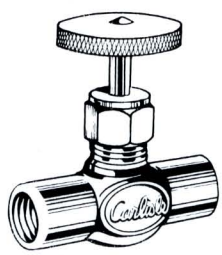
VALVE NO.	BODY STYLE	INLET	OUTLET	HEIGHT	WIDTH	STEM THREAD	ORIFICE
40BU	Angle	Union	1/8" F	3-3/4"	1-1/4"	5/16-40	.1570
40AU	Angle	1/8" F	Union	3-1/4"	1-1/2"	5/16-40	.1935

NEW ___ SLOTTED STEMS FOR SCREW DRIVE ADJUSTMENT . . . . This type of Stem (Stainless Steel) may be ordered in any of the MIDGET FORGED BRASS Valves or the MIDGET FORGED STAINLESS Valves.



NEW ___ COLOR CODED HANDLES . . . . RED and GREEN Anodized Aluminum Handles are available for either the MIDGET FORGED BRASS Valves or the MIDGET FORGED STAINLESS Valves.





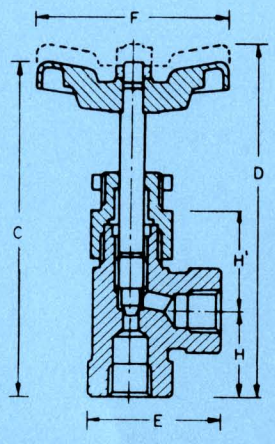
NEW ___ PANEL MOUNT VALVES . . . . ALL Midget Forged Brass Valves may now be ordered for Panel Mounting by adding the Suffix letter "P" after the Catalog Number.

NEW ___ MIDGET FORGED BRASS VALVE ADDED . . . . . .

VALVE NO.	BODY STYLE	INLET	OUTLET	HEIGHT	WIDTH	STEM THREAD	ORIFICE
62V	ANGLE	1/8" F	1/8" M	2½"	1¼"	3/8-32	.059

Carlisle GAS BURNER EQUIPMENT

MILLVILLE, N. J



PANEL MOUNT VALVES

DATA SHEET

CARLISLE PANEL MOUNT VALVES ARE SUPPLIED IN THE FOLLOWING SIZES:

ANGLE STYLE

No. 40AP, 1/8" Fem. Inlet & Outlet
No. 41AP, 1/4" Fem. Inlet & Outlet
No. 42AP, 3/8" Fem. Inlet & Outlet
No. 43AP, 1/2" Fem. Inlet & Outlet

STRAIGHT STYLE

No. 40SP, 1/8" Fem. Inlet & Outlet
No. 41SP, 1/4" Fem. Inlet & Outlet
No. 42SP, 3/8" Fem. Inlet & Outlet
No. 43SP, 1/2" Fem. Inlet & Outlet

MATERIAL: BODY – Brass STEM – Stainless PACKING – Teflon

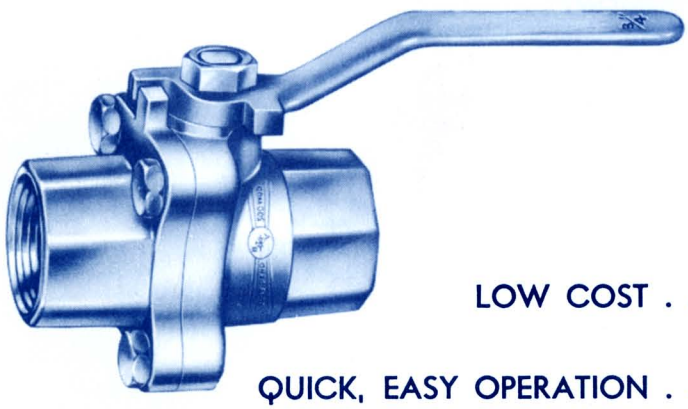
SELECTION CHART

VALVE NO.	HEIGHT	WIDTH	STEM THREAD	ORIFICE
40AP	3-1/4"	1-1/4"	5/16-40	.1935
41AP	3-1/4"	1-1/4"	5/16-40	.1935
42AP	3-3/8"	1-3/4"	3/8-32	.2770
43AP	3-3/8"	1-3/4"	7/16-32	.3480
40SP	2-7/8"	2"	5/16-40	.1935
41SP	2-7/8"	2"	5/16-40	.1935
42SP	3"	2-1/4"	3/8-32	.2770
43SP	3-7/8"	2-1/4"	7/16-32	.3480

Carlisle GAS BURNER CORP.

MILLVILLE, N. J.

BALL VALVES



Outstanding Features

LOW COST . . . Definitely a better valve, yet it costs no more than a standard bronze gate valve.

QUICK, EASY OPERATION . . . Only a quarter turn of the handle to open or close as compared with several full turns to open or close a gate or globe valve.

SELF-CLEANING . . . The wiping action of the ball across the seats forces out foreign matter preventing abrasive wear, which causes the average gate or globe to leak.

"AUTO-Mating" SEATS (patent pending) . . . Insure positive sealing in either direction of flow because of self-adjusting compensation for wear — ideal for vacuum service.

ULTRA-MODERN LUBRICANT . . . The figure 125R has Buna "N" seats impregnated with Molybdenum Disulphide, the modern lubricant which insures a positive, slippery, non-galling surface. The figure 125T has seats of Teflon and because of its low coefficient of friction the same non-galling positive operation is assured.

PERFECT SPHERE BALL . . . Machined to ball-bearing accuracy, it combines with the "AUTO-Mating" seats to insure smooth, positive sealing operation.

LEAK-PROOF STUFFING BOX . . . Two "O" ring stem seals insure a leak-proof stuffing box which will last the lifetime of the valve in service.

FOOL PROOF INDICATING HANDLE . . . Indestructible handle shows position of the valve at all times.

POROSITY ELIMINATED . . . Forged Naval Bronze construction guarantees maximum strength, safety, and the elimination of porosity.

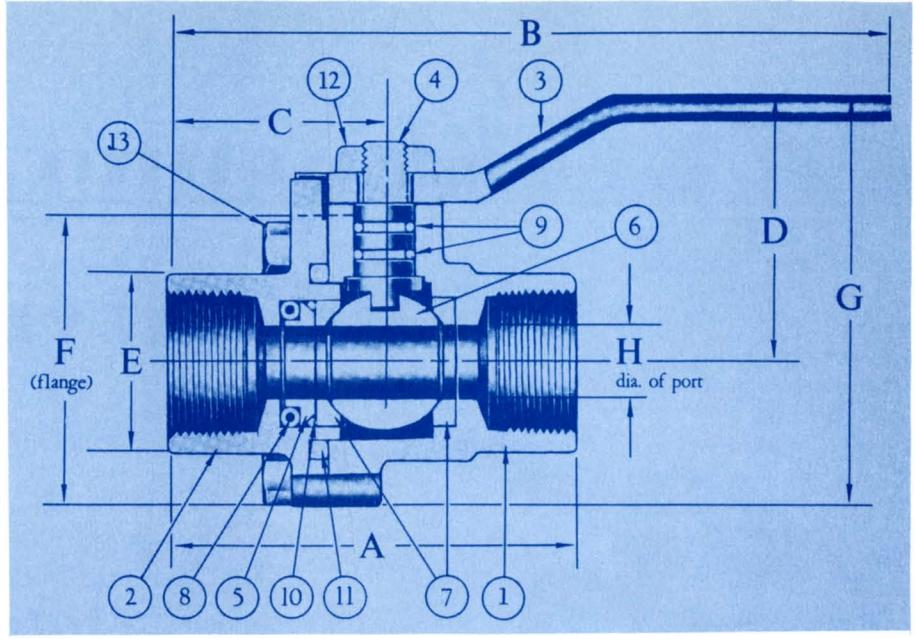
TIGHT JOINT INSURANCE . . . Bolted body and cap construction with "O" ring seal for positive tight joint.

QUALITY CONTROLLED . . . Precision machining and exacting standards of manufacturing accuracy plus the careful inspection and testing of each individual valve is our guarantee of long, trouble-free service.

UNDERWRITERS' LABORATORIES APPROVED . . . For "hard to handle" LIQUEFIED PETROLEUM GAS SERVICE.

Material and Dimension Specifications...

125R / 125T



PART NO.	PART NAME	MATERIAL	REMARKS
1	Body	Forged Naval Bronze	A.S.T.M. B283 Leaded
2	Cap	Forged Naval Bronze	A.S.T.M. B283 Leaded
3	Handle	Pressed Steel Malleable Iron	Sizes 1/4, 3/8, & 1/2 Sizes 3/4 Thru 2
4	Stem	Naval Bronze	A.S.T.M. B21 Alloy C (Leaded)
5	Disc	Naval Bronze	A.S.T.M. B202 58T Type I Class "A"
6	Ball	Naval Bronze	A.S.T.M. B283 Leaded
7	Seat	Fig. 125R Buna "N" Fig. 125T Teflon	Moly Disulphide Impregnated
8	Spring	Phosphor Bronze	A.S.T.M. B159 Alloy A
9	O-Ring	Fig. 125R Buna "N" Fig. 125T Upper Viton — Lower Teflon	
10 11	O-Ring O-Ring	Fig. 125R Buna "N" Fig. 125T Teflon	
12	Nut	Cadmium Plated Carbon Steel	
13	Screw	Cadmium Plated Carbon Steel	

DIMENSIONS

SIZE	A	B	C	D	E	F	G	H
1/4	2 3/8	5 1/16	1 5/16	1 3/8	13/16	1 15/32	2 1/4	1/4
3/8	2 3/4	5 1/8	1 7/16	1 1/2	1 1/16	1 7/8	2 1/2	3/8
1/2	2 3/4	5 1/8	1 7/16	1 1/2	1 1/16	1 7/8	2 1/2	3/8
3/4	2 7/8	5 17/32	1 17/32	1 7/8	1 1/4	2	2 7/8	1/2
1	3 5/32	6	1 23/32	2 1/32	1 5/16	2 5/16	3 3/16	3/4
1 1/4	4 1/16	7 11/64	2 11/64	2 1/2	2	2 13/16	3 29/32	15/16
1 1/2	4 3/16	8 7/32	2 11/32	3	2 1/4	2 15/16	4 15/32	1 3/16
2	4 3/4	9 1/2	2 1/2	3 3/8	2 3/4	3 5/16	5 1/32	1 3/8

TESTS

HYDROSTATIC SHELL 600 PSIG.

SEAT — 100 PSIG. AIR UNDER WATER

Figure 125R WORKING PRESSURE

PRESS.	TEMP.
400 PSIG.	WOG
300 PSIG.	125° F.
200 PSIG.	150° F.
100 PSIG.	200° F.

Underwriters' Laboratories Approved for Liquefied Petroleum Gas Service For Max. 250 Lbs. PSIG.

Figure 125T WORKING PRESSURE

PRESS.	TEMP.
400 PSIG.	WOG
300 PSIG.	175° F.
200 PSIG.	312° F.
150# WSP	366° F.
125# WSP	353° F.
100# WSP	338° F.
100 PSIG.	400° F.

Above ratings based on the ASME Boiler and Pressure Vessel Code.

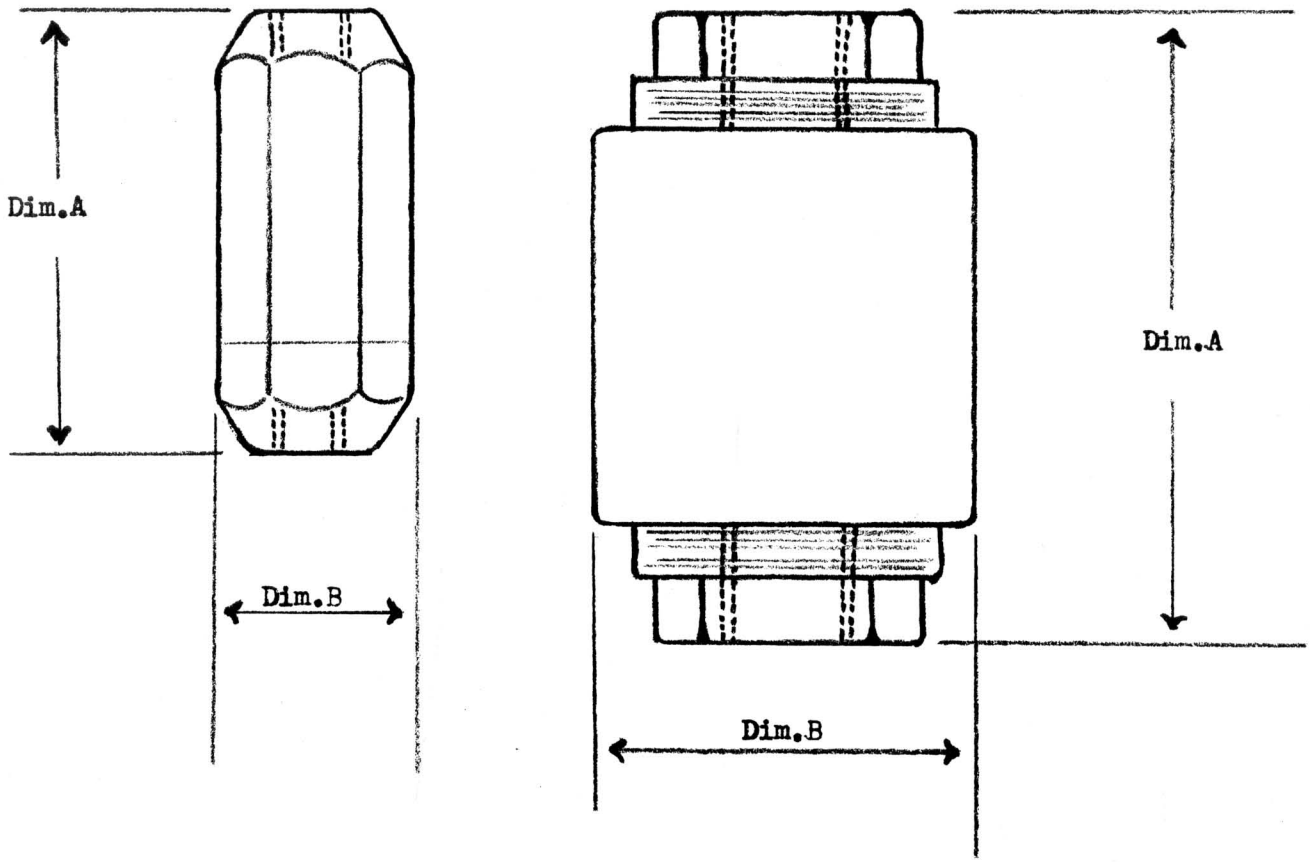
STANDARD PACKAGES

VALVES PER CARTON	10	10	10	10	10	5	5	5
WEIGHT PER CARTON	6	10	10	13	20	20	25	38
SIZE	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2

Carlisle GAS BURNER CORP.

MILLVILLE, N. J.

FIRE CHECK DATA SHEET



NO.	PIPE SIZE	DIM.A	DIM.B	CAP.C.F.H.
C-70	1/8"	2 1/4"	1"	60
C-80	1/4"	2 1/4"	1"	60
C-90	3/8"	2 1/4"	1 1/8"	90
C-100	1/2"	3 1/2"	2 3/16"	150
C-110	3/4"	3 1/2"	2 3/16"	150
C-120	1"	4 1/2"	2 3/4"	600
C-130	1 1/4"	4 1/2"	2 3/4"	600

Nos. C-70, C-80, C-90 are made of Hex Brass.

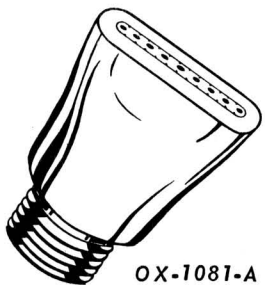
Nos. C-100, C-110, C-120, C-130 are made of Round Steel.

Carlisle GAS BURNER CORP.

MILLVILLE, N. J.

GAS-OXYGEN FISH TAIL BURNERS

CARLISLE GAS-OXYGEN Fish Tail Burners are made of Heat Resisting Alloy and are recommended where high temperatures are required such as in the working of Hard Glass. These Burners can be used Individually . . . As Line Burners . . . On Hand Torches . . . Cross Fire Set-ups, etc.



OX-1081-A

SELECTION CHART – PILOTED TYPE

BURNER NUMBER	NO. CENTER HOLES	DRILL SIZE	TYPE OF FLAME	BURNER DIMENSIONS		
				WIDTH IN INCHES	HEIGHT IN INCHES	THREAD
OX-1012	4	64	Divergent	9/16	7/8	1/4-27 Male
OX-1012F	5	71	Parallel	9/16	7/8	1/4-27 Male
OX-1081A	9	62	Divergent	15/16	1-5/16	1/4" NPT Male

Oxygen Fish Tail Burners come in two styles . . . Piloted and Un-Piloted. The Gas and Oxygen on the piloted type can be pushed harder than the un-piloted type. However, the un-piloted Oxygen Fish Tail produces a sharper flame.

A small amount of Air can be added to the piloted type when a longer and less intense flame is required.

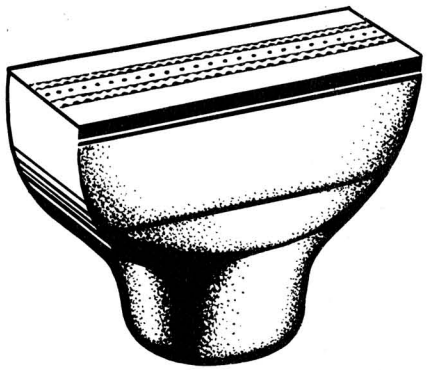
SELECTION CHART – UN-PILOTED TYPE

BURNER NUMBER	NO. CENTER HOLES	DRILL SIZE	TYPE OF FLAME	BURNER DIMENSIONS		
				WIDTH IN INCHES	HEIGHT IN INCHES	THREAD
1253	10	71	Parallel	23/32	1-3/16	1/8" NPT Male
1253C	6	71	Parallel	23/32	1-3/16	1/8" NPT Male
1253D	4	71	Parallel	23/32	1-3/16	1/8" NPT Male
1253F	12	71	Parallel	23/32	1-3/16	1/8" NPT Male
1368	15	71	Parallel	1-5/16	1-7/16	1/4"NPT Male
1381	9	62	Divergent	11/16	1-5/16	1/8" NPT Fem.
1381A	9	62	Divergent	11/16	1-5/16	1/4" NPT Male
15	5	71	Parallel	13/32	5/8	1/4-27 Male
15A	2	71	Parallel	13/32	5/8	1/4-27 Male
15B	2	58	Parallel	13/32	5/8	1/4-27 Male
15C	3	71	Parallel	13/32	5/8	1/4-27 Male
15D	5	80	Parallel	13/32	5/8	1/4-27 Male
15E	3	80	Parallel	13/32	5/8	1/4-27 Male
15F	2	80	Parallel	13/32	5/8	1/4-27 Male
15G	5	77	Parallel	13/32	5/8	1/4-27 Male
15H	4	71	Divergent	13/32	5/8	1/4-27 Male
15K	3	71	Parallel	13/32	5/8	1/4-27 Male

1253

Carlisle GAS BURNER CORP.

FISH TAIL RIBBON BURNERS



Carlisle Fish Tail Ribbon Burners consist of a cast bronze Manifold and a brass Insert and are designed for use with Gas, Air or Gas, Air, Oxygen at high mixture pressures.

Oxygen – 2 to 15 lb. PSI
Gas – 6" W.C. to 5 lb. PSI
Air – 1 to 5 lb. PSI

These Burners are available in either a SHARP or SOFT Flame and in various lengths and widths according to your particular requirements. The Insert consists of main center holes, piloted by rows of specially constructed Stainless Steel Ribbon.

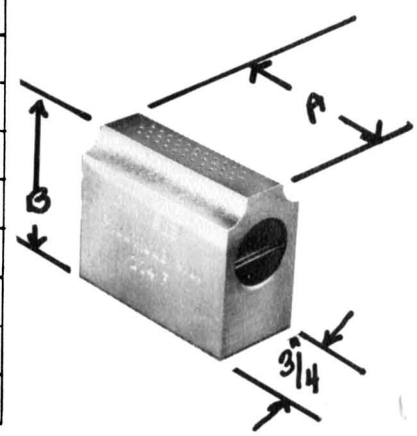
We recommend the use of a properly proportioned Carlisle Gas, Air or Gas, Air, Oxygen Mixer to assure maximum efficiency.

The Burners are used for Annealing & Hardening, Soldering, etc. in the Metal & Glass Industries. The intense & concentrated heat produced by this type of burner enables them to be used on Glass Working Machines in the Electronic Field.

OXYGEN "IT" FISH TAIL BURNERS

CARISLE "IT" Fish Tail Burners are especially designed to produce a uniform flame over a wide area. Both Straight and Divergent flame patterns are available. (See selection chart below) "IT" Burner Manifolds are produced from Aluminum.

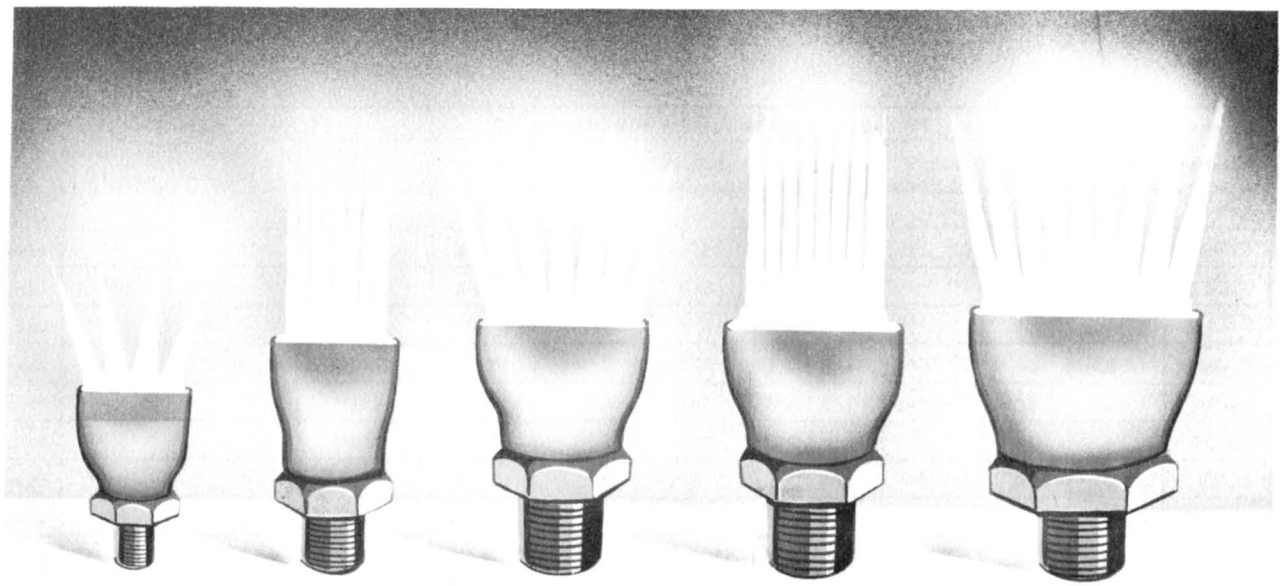
BURNER NUMBER	BURNER DIMENSIONS				FLAME CHARACTERISTICS		
	DIM. A	DIM. B	THREAD CONNECTIONS	FOCAL WIDTH	FOCAL LENGTH	OVERALL LENGTH	TYPE OF FLAME
118-M	1-9/16"	1-7/8"	1/8" Male	1-3/4"	1/8"	6"	Divergent
118-F	1-9/16"	1-1/4"	1/8" Fem.	1-3/4"	1/8"	6"	Divergent
116-M	1-9/16"	1-7/8"	1/4" Male	1-3/4"	1/8"	6"	Divergent
116-F	1-9/16"	1-1/4"	1/4" Fem.	1-3/4"	1/8"	6"	Divergent
114-M	1-9/16"	1-7/8"	1/8" Male	1-1/8"	1/8"	12"	Straight
114-F	1-9/16"	1-1/4"	1/8' Fem.	1-1/8"	1/8"	12"	Straight
112-M	1-9/16"	1-7/8"	1/4" Male	1-1/8"	1/8"	12"	Straight
112-F	1-9/16"	1-1/4"	1/4" Fem.	1-1/8"	1/8"	12"	Straight



Carlisle GAS BURNER CORP.

MILLVILLE, N. J.

FISH TAIL BURNERS



228-N 81-BN 104-N 332-DN 420-CN

Carlisle's standard Fish Tail Burners are made of brass and are so constructed that the flame gives a Fish Tail appearance. Fish Tail Burners are recommended where a hot, localized flame is desired. They are adaptable to many uses including soldering, annealing and pre-heating. Fish Tails are also widely used for Glass Forming in the manufacture of Electronic Tubes, Neon Signs and Scientific Apparatus.

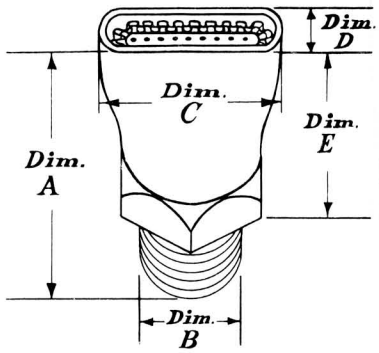
Carlisle Fish Tail Burners are made to burn manufactured, bottled, natural and mixed gases with air. Two rows of Alloy Steel ribbon are used as piloting on the N-Style Fish Tail Burner. Greater mixture pressures can be used with the N-Style Burner resulting in a greater heat output which is extremely advantageous when using the slower burning gases such as natural, mixed, bottled, etc.

The O-Style Fish Tail Burner has a single row of Alloy Steel ribbon for piloting and is recommended where a small amount of Oxygen is to be bled into the Gas-Air mixture when a greater amount of heat is required.

Fish Tail Burners are also available in Alloy Steel. All standard Burners are manufactured from brass. If Heat Resistant Alloy is desired, please specify when ordering.

Consult specifications chart on following page to select Fish Tail Burners best adapted for your particular application.

Carlisle GAS BURNER CORP.



BURNER NUMBER	NO. OF HOLES	DRILL SIZE	APPROX. BURNER DIMENSIONS ± 1/32					FLAME CHARACTERISTICS			
			DIM. A	DIM. B	DIM. C	DIM. D	DIM. E	FOCAL WIDTH	FOCAL LENGTH	MAXIMUM LENGTH	TYPE OF FLAME
228-N	4	64	1"	1/4-27	5/8	3/8	3/4	1/2"	1/2"	2"	Divergent
228-FN	5	71	1"	1/4-27	5/8	3/8	3/4	5/16"	3/8"	3"	Straight
228-RN	9 2 rows	71	1"	1/4-27	5/8	3/8	3/4	5/16"	1/2"	2"	Straight
81-AN	9	64	1" 5/16	1/8 NPT	7/8	3/8	1"	13/16"	3/4"	2¼"	Divergent
81-BN	8	64	1" 5/16	1/8 NPT	7/8	3/8	1"	7/16"	3/4"	4"	Straight
81-WN	5	60	1" 5/16	1/8 NPT	7/8	3/8	1"	5/8"	1"	3½"	Straight
81-QN	6	59	1" 5/16	1/8 NPT	7/8	3/8	1"	5/8"	1"	3½"	Straight
104-N	7	54	1-1/2	1/4 NPT	1" 1/16	3/8	1-1/8	1-3/16"	1"	2½"	Divergent
420-BN	9	54	1-1/2	1/4 NPT	1" 3/16	13/32	1-1/8	15/16"	7/8"	2¼"	Straight
420-CN	9	54	1-1/2	1/4 NPT	1" 3/16	13/32	1-1/8	1-1/4"	7/8"	2¼"	Divergent
420-DN	14	64	1-1/2	1/4 NPT	1" 3/16	13/32	1-1/8	1-1/4"	5/8"	2-1/8"	Divergent
420-RN	14	68	1-1/2	1/4 NPT	1" 3/16	13/32	1-1/8	1-1/2"	3/4"	2¼"	Divergent
420-SN	9	53	1-1/2	1/4 NPT	1" 3/16	13/32	1-1/8	1-1/2"	1-1/2"	2¼"	Divergent
332-N	12	64	1"1/2	1/4 NPT	1" 1/16	3/8	1-1/16	1"	7/16"	2¼"	Divergent
332-DN	8	60	1"1/2	1/4 NPT	1" 1/16	3/8	1-1/16	5/8"	1"	3½"	Straight
332-FN	10	61	1"1/2	1/4 NPT	1" 1/16	3/8	1-1/16	1-1/8"	1-1/4"	2"	Divergent
228-O	4	64	15/16	1/4-27	9/16	1/4	3/4	1/2"	1/2"	2"	Divergent
228-FO	5	71	15/16	1/4-27	9/16	1/4	3/4	5/16"	1/2"	3"	Straight
81-AO	9	64	15/16	1/8 NPT	13/16	5/16	15/16	13/16"	3/4"	2¼"	Divergent
81-BO	8	64	15/16	1/8 NPT	13/16	5/16	15/16	7/16"	3/4"	4"	Straight
81-WO	5	60	3/16	1/8 NPT	13/16	5/16	15/16	5/8"	1"	3½"	Straight
104-O	7	54	1-7/16	1/4 NPT	1"	3/8	1-1/16	1-3/16	1"	2½"	Divergent
332-O	12	64	1-7/16	1/4 NPT	1"	3/8	1-1/16	1"	7/16"	2¼"	Divergent
420-CO	9	54	1-1/2	1/4 NPT	1-1/8	5/16	1-1/8	1-1/4"	7/8"	2¼"	Divergent
420-DO	14	64	1-1/2	1/4 NPT	1-1/8	5/16	1-1/8	1-1/4"	5/8"	2-1/8"	Divergent

The above listed burners are standard; information on other styles may be had upon request.

See Oxygen Bulletin for Oxygen Fish Tails.

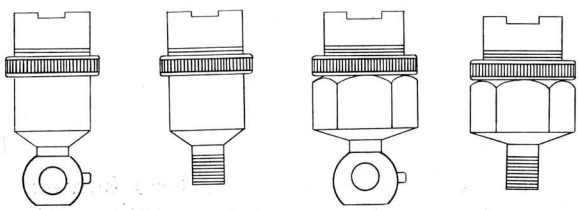
Also available are the newly designed Round Fish Tail Burners. These are made in various sizes, which are comparable to the Standard Style Fish Tails. For further information see the Bulletin on Round Fish Tail Burners.

Carlisle GAS BURNER CORP.

MILLVILLE, N. J.

ROUND RIBBON (FISH TAIL) BURNERS

GAS-AIR
OR
GAS-AIR-OXYGEN



MT **MTT** **BMT** **BMTT**

These Burners are made in two-sizes and two-styles. The larger Burner (BMT) has a 7/8" dia. insert with two to eleven holes as required and a 3/4" ball body. If a pipe thread (1/8") is desired add the suffix letter "T" as BMTT.

The smaller Burner (MT) has a 5/8" dia. insert and may be had with either a 3/4" ball body or 1/8" pipe thread the same as the larger BMT or BMTT.

When ordering specify number of holes and drill size of center ports, as example:

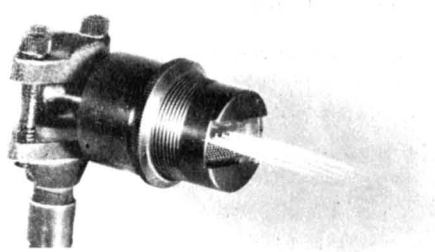
BMT-6-46 would signify the larger Burner with 6 - #46 drill size holes.

INSERT - MT-4-55 would signify a 5/8" Insert Only with 4- #55 drill size holes.

Gas-Air Burners are standard, if for use with GAS-AIR-OXYGEN please specify.

Used primarily on special machines for sealing stems and cutting, in the Electronic Field, manufacture of Flash Bulbs, Sealed Beam Units, etc. They may be used in Cross Fire set-ups where additional heat is needed for working large tubing.

BMT & MT — INSERTS

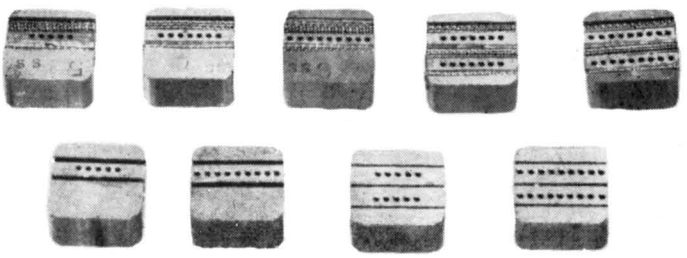


Complete assembly shown at the left consists of Swivel Holder — Nozzle Sleeve Body — Case and Insert. May be ordered separately or as a complete unit.

Carlisle GAS BURNER CORP.

GRID BURNERS

GAS-AIR
OR
GAS-AIR-OXYGEN



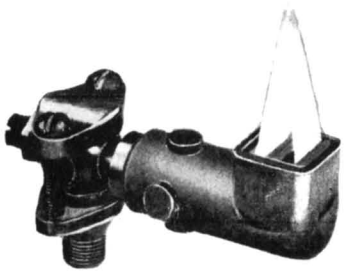
TOP ROW — #25 FOR GAS-AIR
BOTTOM — #30 FOR GAS-AIR-OXYGEN

For use on Stem Head and Sealing Machines.

5/8" Square Brass Grid Burners come with one to nine holes in a single row (1R) or two to eighteen holes in a double row (2R).

Grid Burners (#25) using rolled screens for piloting are for use with gas & air, while Grid Burners (#30) using milled slots are for gas-air-oxygen.Center Ports are drilled to produce a parallel, straight flame (S) or the converging type which pro-duces a sharp, pyramid flame (P).

Manifolds, swivel holders, grid burners may be ordered as a complete unit or separately. When ordering give complete specifications as:



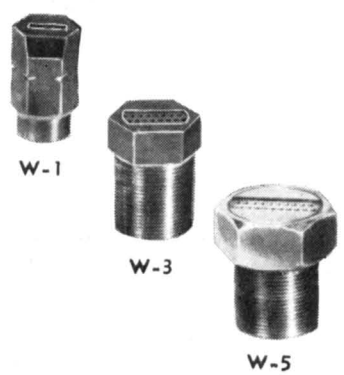
COMPLETE ASSEMBLY

25-2R6-P60 would signify a 5/8" Square Grid Burner for Gas and Air with 2 rows of 6 holes each — # 60 drill size Pyramid flame.

Special Oblong Style Manifolds and Grid Burners (1 1/8" x 5/8") are available. Please write for information on specially designed Grid Burners and Manifolds.

SPECIAL BURNERS

FOR USE WITH GAS - AIR - OXYGEN



W-1

W-3

W-5

OBSOLETE

The W-1 Burner is a specially designed CUT-OFF Burner, also adaptable for neck constricting.
1 1/16" in length — 9/16" Hex Brass
1/8" Female thread — 3 - center holes

The W-3 Burner is used for Ampule Drawing and Annealing.
1 1/16" in length — 3/4" Hex Head
3/4 x 27 thread — 16 - center holes

The W-5 is considerable larger and therefore more adaptable for larger work than the W-3.
1 3/16" in length — 15/16" Hex Head
3/4 x 27 thread — 20 - center holes

Carlisle GAS BURNER CORP.

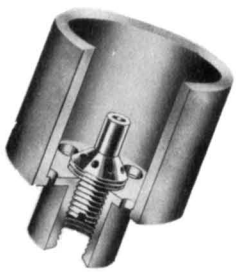
MILLVILLE, N. J.

"JM" Open Fire Burners

(UNITED STATES PAT. NO. 2784778 CANADIAN PAT. NO. 689378)

These NEW PATENTED OPEN FIRE BURNERS have been designed and developed to operate on a wide range of Gas-Air Ratios, while most other Open Fire Burners require an EXACT Gas-Air Ratio.

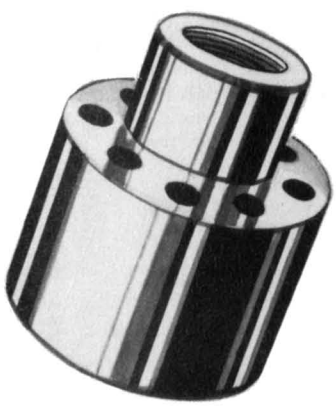
Carlisle "JM" Burners offer many SPECIAL ADVANTAGES . . . .



- RETAINS FLAME ON SLOW BURNING GASES
- WILL BURN ON A REDUCING ATMOSPHERE
- DESIGN ACTUALLY INCREASES FLAME TEMPERATURE
- RETAINS FLAME ON HIGH PRESSURES
- AIR-GAS RATIO NOT CRITICAL
- OBTAINS GREATER HEAD PRESSURES
- BURNS ON . . . . RAW GAS
  HIGH PRESSURE GAS
  PRE-MIX GAS, AIR
  ATMOSPHERICALLY

From the SMALL JM-1 to the LARGE JM-15 there is a Burner for almost every job, whether it be a Hand Torch Operation or a Furnace Application.

TO LIST BUT A FEW OF THE APPLICATIONS . . . . . .



- VARIOUS GLASS MACHINE OPERATIONS
- PRE-HEATING
- LINE BURNERS
- RADIANT TUBE FURNACES
- ENAMELING OVENS
- TEMPERING
- OPEN FIRE FURNACES
- BENCH FORGES
- TORCH WORK . . . Jewelry Manufacturing
  Dental Laboratories
  Gold Casting
  Silver Soldering
  Radiator Repair

- BURN-OFF PILOTS
- BAKE OVEN PILOTS
- IMMERSION TANKS
- IGNITION PILOTS
- LITHO OVENS
- CAN MACHINES

- SPECIAL PILOT APPLICATIONS . . . .
  In Conjunction with Electronic Safety Systems
  In Conjunction with Thermo-Couples
  In Conjunction with Cage Burners on Air Heaters

Carlisle GAS BURNER CORP.

SPECIFICATION CHART – "JM" BURNERS – CAPACITY CHART

BURNER NUMBER	TOTAL PORT AREA	THREAD SIZES	MATERIAL	BURNER DIM.		1000 BTU/HR. AT VARIOUS MIXTURE PRESSURES – INCHES W.C.							BURNER NUMBER
				HEIGHT	DIAMETER	3"	6"	9"	12"	18"	24"	30"	
JM-1*	.02654	3/8-32 F	Stain.	1-1/8"	7/8"	5.15	7.6	9.5	11.0	13.5	15.4	17.4	JM-1*
JM-3*	.06930	3/8-32 F	Stain.	1-5/8"	1-1/8"	13.4	19.2	23.3	26.9	33.0	38.2	42.7	JM-3*
JM-4	.1567	3/8" FPT	Stain.	2"	1-5/16"	30.3	43.4	52.8	60.9	75.6	88.3	· 96.6	JM-4
JM-5*	.2098	1/2" FPT 3/4" MPT	Stain.	2-1/8"	1-15/16"	40.6	58.0	70.8	81.6	100.0	114.6	129.2	JM-5*
JM-7*	.3518	3/4" FPT 1" MPT	Plain Steel	2-5/8"	2-1/4"	69.5	98.5	120.1	138.8	189.9	197.0	220.6	JM-7*
JM-9	.645	1" FPT	Cast Iron	2-1/2"	2-1/2"	127.5	180.6	220.3	254.6	348.5	361.2	404.5	JM-9
JM-11	.9486	1¼" FPT	Cast Iron	3"	3"	185.0	265.0	320.0	369.2	452.4	522.9	584.8	JM-11
JM-13	1.402	1½" FPT	Cast Iron	3-1/2"	3-1/2"	277.1	392.5	478.8	553.4	757.5	785.0	879.2	JM-13
JM-15	1.717	2" FPT	Cast Iron	4"	4"	339.2	480.5	586.2	677.5	927.3	961.0	1042.6	JM-15

*JM-1 Tips are available in the following threads: 3/8-40 F, 7/16-24 F, 1/8" FPT
*JM-3 Tips are available in the following threads: 3/8-40 F, 7/16-24 F, 1/8" FPT with 1/4" MPT
Unless otherwise specified JM-1 and JM-3 Tips are supplied with a 3/8-32 F Thread

*JM-5 and JM-7 Burners are supplied with BOTH Male and Female Threads as listed

Carlisle GAS BURNER CORP.

MILLVILLE, N. J.

UNIversal TORCH

USED BY ..... **DENTISTS – JEWELERS – GLASS BLOWERS – RADIATOR and BATTERY REPAIRMEN – LABORATORY TECHNICIANS – METAL, PLASTIC and GLASS SHOPS**

USED FOR ..... **ANNEALING – BRAZING – SOLDERING – CASTING – MELTING, etc.**

The UNIversal Torch is scientifically built for use with Manufactured, Natural, Propane Gas with Air or Oxygen and is equally adaptable for use with Hydrogen and Oxygen.

Properly sized inter-changeable carburetors have been designed to assure a thorough mixing of the gases. Back pressure is minimized by use of the correct combination of carburetor and tip.

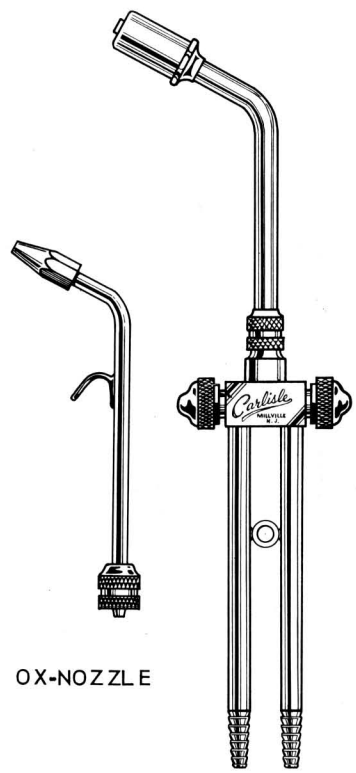
A wide variety of Gas-Air and Gas-Oxygen tips enables the operator to obtain flames ranging from a pin point fire to a large brush flame. For use with Oxygen, we offer both the piloted and un-piloted series. We recommend the piloted type of Oxygen tip for greater stability of flame, especially when using Natural gas. (See selection chart)

The rotating nozzle enables one to use the UNI-TORCH as a hand or bench model with equal ease. For Gas-Air a larger diameter nozzle is supplied . . . 3/8" . . . while for Gas-Oxygen or Hydrogen-Oxygen we recommend using the smaller diameter nozzle . . . 1/4" . . . to minimize chances of a flash-back.

OVER-ALL LENGTH OF GAS-AIR MODEL is 10".

OVER-ALL LENGTH OF GAS-OXYGEN MODEL is 10-3/4".

RED (Gas) and GREEN (Air) Anodized knobs are used on the control valves. Serrated . . . Tapered hose connections are used to accomodate various sized Rubber Tubing . . . from 1/4" I.D. to 3/8" I.D.



OX-NOZZLE

UNIVERSAL TORCH

A selection of FIVE UNI-TORCH PACKAGES are available plus a variety of additional tips from which to choose. Even though we recommend the smaller diameter nozzle for use with Oxygen, we realize that there are many operators that have become accustomed to working with the shorter, larger diameter nozzle. For this reason, we have included this type of set-up in our PACKAGE Selections. (GAO-3)

By selecting one of these Packages, from the selection chart on reverse side, the user can be assured of getting the proper combination of Torch and Tips for his particular needs.

Carlisle GAS BURNER CORP.

UNIversal TORCH

SELECTION CHART

TYPE	USED WITH	NOZZLE	TIP NO.	PORT DRILL SIZE	MAX. FLAME LENGTH
GA	Natural Mixed Manufactured L P Gases and Air	One 3/8" dia. nozzle	00	57	1"
			0 *	48	4"
			1	42	4¾"
			2	6	5½"
			JM-1	20	6"
			JM-3 *	3	7½"
GO	Gas and Oxygen	One ¼" dia. nozzle	OX-1	70	3"
			OX-2 *	65	5"
			OX-3	56	6½"
			OX-4 *	53	7"
			OX-5	50	9½"
GAO No. 1	Gas-Air or Gas-Oxygen	One 3/8" dia. & One ¼" dia. nozzle	0 *	48	4"
			JM-3 *	3	7½"
			OX-2 *	65	5"
			OX-4 *	53	7"
GAO No. 2	Gas-Air or Gas-Oxygen	One 3/8" dia. nozzle & One ¼" dia. nozzle	1 *	42	4¾"
			2 *	6	5½"
			0-1	70	4½"
			0-2	65	6"
			0-3 *	56	9"
			0-4	53	9¾"
			0-5	50	10½"
GAO No. 3	Gas-Air or Gas-Oxygen	One 3/8" dia. nozzle	1 *	42	4¾"
			2 *	6	5½"
			AK-1	70	4½"
			AK-2	65	6"
			AK-3 *	56	9"
			AK-4	53	9¾"
			AK-5	50	10½"

* TIPS INCLUDED IN STANDARD PACKAGE

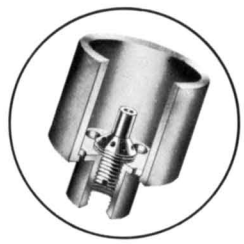


Fig. 1

Fig. 2

Fig. 3

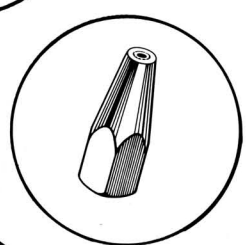


Fig. 4

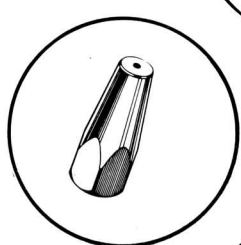


Fig. 5

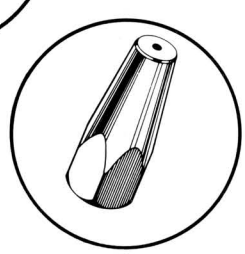


Fig. 6

Fig. 1 - Style of our Patented JM-1 and JM-3 Tips
Fig. 2 - Style of the 0, 1 and 2 Tips
Fig. 3 - Style of the 00 Tip
Fig. 4 - PILOTED Oxygen Tips as supplied in the GO Package and the GAO No. 1 Package
Fig. 5 - UN-PILOTED Oxygen Tips as supplied in the GAO No. 2 Package
Fig. 6 - UN-PILOTED Oxygen Tips as supplied in the GAO No. 3 Package

Carlisle GAS BURNER CORP.

UNIVERSAL TORCHES & TIPS

INTER-CHANGEABLE CARBURETORS – To change carburetors, remove Nozzle first, then lift out carburetor. Use Carburetor marked 74 when using the following Tips:

OX-1	O-1	AK-1
OX-2	O-2	AK-2
OX-3	O-3	AK-3
OX-4	O-4	AK-4
OX-5	O-5	AK-5

Use Carburetor marked 34 when using the following tips:

No. 00	JM-1
No. 0	JM-3
No. 1	
No. 2	

REMOVE Inter-Changeable Carburetor ENTIRELY when using either the SM-2 or SM-3 Surfaced-Mixed Nozzle.

NOZZLES – To change Nozzles, merely un-screw the Knurled Nut. The ¼" diameter Nozzle is designed to fit the following Tips . . .

OX-1	O-1
OX-2	O-2
OX-3	O-3
OX-4	O-4
OX-5	O-5

The 3/8" diameter Nozzle is designed to fit the following Tips . . .

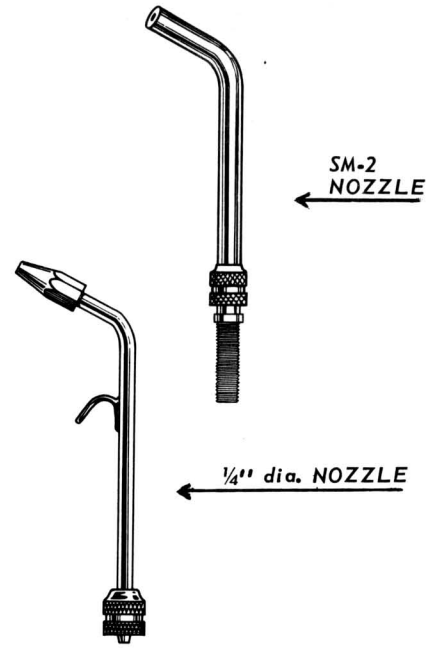
AK-1	No. 00	JM-1
AK-2	No. 0	JM-3
AK-3	No. 1	
AK-4	No. 2	
AK-5		

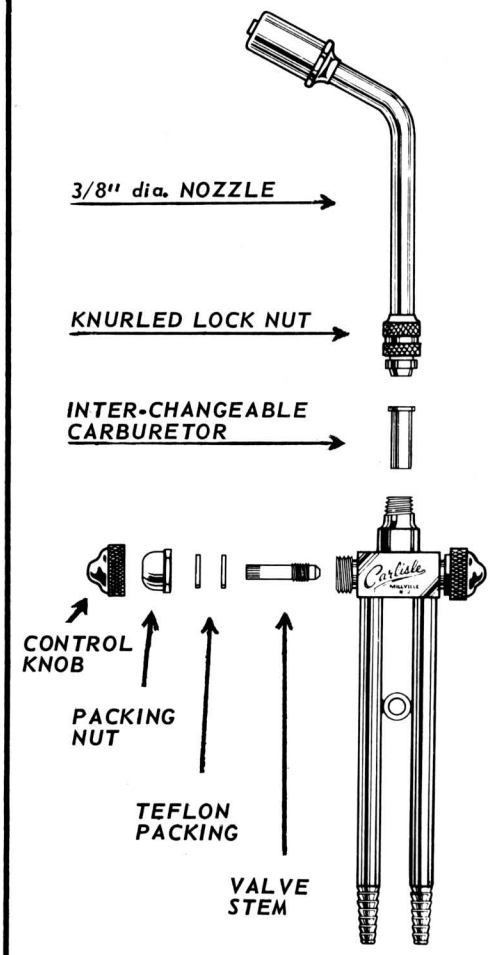
SPECIAL TIPS – In many cases, other than standard Tips are desired. In this event the proper Nozzle, Carburetor and Adaptor are included with the UNIversal Torch. The correct combination of parts is noted below.

TIP NO.———CARBURETOR NO.———NOZZLE——— dia.

TIP NO.———CARBURETOR NO.———NOZZLE——— dia.

CAUTION – NEVER use a wrench on the Red or Green knobs. Should it become necessary to tighten the Valves always use a small wrench on the packing nut. A slight turn is all that is required.





Carlisle GAS BURNER CORP.

MILLVILLE, N. J.

CARLISLE LIGHTWEIGHT BLOWPIPES

FOR: Hardening . . . . Annealing . . . . Soldering . . . . Welding . . . . Heating . . . . Repairing

Precision built, CARLISLE Lightweight Blowpipes are designed for use by Jewelers, Dentists, Dental Laboratories, Radiator Repairmen, Glass Workers and many others in similar fields.

These Blowpipes serve a host of purposes wherever concentrated heat is required and are especially adaptable for burning Natural Gas as well as Manufactured, Mixed, Propane and Butane Gases with Air. CARLISLE Blowpipes have been designed to obtain a wide range of flame settings . . . . from a brush fire to a fine needle point flame.

A special built-in Mixer has been incorporated in the body of the No. 0 and No. 2 Blowpipes which produces a thorough mixing of the Gas and Air. The Mixers are properly sized in each Blowpipe to accomodate the tips recommended and thus, minimizing the chances of back-pressure.

Fig. 1

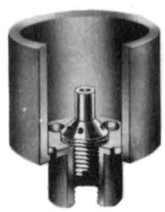


Fig. 2
PATENTED

Fig. 4

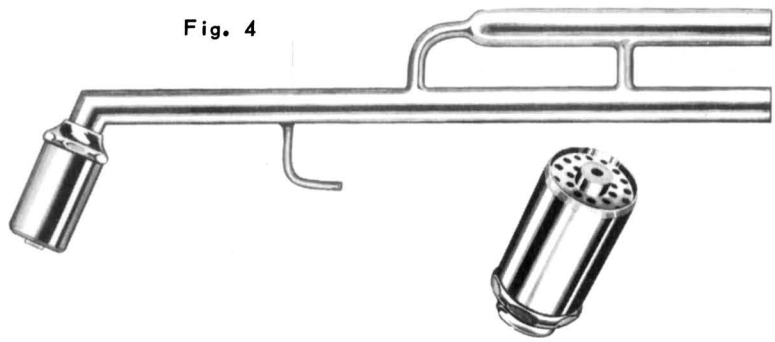


Fig. 3

Fig. 1 shows the No. 00 Tip . . . Fig. 2, the design of the JM-1 and JM-3 Tips . . . Fig. 3 illustrates the No. 0, No. 1 and No. 2 design . . . Fig. 4 shows the No. 0 and 2 Blowpipes.

BLOW-PIPE NUMBER	TIP NUMBER	DRILL SIZE PORT	AIR-GAS RATIO	MAX. FLAME LENGTH	APPROX. GAS CONS. 1050 BTU	APPROX. AIR CONS. CFH	AIR PRESS. LBS. PSI	W.C. GAS PRESS. INCHES	OVERALL LENGTH	NET WEIGHT OUNCES	SUPPLY CONNECTIONS	
											GAS	AIR
0	00	57	7.01	1"	0.83	5.82	3.0	7"	7-3/4"	2	3/8	3/8
0	0	48	5.83	4"	3.86	22.50	3.0	7"	7-3/4"	2½	3/8	3/8
0	1	42	6.20	4½"	5.25	55.25	5.0	7"	7-3/4"	2½	3/8	3/8
2	2	6	6.43	5½"	11.20	72.00	5.0	7"	8-3/4"	3	3/8	3/8
2	JM-1	20	7.20	6"	15.00	108.00	5.0	7"	8-3/4"	3¼	3/8	3/8
2	JM-3	3	7.66	7½"	17.10	131.00	5.0	7"	9"	3½	3/8	3/8

By eliminating Valves on the Blowpipe and placing Carlisle Fine Thread Metering Valves ON or UNDER the work bench, an efficient set-up for production is obtained.

CARLISLE BLOWPIPES Con't.

No. 1 and No. 11 Blowpipes are similar in style to the No. 0 and No. 2 except that they are made of heavier tubing and sturdier construction to produce larger capacities of pre-mixed Gas and Air.

These Blowpipes are recommended where more heat is required and larger areas are to be heated. They are commonly used in the Jewelry, Silversmith, Forging and Casting trades.

A built-in Mixer gives the proper pre-mix Gas and Air mixture for the tips recommended in the chart below. Carlisle Fine Thread Metering Valves are recommended for installation at the work bench for controlling the Gas and Air Supply to the Blowpipes.

Fig. 3

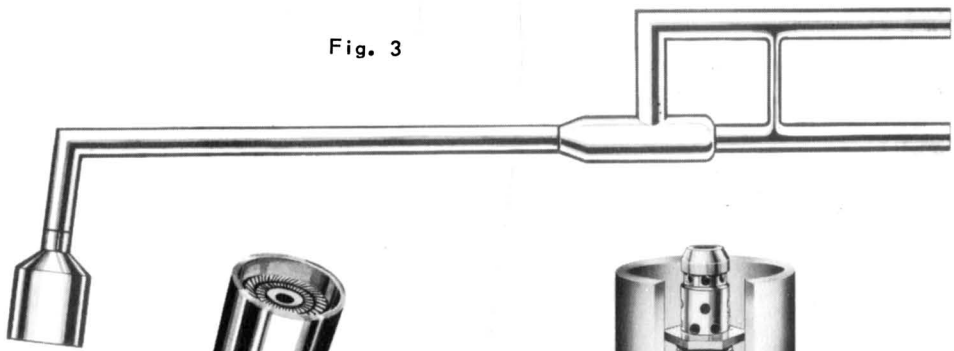


Fig. 1
PATENTED

Fig. 2

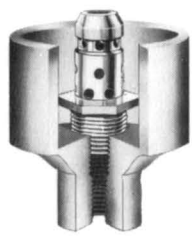


Fig. 4

BLOW-PIPE NUMBER	TIP NUMBER	DRILL SIZE PORT	AIR-GAS RATIO	MAX. FLAME LENGTH	APPROX. GAS CONS. 1050 BTU	APPROX. AIR CONS. CFH	AIR PRESS. LBS. PSI	W.C. GAS PRESS. INCHES	OVERALL LENGTH	NET WEIGHT OUNCES	SUPPLY CONNECTIONS	
											GAS	AIR
1	JM-4	0	6.30	4''	35.0	220.0	14.0	7''	13''	13	7/16	7/16
1	1NB	18	8.21	5''	9.75	80.50	5.0	7''	12-3/8''	10	7/16	7/16
11	2NB	19/64	5.33	11''	60.0	320.0	13.0	18''	15''	16	7/16	7/16
11	4A	B	7.85	6''	14.0	110.0	6.0	1 lb.	15''	14	7/16	7/16
11	6A	N	6.40	10''	25.0	160.0	13.0	8 lb.	15½''	18	7/16	7/16

Fig. 1, above, illustrates our patented JM-4 Burner. This Tip is supplied in Stainless Steel.

Fig. 2 shows the style of the 1NB and 2NB Tips, which are made of brass.

Fig. 3 illustrates the No. 1 and No. 11 Blowpipe.

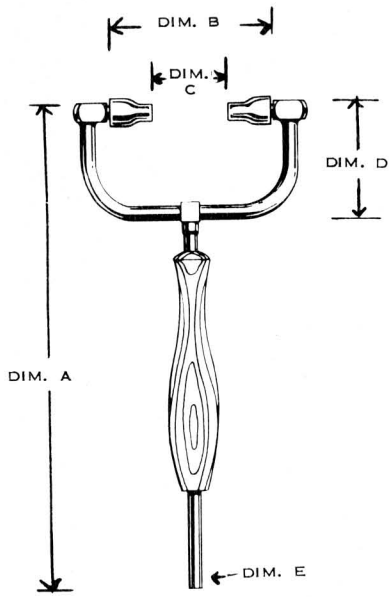
Fig. 4 shows the style of the 4A and 6A Tips, which may be had in either brass or Stainless Steel. When ordering either of these Tips, specify the material desired.

Carlisle GAS BURNER CORP.

MILLVILLE, N. J.

CARLISLE HAND TORCHES

Gas - Air Gas - Oxygen



Carlisle Hand Torches are sturdily constructed to withstand constant use. Wooden handles are used for handling and balancing the torch.

These Torches are used for Sealing, Splicing, Bending, Welding, Tipping, Brazing, Soldering, etc.

A properly sized Venturi Mixer with two fine thread metering Valves are recommended for use with each Torch. When using a Gas-Oxygen Hand Torch a Fire check is advised.

The following Chart will help you to select the proper Hand Torch for your requirements.

Special Hand Torches can be supplied to your specifications.

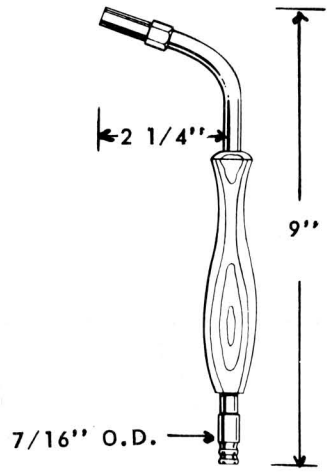
TORCH NO.	DIM. A	DIM. B	DIM. C	DIM. D	DIM. E	THREAD CONN.	BURNERS SUPPLIED	
253-N	9 1/2"	3 1/8"	1 11/16"	1 5/8"	5/16 O.D.	¼ x 27 Fem.	228NS	GAS – AIR
254-N	11"	4 9/16"	2 3/8"	3"	5/16 O.D.	1/8 Fem.	81ANS	
255-N	12 1/8"	5 7/8"	3 1/4"	3 7/8"	1/2 O.D.	1/4 Fem.	420CNS	
353-OX	9 1/2"	3 1/8"	1 7/8"	1 5/8"	5/16 O.D.	¼ x 27 Fem.	OX-1012	GAS – OXYGEN
354-OX	11"	4 9/16"	2 3/4"	3"	5/16 O.D.	1/8 Fem.	OX-1253	
355-OX	12 1/8"	5 7/8"	3 5/8"	3 7/8"	1/2 O.D.	1/4 Fem.	OX-1081A	

NOTE: Any of the above torches may be ordered with tips other than those listed. They may be supplied with any of the many Fish Tail Burners, Glass Fire Burners, Oxygen Tips, BMTT or MTT Round Fish Tail Burners and many other types. If other than the standard tips are desired, specify when ordering. No. 255N Hand Torch with Burners.....

Carlisle GAS BURNER CORP.

CARLISLE SINGLE FIRE TORCHES

Gas - Air Gas - Oxygen



The Carlisle No. 258N Single Fire Torch is normally supplied with a No. 00 Tip for use with Gas and Air. However, this Torch can be ordered with various tips such as the No. 0, No. 1, No. 2 Torch Tips, the JM-1 or JM-3 or any of the many Glass Fire or Fish Tail Burners. Order as follows:

No. 258N Single Fire Torch with Burner.....

The Carlisle No. 358-0X Single Fire Torch for use with Gas and Oxygen is supplied with a 1142A Tip unless otherwise specified. This Torch can be ordered with any of the many Oxygen Tips or Oxygen Fish Tail Burners. Order as follows:

No. 358-0X Single Fire Torch with Burner.....

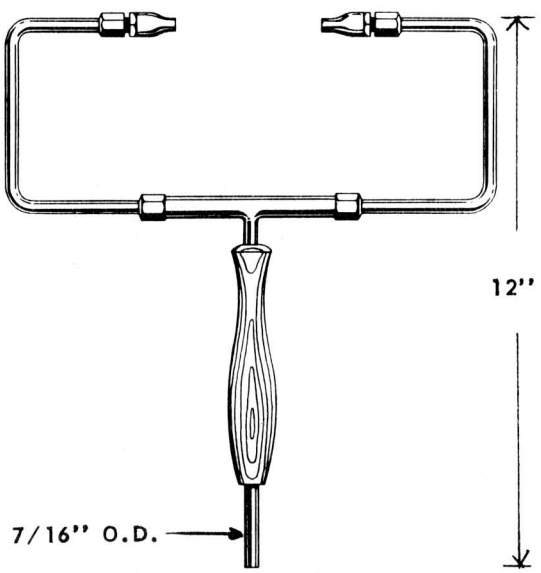
Both of the above Single Fire Torches are supplied with a Wooden handle. They find many uses in Tipping, Sealing, Soldering, Annealing, etc.

Properly sized Venturi Mixers are advised, along with two fine thread metering Valves. When using the Gas-Oxygen Torch a Fire Check is recommended.

Special Torches may be ordered to your specifications.

CARLISLE ADJUSTABLE HAND TORCH

Gas - Air Gas - Oxygen



The Carlisle Adjustable Torch may also be ordered with a wide range of Tips for use with Gas-Air or Gas-Oxygen.

This is an extremely versatile Hand Torch as the Burners may be adjusted in distance ranging from 7/8" to 4½" by merely sliding the arms in or out as desired.

The No. 268N may be ordered with any of the many Gas-Air Fish Tail Burners, Torch Tips, etc. Order as follows:

No. 268N Adj. Hand Torch with ..... Burners.

The No. 368-0X may be ordered with any of the Oxygen Fish Tail Burners, Tips, etc. Order as follows:

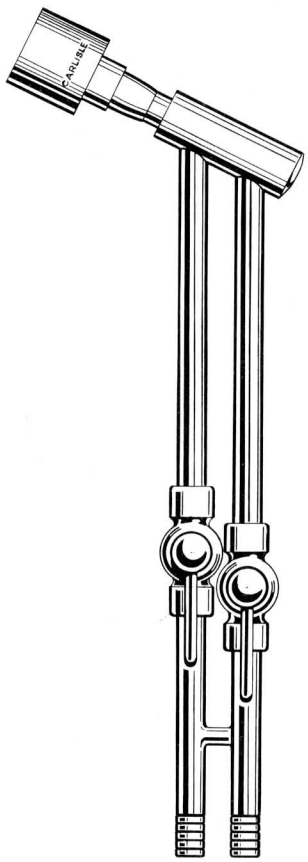
No. 368-0X Adj. Hand Torch with ..... Burners.

We also recommend a properly sized Venturi Mixer and two Fine Thread Metering Valves along with a Fire Check when using Oxygen.

Carlisle GAS BURNER CORP.

MILLVILLE, N. J.

"NC" LEVER TYPE BLOWPIPES



"NC" BLOWPIPE

Available with two Styles of Heads (as shown on reverse side) the "NC" Type Blowpipe is designed for use with Gas from 3" to 8" WC and Air from 1 lb. to 3 lbs. per square inch pressure.

This versatile Blowpipe offers many outstanding features, a few of which follows:

USE OF TAPERED COCKS for EASY FLAME REGULATION

BUILT IN MIXING CHAMBER assures Mixing of Gas & Air PRIOR TO COMBUSTION

EXCELLENT FLAME RETENTION

WIDE RANGE OF FLAME SETTINGS

EXCELLENT OPERATING CHARACTERISTICS on Natural Gas, Bottled and other slow burning Gases

ADAPTABLE TO A WIDE VARIETY OF WORK

"NC" Blowpipes are of Brass Construction, Plated . . . . . They are adaptable for use with Higher Velocities and Capacities than most Blowpipes . . . . . Among the many "JOBS" that "NC" Blowpipes do WELL is such work as:

Radiator Repair		Silver Soldering
Soft Soldering		Dental Work
Local Hardening	&	Annealing

SEE SELECTION CHARTS ON REVERSE SIDE OF SHEET

Carlisle GAS BURNER CORP.

"NC" Type HEAD

Selection Chart No. 1

Blowpipe Number	Tip Number	Approximate Maximum Gas Consumption BTU/Hr. Nat. Gas	Approximate Maximum Air Consumption CFM at 16 oz. pressure	Supply Connections Outside Diameter in Inches		Overall Length in Inches	Net weight in pounds	Center Port Drill Size
				GAS	AIR			
000NC	000NC	1,980	.3	5/16	5/16	11¼	½	53
00NC	00NC	2,520	.4	5/16	5/16	11¼	½	48
0NC	0NC	5,970	1.0	5/16	5/16	11¼	½	29
1NC	1NC	12,600	2.0	3/8	3/8	14	1	18
2NC	2NC	31,500	5.2	9/16	9/16	16	2	19/64
3NC	3NC	63,000	10.5	11/16	11/16	19	3	35/64

"JMC" Type HEAD

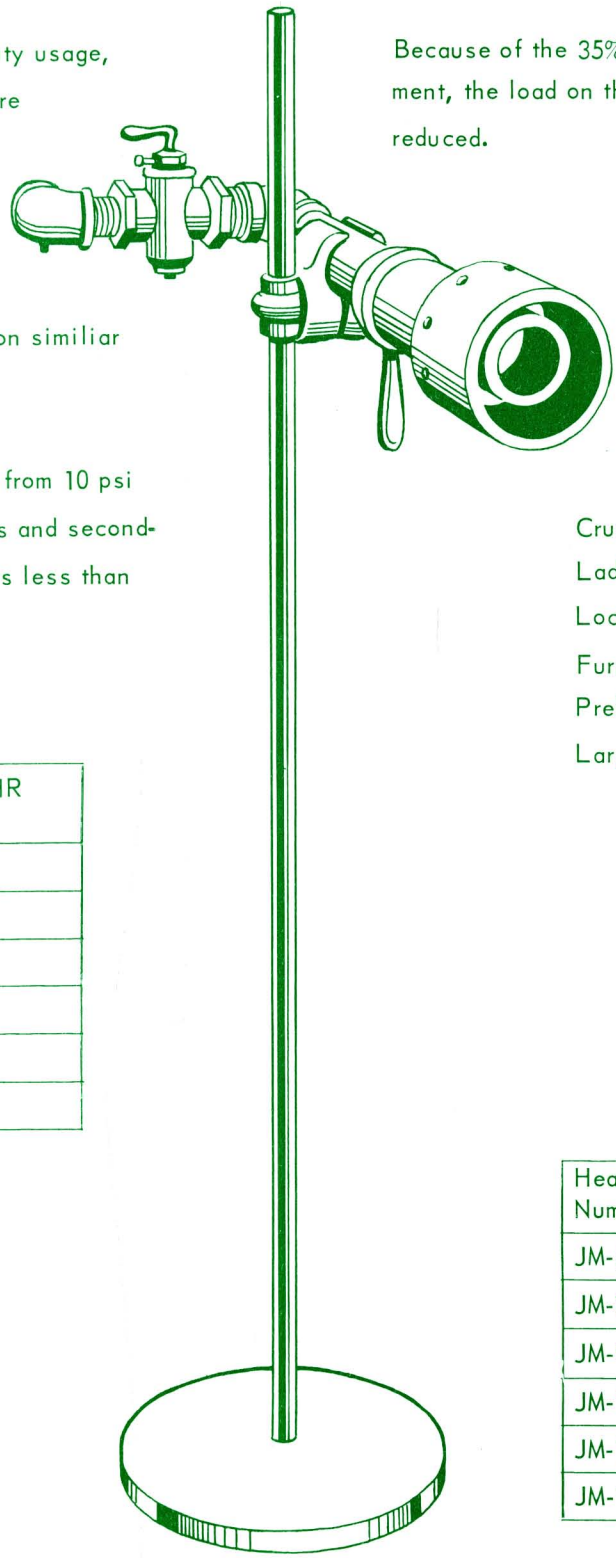
Selection Chart No. 2

Blowpipe Number	Tip Number	Approximate Maximum Gas Consumption BTU/Hr. Nat. Gas	Approximate Maximum Air Consumption CFM at 16 oz. pressure	Supply Connections Outside Diameter in Inches		Overall Length in Inches	Net weight in pounds	Center Port Drill Size
				GAS	AIR			
1NC	JM1C	13,500	2.25	3/8	3/8	14	1	20
1NC	JM3C	33,000	5.5	3/8	3/8	14½	1¼	3
2NC	JM4C	75,600	12.6	9/16	9/16	17	2¼	"O"
3NC	JM5C	100,000	16.7	11/16	11/16	19¼	3¼	"W"
3NC	JM7C	189,000	31.6	11/16	11/16	21	4	17/32

CARLISLE HEAVY DUTY FLOOR MODEL TORCHES

Specially constructed for Heavy duty usage, these Torches utilize High Pressure Air and Gas at any pressure. The "JM" Type Burner Head allows flexibility in heat and flame Geometry usually not found on similiar Torches.

The High Pressure Mixer used Air from 10 psi to 50 psi, but then induces the Gas and secondary Air so that the head pressure is less than 1 psi.



Because of the 35% to 65% Secondary Air entrainment, the load on the Compressor is greatly reduced.

Burner Head heights are adjustable to a maximum of 40" above floor.

COMMON USES . . . .

Crucible Heating
Ladle Heating
Local Hardening & Annealing
Furnace or Kiln Pre-heating
Preheat prior to Welding
Large Diameter Pipe Bending

Torch Number	1000 BTU/ HR at 18" WC
JM-5-T	100.0
JM-7-T	189.9
JM-9-T	348.5
JM-11-T	452.4
JM-13-T	757.5
JM-15-T	927.3

Head Number	Port Area
JM-5	.2098
JM-7	.3518
JM-9	.645
JM-11	.9486
JM-13	1.402
JM-15	1.717

Carlisle Gas Burner Corp.
MILLVILLE, NEW JERSEY
08332

GAS-O-MATIC

SET IT.....FORGET IT

AUTOMATIC GAS HOT-PLATE

CARLISLE GAS BURNER CORP. proudly presents their new GAS HOT PLATE . . . . featuring the "BURNER WITH A BRAIN."

The "GAS-O-MATIC" Hot Plate has been designed for Laboratory, Commercial and Domestic use and will burn Manufactured, Mixed, Natural or LP Gas.

Thermostatically controled---- Any desired temperature between 150 deg. F. and 425 deg. F. may be maintained indefinitely by merely turning the dial to the proper setting.

This automatically controlled burner solves the problem of OVER-heating and UNDER-heating, spattering, sticking and burned out utensils.

The "GAS-O-MATIC" unit features a pilot and a serrated hose connection for use with various sizes of rubber tubing. Entire unit is sturdily constructed, has a decorative, stain-resistant aluminum housing and is well ventilated for rapid heat dissipation.

DIMENSIONS . . . . . Height - 6" Width - 8½" Depth - 9¼" Weight - 6 lbs.

HEAT IMPUT . . . . . 12,000 BTU per hr. using Manufactured, Mixed or Natural Gas. 10,000 BTU per hr. using Propane Gas.

WHEN ORDERING . . . . Advise type of gas with which you are going to use your "GAS-O-MATIC" Hot Plate. Unit will be shipped READY for use, with proper Orifice installed for specified gas.

Carlisle GAS BURNER CORP.
MILLVILLE, NEW JERSEY

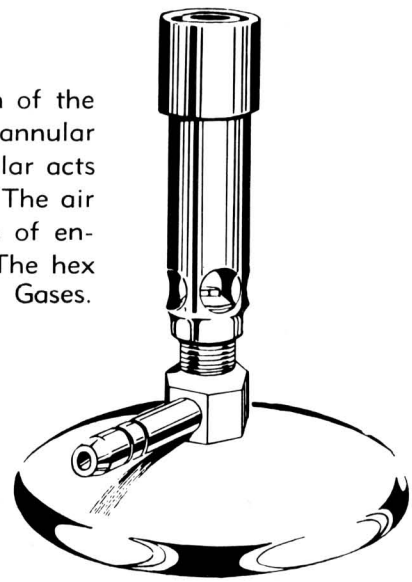
Carlisle GAS BURNER CORP.

MILLVILLE, N. J.

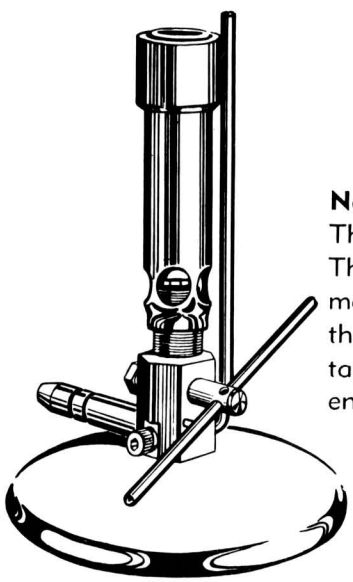
CARLISLE BUNSEN BURNERS

No. 111 BUNSEN is constructed with an air shutter at the bottom of the main mixing tube and a stabilizer top, which is a supplementary annular ring surrounding the center tube. The flame emerging from the collar acts as a pilot to prevent flashbacks and blow-offs of the master flame. The air shutter can be opened or closed to regulate the different amounts of entrained air necessary for Natural, Manufactured or Mixed Gases. The hex body has an inter-changeable orifice plug for Various B. T. U. Gases.

Height 4" — Mixing Tube 9/16" — Stabilizer Top 11/16"
Main Burner Port 7/16" — 3" Steel Base — Nickle Plated



NO. 111

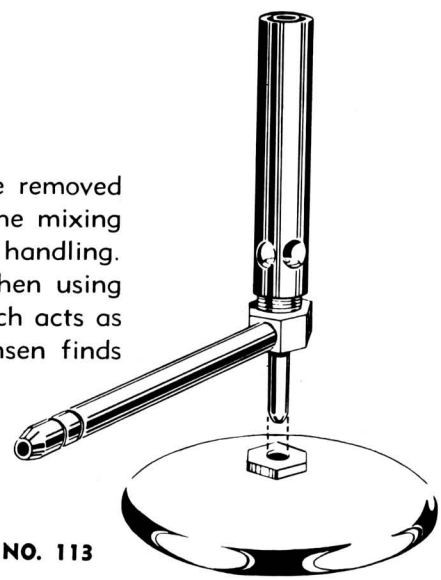


No. 112 BUNSEN has the same dimensions and capacities as the No. 111. The pilot as well as the master flame can be controlled independently. This burner has two pins which act as stops for turning on and off the master flame. Burner is equipped with an adjustable screw for adjusting the size of the pilot flame. A tight fitting joint is obtained by use of a taper pin therefore eliminating use of any packing material. The nut on the end of the taper is used for adjustment.

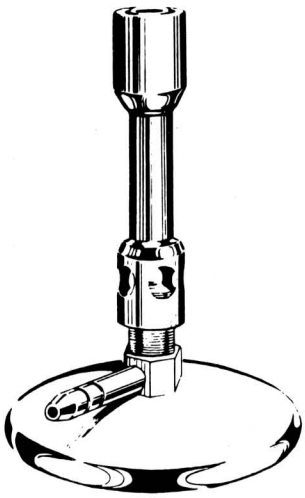
NO. 112

No. 113 BUNSEN is so constructed that the mixing tube may be removed from the base and used with the flame directed at any angle. The mixing tube is made of a very light material which makes for ease of handling. The straight mixing tube has an insert to act as a stabilizer when using natural gas. This Bunsen Burner has a 2¾" Hose connection which acts as a handle when using without the base. The removable base Bunsen finds many uses, especially in the Dental Office and Laboratory.

Height 4" — Mixing Tube ⅝"
Main Burner Port ¼" — 3" Steel Base — Nickle Plated



NO. 113

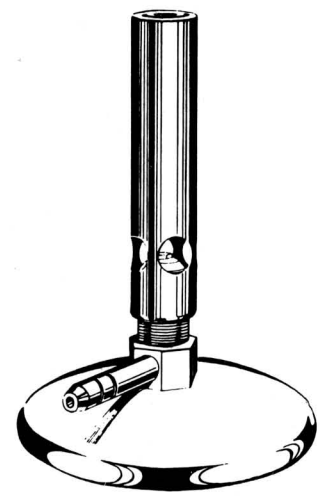


No. 115 BUNSENS have a large collar to allow a greater intake of air. The stabilizer top prevents flashbacks and blow-offs when using 1000 to 1200 B. T. U. Gas. This is one of our most popular Bunsen Burners, as it can be adjusted to give either a small or large flame. All parts, except base are brass and nickle-plated.

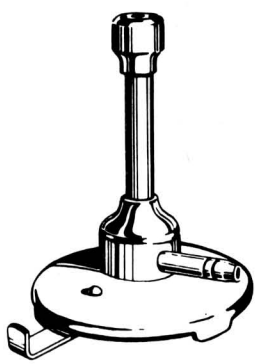
Height 4" — Mixing Tube ½" — Stabilizer Top 11/16" — 3" Steel Base — Nickle Plated Main Burner Port 7/16"

NO. 115

No. 114 BUNSEN has the same dimensions and capacities as the No. 113 It is constructed with a straight barrel. The base is not removable.



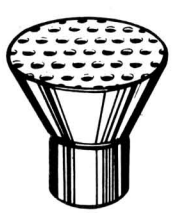
NO. 114



NO. 116

No. 116 BUNSEN (Micro) is made with a stabilizer top for use with natural gas. This Bunsen Burner has a lever type air shutter underneath the base and is used when a small flame is desired.

Height 2½" — Mixing Tube 5/16" — Stabilizer Top 7/16" Main Burner Port ¼" — Nickle Plated



Bunsen Head

BUNSEN HEADS

Carlisle Bunsen Heads are used in conjunction with the Bunsen Burner where a greater intensity of heat is required. These Bunsen Heads spread the heat over a wider area with the hottest part being close to the screen. The cap is made from brass with an alloy steel screen and nickle-plated.

Standard Sizes (Inside Diameter) — 1 1/8" —

Wing Top

WING TOPS

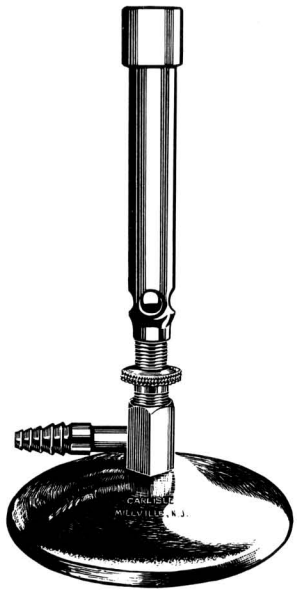
Wing tops are mainly used for bending glass tubing and tend to give a broad, flat flame. Made of seamless brass tubing they may be had to fit burners with —11/16" — Tubes.

NO. 117 BUNSEN BURNER is similar to the Carlisle No. 111, except that the overall height is 6" and has a larger — 3½" — base for added stability.

NO. 118 BUNSEN BURNER is similar to the Carlisle No. 115, except that the overall height is 6" and it also has a larger base —3½".

NO. 119 ADJUSTABLE BUNSEN with needle valve for fine adjustment of Gas.

Height 6" — Mixing Tube 9/16" Stabilizer Top 11/16"
Main Burner Port 7/16" — 3 1/2" Steel Base



NO. 119

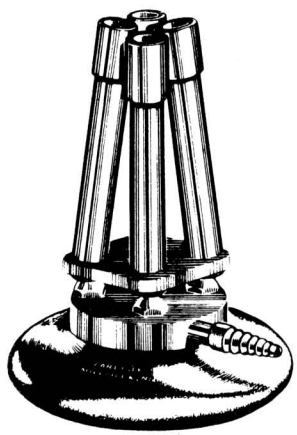
NO. 120

NO. 120 BUNSEN BURNER is constructed to allow the wax or other materials to fall through the barrel without clogging the Gas Orifice. This Burner produces a soft brush flame suitable for waxing, etc. where low temperatures are desired. The Burner can be set into the removable base at two different angles. Made of very light weight tubing, this Bunsen may be used with Natural Gas as well as Propane or Manufactured Gas.

NO. 121 ADJUSTABLE PILOTED BUNSEN is similar to the Carlisle No. 112 except that it is 6" in height and has a larger — 3½" — base.

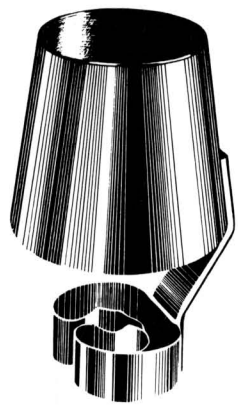
NO. 122 MULTIPLE BUNSEN BURNER is an extremely hot burner, burning with a blast effect. Balanced construction provides good combustion qualities. Burner has a heavy, staple base and our newly designed hose connection for use with varied size (ID) rubber hose.

NOTE: ALL CARLISLE BUNSENS are now constructed with our newly designed tapered serrated hose connections to accommodate ¼" to ⅜" ID Hose.



NO. 122

BUNSEN CHIMNEYS

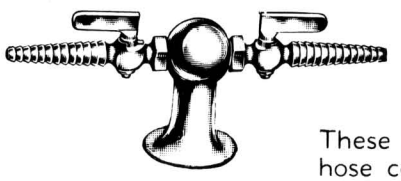


Used to protect the flame from drafts, they are made of sheet iron-plated and are conical in shape.

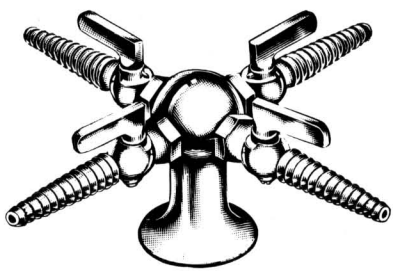
Dia. at bottom 2" — Dia. at top 1 ½" — Overall height 3 ½"

A Spring Clamp is used to attach the Chimney to the barrel of the Burner. Can be used on Carlisle Bunsens Nos. 111 — 112 — 115 — 117 — 118 119 — 121 — 113 — 114.

MULTIPLE STOPCOCKS



These lever type stopcocks are made of heavy cast brass with long serrated hose connection. From one to four stopcocks can be supplied on the cast flange base, which may be mounted on the wall or bench. The entire unit is nickle plated and has a 3/8" IPS Female Thd. for attaching to pipe.



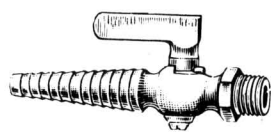
OBSOLETE

No. 1-360 — Single Valve
No. 2-180 — Two Valves inserted at 180 degrees
No. 2-90 — Two valves inserted at 90 degrees
No. 3-90 — Three Valves
No. 4-90 — Four Valves

STOPCOCKS

OBSOLETE

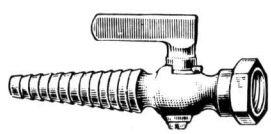
These valves are especially designed for laboratory use. They are made from Brass Casting, nickle plated.
The serrated tapered end is 2 1/4" long and will take tubing from 1/4" to 1/2" ID. The overall length is 4 1/4".



NO. 360-M

360-M has a 3/8" IPS Male Thd.

NO. 360-F No. 360-F has a 3/8" IPS Female Thd.

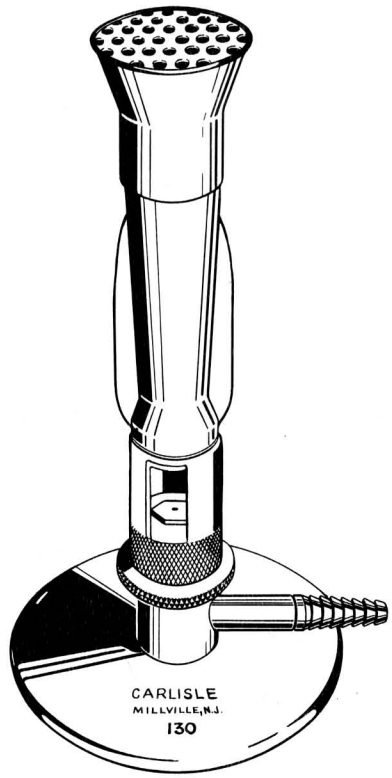


NO. 360-F

Carlisle GAS BURNER CORP.

MILLVILLE, N. J.

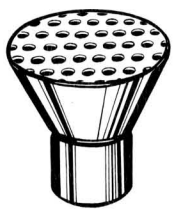
CARLISLE BUNSEN BURNERS



NO. 130

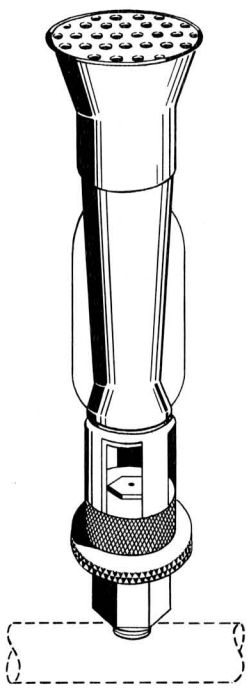
No. 130 BUNSEN - This new type Bunsen has been designed to conform to the recommendations of the National Bureau of Standards. It has a heat output of 13,500 BTU. The Body, which is made of solid brass, has been designed for fine adjustment of the flame and ease of manipulation of the Needle Valve. The Air Shutter can be completely shut off to produce a luminous flame and yet will open wide enough to supply sufficient air to enable using our new, large No. 7 Heat Intensifying Top (described below).

Height - 8 3/4" 3" Heavy Steel Base Nickel Plated



NO. 7

No. 7 HEAT INTENSIFYING TOP - Made of brass, containing a perforated alloy steel disc (convex) and an alloy steel inner screen. A very hot, stable flame is obtained through use of these Tops.



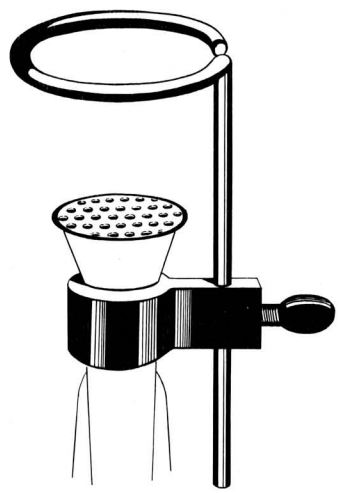
NO. 130-P

No. 130-P BUNSEN -

This Burner is the same as the No. 130 minus the Base, and has a 1/8" conn. which enables the Burner to be screwed into a pipe for constructing a 4 or 6 unit Rack Burner.

When ordering Rack Burner Assemblies:

4 Burner Units - Order No. 130-P-4
6 Burner Units - Order No. 130-P-6

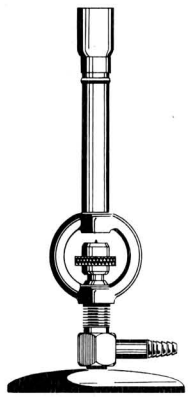


RING SUPPORT

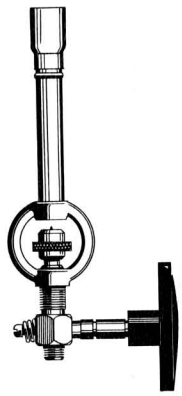
No. 130 RING SUPPORT - The Ring is made of stainless steel tubing on which crucibles, beakers, flasks, etc., may be placed. The Ring has an outside diameter of 3 1/8" and a height adjustment of 3 1/2".

Carlisle GAS BURNER CORP.

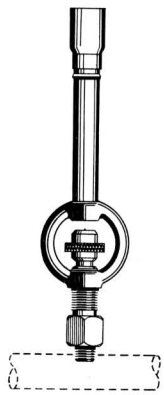
ADJUSTABLE BUNSEN BURNERS



NO. 125



NO. 126



NO. 127

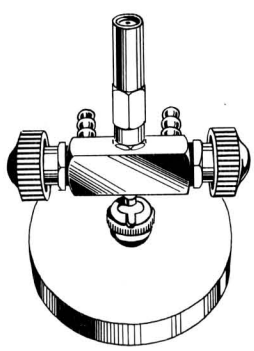
No. 125 BUNSEN - Has a Needle Valve for gas adjustment and a screw adjustment for air intake. It is made with a Stabilizer Top for burning natural gas as well as manufactured, bottled and mixed gases. The serrated Hose Connection will accommodate various sized tubing.

Overall Height - 6 1/2" Heavy Steel Base - 3 1/2" Dia. Nickel Plated

No. 126 BUNSEN - Same as No. 125, minus the Base and has a 1/8" NPT connection which enables this burner to be screwed into a pipe. It has a side arm Cock Valve with a plastic handle.

No. 127 BUNSEN - Same as No. 126 Adjustable Bunsen Burner except that it does not have the side arm Cock Valve.

ORTHODONTIC BLOWPIPE



NO. 30

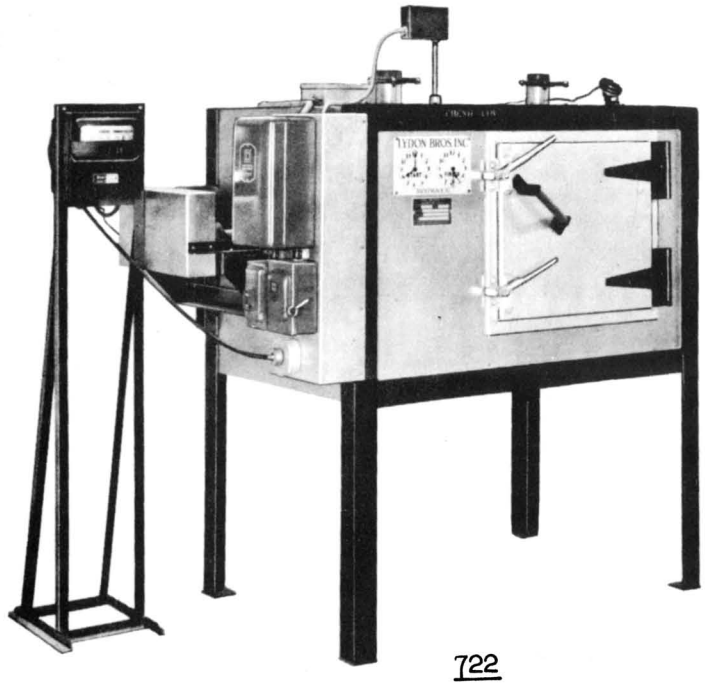
No. 30 ORTHODONTIC BLOWPIPE - Constructed with a Heavy Round Base to assure stability and made with the Carlisle Type Hose Connectors, this Burner has a multitude of uses where a sharp, hot, piercing flame is required. The Ball and Socket Joint permits directing flame at angle best suited to the job. The Needle Valves are easily adjusted and just as easily identified through the use of Red and Green knobs to signify Air and Gas.

DENTAL WAXING BURNER

NO. D-1

The Carlisle Dental Waxing Burner is used by Dentists and Dental Laboratories for obtaining a smooth wax finish on Inlays, Crowns, Set-Ups, etc. This Burner has a specially constructed Stabilizer Top which enables its use with natural gas.

MODEL 1333-T12
CABINET OVENS
ELECTRIC - 1200° F.



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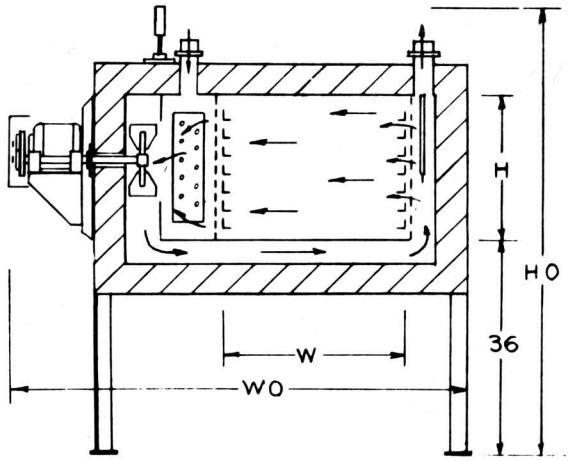


Fig. 1

CABINET TYPE, ELECTRICALLY HEATED OVENS - 1200° F.
MODEL 1333-T12

Model No.	Working Space W.	D.	H.	Overall * WO	DO	HO	Leg Ht.	K. W.	Trays Motor H.P.	W.	D.	Spacing	No.
1333-1-T12	18	20	20	65	35	72	27	9	1/2	17½	19½	3	6
1333-2-T12	18	20	24	65	35	75	27	9	1/2	17½	19½	3	7
1333-3-T12	18	24	24	65	39	75	27	12	1/2	17½	23½	3	7
1333-4-T12	18	30	24	65	45	75	27	12	1/2	17½	29½	3	7
1333-5-T12	24	24	24	71	39	75	27	12	1/2	23½	23½	3	7
1333-6-T12	24	30	24	71	45	75	27	15	1/2	23½	29½	3	7
1333-7-T12	30	24	24	77	39	75	27	15	1/2	29½	23½	3	7

ALL DIMENSIONS are in inches. K. W. - based on 230 volts, 3 phase. *Overall dimensions include all projections and legs. Trays are supplied on separate order.

Typical Order: - 1 Model 1333-2-T12 Glass Annealing Oven 18 x 20 x 24
230 volts, 3 phase, 60 cycles.

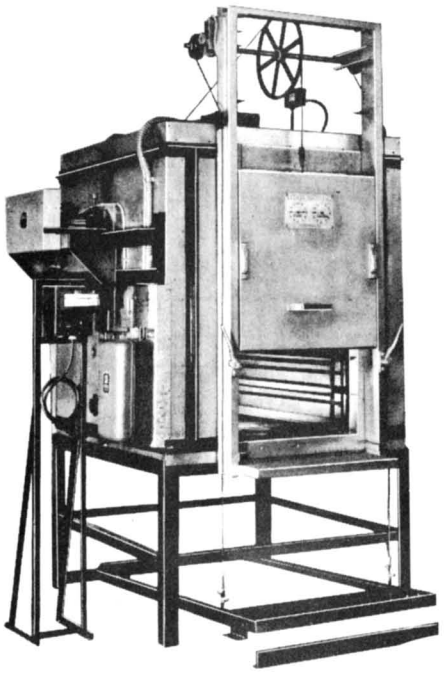
FEATURES:
Completely packaged unit.
Temperatures to 1200 deg. F.
Cross Flow air circulation for good temperature distribution.
Excess Temperature Cut-off.
Control Equipment Electrically Interlocked.
Indicating Millivoltmeter Pyrometer controller on separate stand with plug, cable and polarized receptacle for easy instrument connection.

CONSTRUCTION
The ovens covered by this specification sheet, being of sufficiently small size, are regularly shipped as a one piece packaged unit.

(OVER

Carlisle GAS BURNER CORP.
MILLVILLE, N. J.

MODEL 1336L-T12
CABINET OVENS
ELECTRIC
LIFT DOOR



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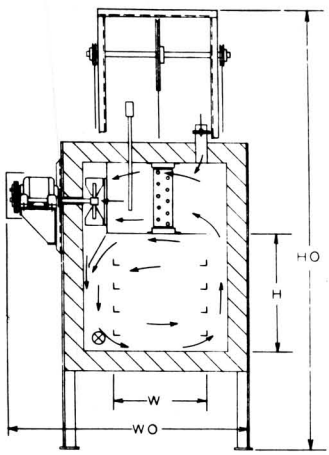


Fig. 1

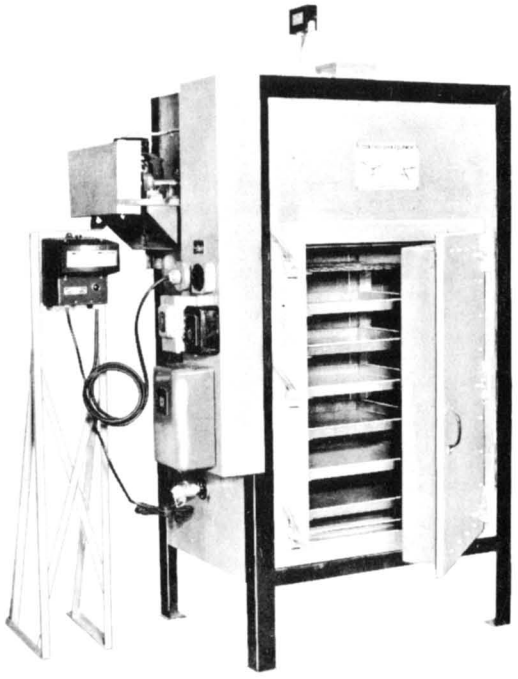
CABINET TYPE, LIFT DOOR, ELECTRICALLY HEATED OVENS - 1200° F.
MODEL 1336L-T12

Model No.	Working Space W. D. H.	Overall * WO DO HO	Leg Ht.	K.W.	Motor H.P.	Trays W.	Trays D.	Spacing	No.
1336L-1-T12	24 24 30	61 66 9'4"	20	15	1/2	23½	23½	6	4
1336L-2-T12	24 36 30	63 78 9'4"	20	21	3/4	23½	35½	6	4
1336L-3-T12	24 48 30	67 90 9'4"	20	27	1	23½	47½	6	4
1336L-4-T12	30 30 30	69 72 9'4"	20	21	3/4	29½	29½	6	4
1336L-5-T12	36 36 30	79 78 9'4"	20	27	1	35½	35½	6	4
1336L-6-T12	36 48 30	79 90 9'4"	20	33	1	35½	47½	6	4

ALL DIMENSIONS are in inches unless otherwise shown.
K.W. -based on 230 volts, 3 phase.
*Overall dimensions include all projections - legs, foot treadle, overhead door lift structure, counterweight.
Trays are supplied on separate order.
Typical Order: - 1 Model 1336L-3-T12 Glass Annealing Oven with lift door
24 x 48 x 30.
230 volts, 3 phase, 60 cycles.

(OVER)

MODEL 1336 -T12
CABINET OVENS
ELECTRIC



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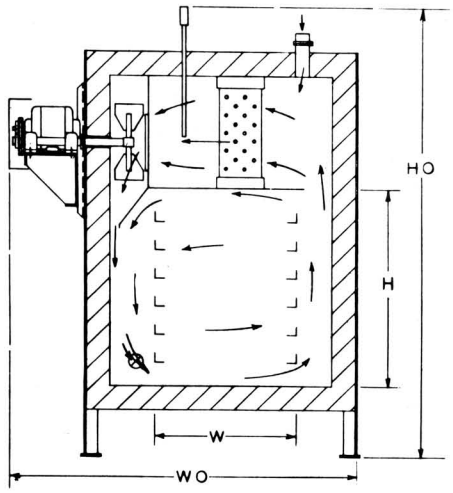

Fig. 1

CABINET TYPE, ELECTRICALLY HEATED OVENS - 1200° F.
MODEL 1336-T12

Model No.	Working Space W.	D.	H.	Overall * WO	DO	HO	Leg. Ht.	K.W.	Motor H. P.	Trays W.	D.	Spacing	No.
1336- 1-T12	24	24	30	61	36	88	20	15	1/2	23½	23½	6	4
1336- 2-T12	24	24	36	61	36	94	20	18	1/2	23½	23½	6	5
1336- 3-T12	24	24	42	63	36	90	10	18	3/4	23½	23½	6	6
1336- 4-T12	24	24	48	63	36	96	10	21	3/4	23½	23½	6	7
1336- 5-T12	24	42	30	63	54	88	20	21	3/4	23½	41½	6	4
1336- 6-T12	30	30	42	73	42	96	10	27	1	29½	29½	6	6
1336- 7-T12	36	24	36	79	36	100	20	24	3/4	35½	23½	6	5
1336- 8-T12	36	24	48	79	36	102	10	30	1	35½	23½	6	7
1336- 9-T12	42	30	36	85	42	100	20	30	1	41½	29½	6	5
1336-10-T12	42	42	42	85	54	96	10.	39	1	41½	41½	6	6

ALL DIMENSIONS are in inches. K.W. - based on 230 volts, 3 phase.
* Overall dimensions include all projections and legs.
Trays are supplied on separate order.
Typical Order: - 1 Model 1336-2-T12 Glass Annealing Oven 24 x 24 x 36
230 volts, 3 phase, 60 cycles.

USES
Glass Annealing, Glass Decorating, Heat Treating, etc.

FEATURES
Completely packaged unit.
Temperatures to 1200 deg. F.
Internal air circulation for good temperature distribution.
Excess Temperature Cut-off.
Control Equipment Electrically Interlocked.
Indicating Millivoltmeter Pyrometer Controller on separate stand with four way plug, cable and polarized receptacle for easy instrument connection.
Automatic Timing Equipment, potentiometer and recording controls extra on request.

Carlisle GAS BURNER CORP.
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CONSTRUCTION
The ovens covered by this specification sheet, being of sufficiently small size, are regularly shipped as a one piece package unit. If necessary, because of restricted door space, etc., these ovens may be supplied in knocked down panel construction at additional cost.

SHELL
Double walls, having light gauge chrome steel inside and light gauge Armco "aluminized" steel on the outside. Between the walls is 5" insulation. Thru metal between inner and outer shells is broken by asbestos sheeting to reduce conduction.

Armco aluminized steel is a sheet steel coated with aluminum on both sides. Molten aluminum is applied directly to the steel. The finished product combines the surface characteristics of aluminum with the mechanical properties of steel. The combination produces a material of unusual resistance to high heat and a high degree of corrosion resistance.

PAINTING
The aluminized steel outer casing requires no painting. The framing, legs door frame, motor bracket, etc. being of structural steel, are painted one coat of black japan.

DOORS
Single swing type comprising a door front of #16 gauge steel with a light gauge chrome steel pan attached to the inside face and 5" insulation between. Similar to the shell walls, through metal is reduced.

Welded angle iron door frame provides substantial mounting for off-set door hinges and squeeze type clamp latches.

Asbestos gasket between door face and door frame, providing tight seal when door is clamped shut.

AIR RECIRCULATION
Internal forced air recirculation system, using chrome steel paddle wheel blower.

Blower shaft turns in standard ball bearing pillow blocks with fan type heat slinger to cool bearing adjacent to oven wall. V-groove belt and ball bearing motor.

Motor, ball bearings, V-belt drive are all standard equipment and readily available for servicing.

VENTILATION
Although not usually opened, blast gate dampered air inlet and exhaust ports are provided.

When specified, these will be omitted and 1/2" pipe connections will be supplied for forming gas inlet and outlet.

HEATING
Open wound electric heaters to provide temperatures to 1200° F. Nichrome V (or equal) wire is wound on ceramic cores which in turn are in stainless steel frame with terminals and connections to terminal box on roof of oven. Heaters are readily accessible from inside oven by removing work rack and partition.

All normal voltages, phases and cycles from 208 to 460 volts are readily provided for, but must be specified when placing order.

INTERNAL WORK RACK
The work rack consists of stainless steel angles running from front to back of work chamber.

Number of trays, size and vertical spacing are given in the data table.

Because of the variety of work trays and the desire of many customers to furnish their own, these are not furnished as part of the oven.

CONTROL & SAFETY EQUIPMENT
A. Indicating, millivoltmeter pyrometer controller on separate stand to avoid vibration, and with rubber covered lead, plug and polarized receptacle on oven to permit easy instrument connection. Thermocouple and lead wire.

B. Magnetic Relay to take load off instrument contacts.

C. Magnetic Contactor for Heater Load.

D. Manual Motor Starter with thermal overload protection for fan motor.

E. Excess Temperature Limit Switch, which protects work load and heaters should the temperature controller fail, or fan belt fail, or something impede the air circulation.

F. Fused Control Circuit Switch.

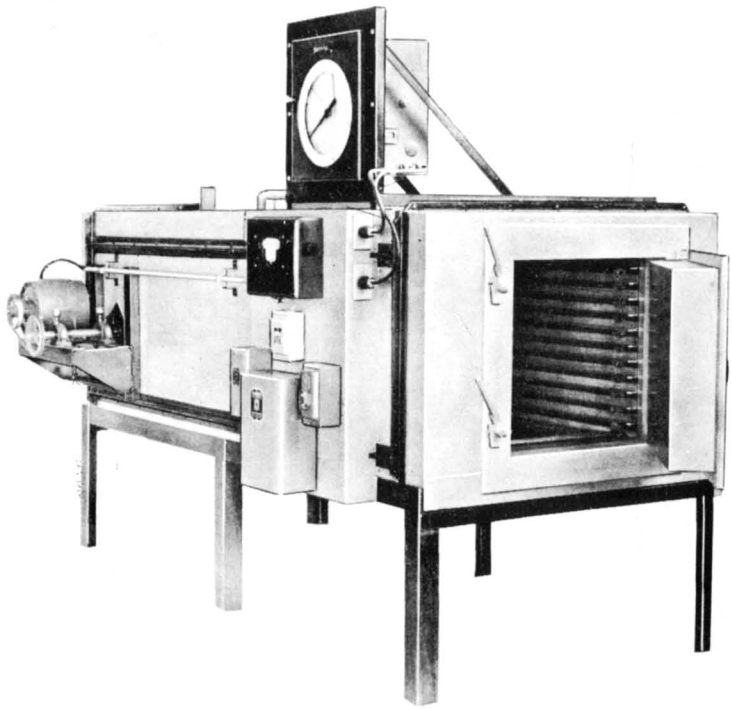
All the above equipment is installed and interwired to interlock the system electrically so that heat is not obtained unless fan motor circuit is first closed, controller is plugged in and excess temperature cut-out is closed.

EXTRAS
(a) Trays or pans.

(b) Potentiometer type pyrometer control of the non-indicating, indicating or recording type.

(c) Timing devices to stop oven, leaving fan running and later stop fan.

MODEL 1338-T12
CABINET OVENS
ELECTRIC



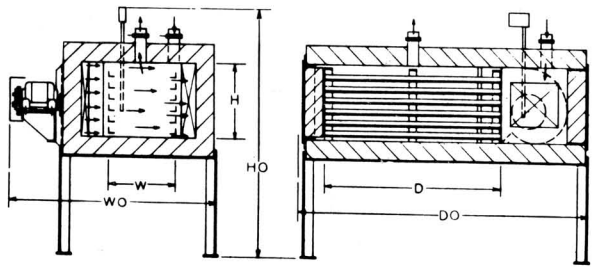


Fig. 1

514

CABINET TYPE, ELECTRICALLY HEATED OVENS - 1200° F.
MODEL 1338-T12

Model No.	Working Space W.	D.	H.	Overall * WO	DO	HO	Leg Ht.	K.W.	Motor H. P.	Trays W.	D.	Spacing	No.
1338-1-T12	18	36	20	55	67	67	27	15	1/2	17½	35½	3	6
1338-2-T12	18	48	20	55	79	67	27	18	1/2	17½	47½	3	6
1338-3-T12	24	36	24	61	67	68	24	18	1/2	23½	35½	3	7
1338-4-T12	24	42	24	63	73	68	24	18	3/4	23½	41½	3	7
1338-5-T12	24	60	24	63	91	68	24	24	3/4	23½	59½	3	7
1338-6-T12	24	72	24	63	103	68	24	27	1	23½	71½	3	7

ALL DIMENSIONS are in inches. K.W. - based on 230 volts, 3 phase.
* Overall dimensions include all projections and legs.
Trays are supplied on separate order.
Typical Order: 1 - Model 1338-3-T12 Glass Annealing Oven 24 x 36 x 24
230 volts, 3 phase, 60 cycles.

USES
Glass Annealing, Heat Treating, Etc.

FEATURES
Completely packaged unit.
Temperatures to 1200 deg. F.
Internal air circulation for good temperature distribution.
Excess Temperature Cut-off.
Control Equipment Electrically Interlocked.
Indicating Millivoltmeter Pyrometer Controller on separate stand with four way plug, cable and polarized receptacle for easy instrument connection.
Automatic Timing Equipment, potentiometer and recording controls extra.

(OVER)

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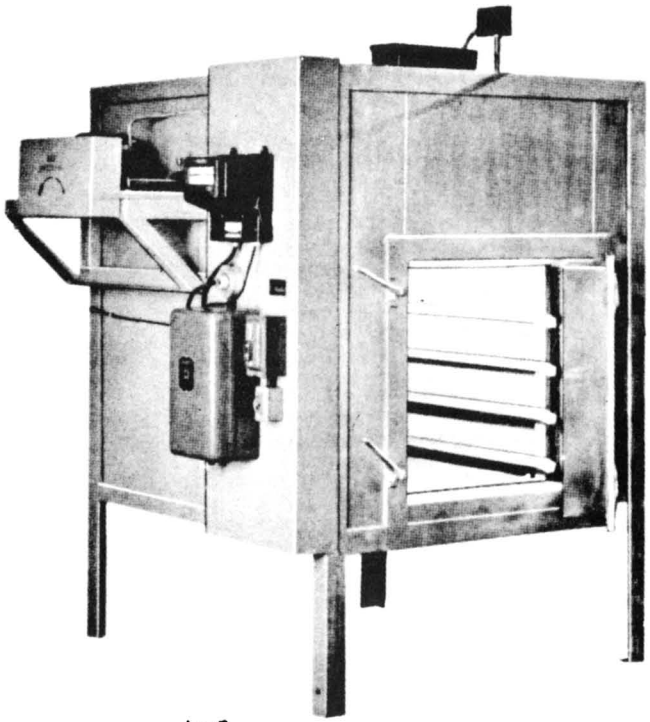
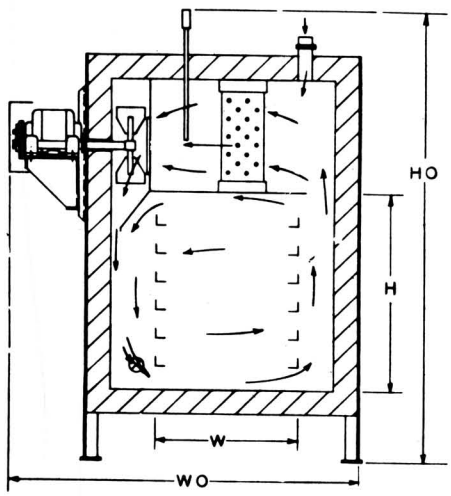
MODEL 1337-T12
CABINET OVENS
ELECTRIC





438

Fig. 1

CABINET TYPE, ELECTRICALLY HEATED OVENS - 1200° F.
MODEL 1337-T12

Model No.	Working Space W.	D.	H.	Overall * WO	DO	HO	Leg Ht.	K.W.	Motor H. P.	Trays W.	D.	Spacing	No.
1337- 1-T12	24	48	36	67	60	100	20	33	3/4	23½	47½	6	5
1337- 2-T12	24	54	36	67	66	100	20	33	3/4	23½	53½	6	5
1337- 3-T12	30	48	42	73	60	96	10	36	1	29½	47½	6	6
1337- 4-T12	30	60	36	73	72	100	20	36	1	29½	59½	6	5
1337- 5-T12	36	36	36	79	48	100	20	33	1	35½	35½	6	5
1337- 6-T12	36	42	48	79	54	102	10	36	1	35½	41½	6	7
1337- 7-T12	36	48	36	79	60	100	20	36	1	35½	47½	6	5
1337- 8-T12	36	48	48	79	60	102	10	39	1	35½	47½	6	7
1337- 9-T12	36	72	48	80	84	102	10	48	2	35½	71½	6	7
1337-10-T12	48	48	48	94	60	102	10	48	1-1/2	47½	47½	6	7

ALL DIMENSIONS are in inches. K.W.-based on 230 volts, 3 phase.
*Overall dimensions include all projections and legs.
Trays are supplied on separate order.
Typical Order: - 1 Model 1337-6 Glass Annealing Oven 36 x 42 x 48
230 volts, 3 phase, 60 cycles.

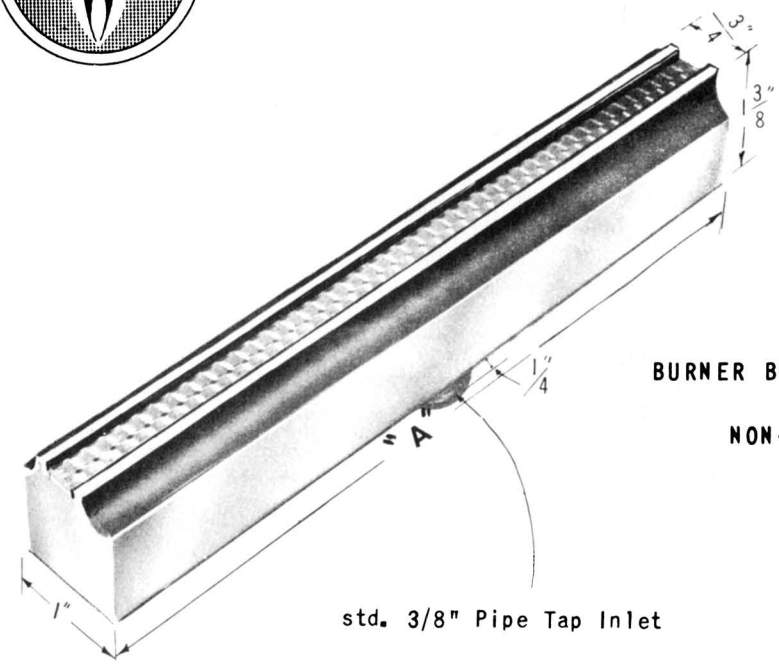
USES
Glass Annealing, Glass Decorating, Heat Treating, etc.

FEATURES
Completely packaged unit.
Temperatures to 1200 deg. F.
Internal air circulation for good temperature distribution.
Excess Temperature Cut-off.
Control Equipment Electrically Interlocked.
Indicating Millivoltmeter Pyrometer controller on separate stand with four way plug, cable and polarized receptacle for easy instrument connection.
Automatic Timing Equipment, potentiometer and recording controls extra on request.

(OVER)

Carlisle GAS BURNER CORP.

MILLVILLE, N. J.



std. 3/8" Pipe Tap Inlet

BURNER BODY - HEAT RESISTING CAST IRON ALLOY

NON-CORRODING RIBBON CONSTRUCTION

NON BACK FLASH

Burner Code	Burner Length "A" Dim.	B. T. U. Capacity per Burner when used with Inspirators and raw gas pressures as indicated.			
		Mfg. Gas 1 p.s.i.	Mixed Gas 2 p.s.i.	Natural Gas 5 p.s.i.	Propane-Butane 5 p.s.i.
204	2¼"	6,000	6,000	6,500	6,500
202	3¼"	8,000	8,000	8,500	8,500
205-5	5"	12,000	12,000	12,500	12,500
205-6	6"	13,000	13,000	13,500	13,500
205-7	7"	14,000	14,000	14,500	14,500
205-8	8"	16,000	16,000	16,000	16,000

Burner Code	Burner Length "A" Dim.	B. T. U. Capacity per Burner when used with Fully Premixed Air-Gas System.			
		Mfg. Gas	Mixed Gas	Natural Gas	Propane-Butane
204	2¼"	9,000	9,000	9,000	9,000
202	3¼"	12,000	12,000	12,000	12,000
205-5	5"	20,000	20,000	20,000	20,000
205-6	6"	23,000	23,000	23,000	23,000
205-7	7"	26,500	26,500	26,500	26,500
205-8	8"	30,000	30,000	30,000	30,000

The ribbon construction in all burners can be varied to give either a broad flat flame for capacity or sharp individual needlepoint flames.

Maximum burner pressure allowable is approximately 4" WC, depending upon the gas and the ribbon construction used. When premix systems, operating at higher pressures are used, a suitable restriction orifice must be installed in the feed line to the burner.

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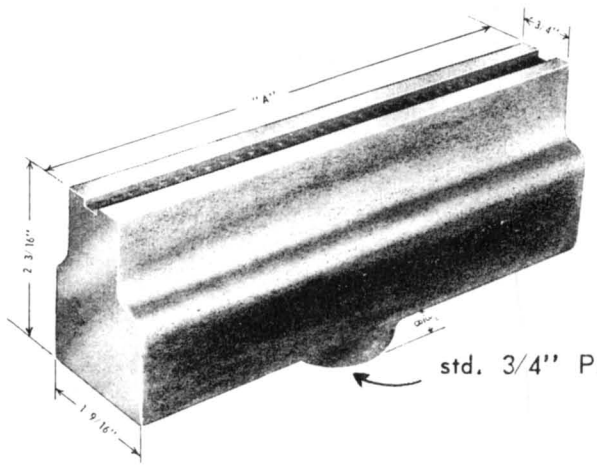


BURNER BODY - HEAT RESISTING CAST IRON ALLOY

NON-CORRODING RIBBON CONSTRUCTION

NON BACK FLASH

Burner Code	Burner Length "A" Dim.	B. T. U. Capacity per Burner when used with A-2 Inspirator and raw gas pressures as indicated.			
		Mfg. Gas 1 p.s.i.	Mixed Gas 2 p.s.i.	Natural Gas 5 p.s.i.	Propane-Butane 5 p.s.i.
T-208	6"	14,000	14,000	15,000	15,000
T-20	8"	18,600	18,600	20,000	20,000
T-207	10"	23,000	23,000	25,000	25,000
T-206	12"	28,000	28,000	30,000	30,000

Burner Code	Burner Length "A" Dim.	B. T. U. Capacity per Burner when used with Fully Premixed Air-Gas System.			
		Mfg. Gas	Mixed Gas	Natural Gas	Propane-Butane
T-208	6"	24,000	24,000	24,000	24,000
T-20	8"	32,000	32,000	32,000	32,000
T-207	10"	40,000	40,000	40,000	40,000
T-206	12"	48,000	48,000	48,000	48,000

Maximum premix burner pressure allowable is 1 1/4" W. C. When premix systems, operating at higher pressures, are used, a restriction orifice must be installed in the feed inlet to each burner. Standard 3/4" x 1/2" x "X" orifice restrictions can be furnished upon request.

Burners with special ribbon constructions for capacities greater than those listed can be furnished upon request.

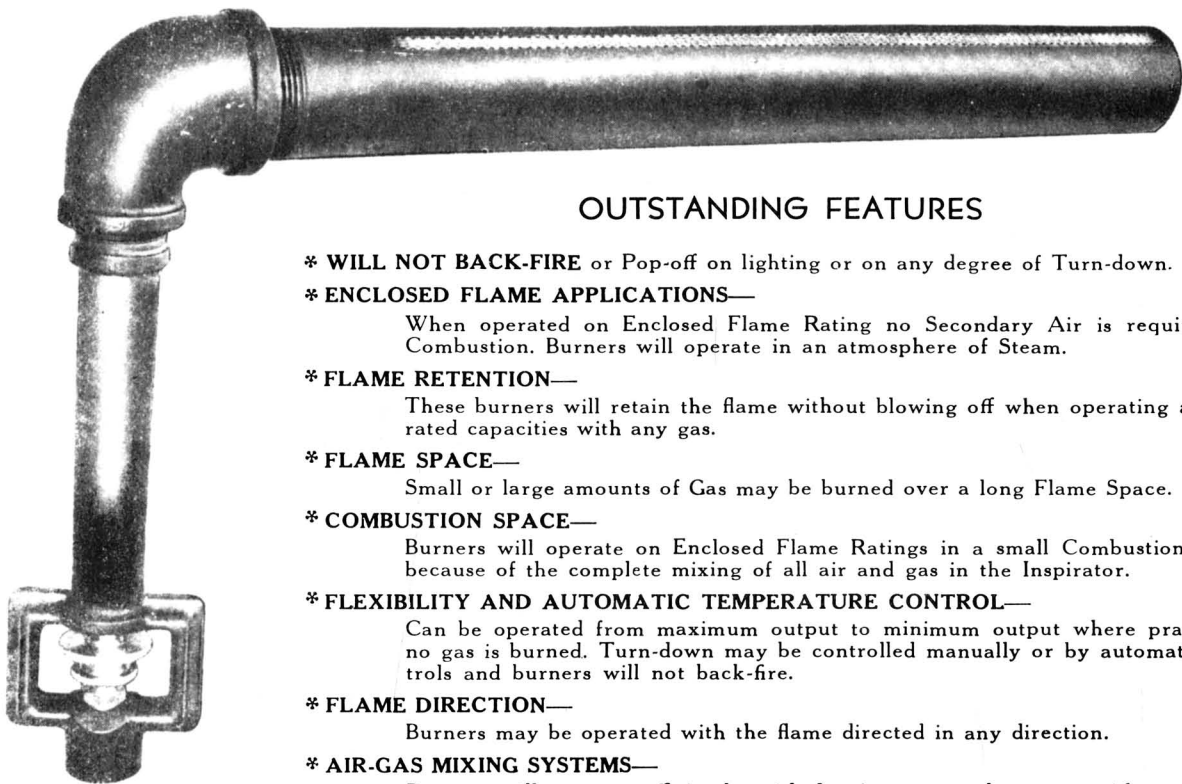
Carlisle GAS BURNER CORP.

MILLVILLE, N. J.

FOR—INDUSTRIAL GAS HEAT APPLICATIONS

UNIVERSAL BURNERS FOR MANUFACTURED GAS— MIXED GAS — NATURAL GAS

High Combustion Efficiency—Non-Back-Firing in Operation



OUTSTANDING FEATURES

* **WILL NOT BACK-FIRE** or Pop-off on lighting or on any degree of Turn-down.

* **ENCLOSED FLAME APPLICATIONS—**
  When operated on Enclosed Flame Rating no Secondary Air is required for Combustion. Burners will operate in an atmosphere of Steam.

* **FLAME RETENTION—**
  These burners will retain the flame without blowing off when operating at their rated capacities with any gas.

* **FLAME SPACE—**
  Small or large amounts of Gas may be burned over a long Flame Space.

* **COMBUSTION SPACE—**
  Burners will operate on Enclosed Flame Ratings in a small Combustion Space because of the complete mixing of all air and gas in the Inspirator.

* **FLEXIBILITY AND AUTOMATIC TEMPERATURE CONTROL—**
  Can be operated from maximum output to minimum output where practically no gas is burned. Turn-down may be controlled manually or by automatic controls and burners will not back-fire.

* **FLAME DIRECTION—**
  Burners may be operated with the flame directed in any direction.

* **AIR-GAS MIXING SYSTEMS—**
  Burners will operate efficiently with Inspirators as shown or with any other Air-Gas Mixing System.

* **BURNER LENGTHS—**
  Burners made with any flame space desired from 1" to lengths listed in catalog. Burners 1½" and larger made with flame space to 200" long. Catalog shows 10" flame space steps, any intermediate or odd length of flame space furnished.

* **LIGHTING AND SILENT OPERATION—**
  Gas Lights instantly over entire flame length without baffles and is silent in operation.

* **BALANCED FLAME RATINGS—**
  All maximum capacity ratings are for an even flame height over the entire flame space. Greater capacities can be obtained if an unbalanced flame height can be used.

* **DURABLE CONSTRUCTION FOR LONG LIFE—**
  Burners are made of slotted pipe in which a series of corrugated, heat resisting, non-corrosive metal ribbons are set and firmly anchored.

* **BURNER PORT CONSTRUCTION—**
  Burner ports are formed by a series of corrugated ribbons, interlocking together, positively held in relation to one another, maintaining a fixed port area under differences of temperatures, as each corrugation acts as an expansion loop. Note: Straight flat uncorrugated ribbons are not used in our construction.

* **CAST IRON BURNERS—**
  We design and manufacture Cast Iron Burners using our ribbon burner construction.

* **STANDARD CAST IRON BURNERS—**
  We have certain standard stock Cast Iron Burners ready for immediate use for Band Ovens, Sterilizers, Water and Coffee Urns, etc.

Typical Uses—

Conveyor Type Ovens	Plain Type Ovens	Meat Smoke House	Asphalt Saturating Tanks
Band Ovens	Core Ovens	Japaning	Vulcanizing Rubber
Tray Ovens	Metal Decorating	Moulding Bakelite	Oil or Liquid Heating

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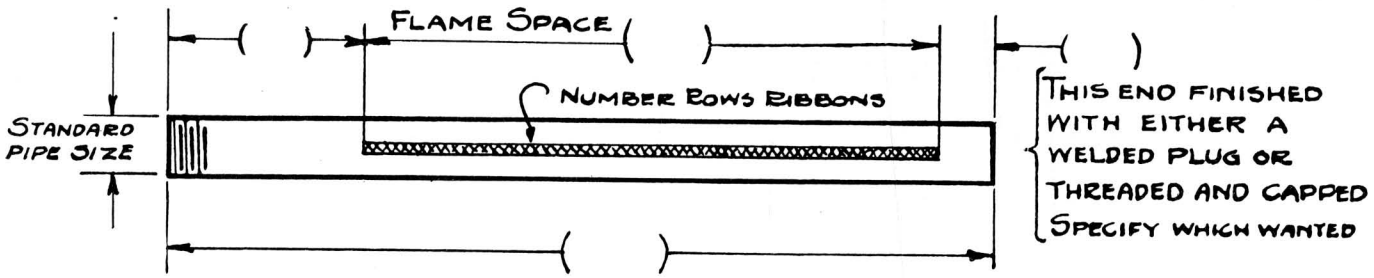


ORDERING SPECIFICATIONS—

When ordering Ribbon Pipe Burners, make a sketch same as above and fill in all dimensions complete.

To complete order furnish the following information:

1. Required Gas Capacity—Cubic Feet per Hr.....
2. Operating Gas Line Pressure Lbs. per Sq. In..... or Inches H_2O.....
3. Kind of Gas.....B.T.U. Content.....Specific Gravity.....
4. Premixed Systems—maximum mixture burner pressure .....

A. **RIBBON BURNER CAPACITY TABLES.**

1. **Maximum Capacity Ratings:**

   The maximum capacity ratings listed in Tables are for a balanced flame, in cubic feet of gas per hour, regardless of the method used in obtaining the air-gas mixture.

2. **Minimum Capacity Ratings:**

   These burners will maintain a balanced flame at any capacity below the maximum listed. Two and three row ribbon capacities can be reduced to a minimum capacity of 0.2 of a cubic foot per hour, per inch of flame space. Four and five row minimum rating at 0.3 of a cubic foot per hour, per inch of flame space.

3. **Operating Range:**

   These burners will operate from maximum rates to a minimum where just enough gas is burning to maintain a flame throughout the length of the burner. Under no operating conditions will these burners flash back either in igniting, turn-down or shut-off.

B. **SIMPLIFIED SINGLE GAS PIPE INSPIRATOR SYSTEM.**

The ratings listed in Tables can be obtained by using our Simplified Single Gas Pipe Inspirator system or on any other Air-Gas Mixing System or devices.

The correct amount of air is automatically entrained from the surrounding atmosphere and the Air-Gas ratio remains constant throughout the entire operating range.

C. **AIR-GAS MIXING SYSTEMS.**

The same ratings are obtainable when used with other types of complete air-gas mixing devices.

When used with any Premixed Air-Gas System, provision must be made for controlling mixture flow to meet burner ratings.

These burners will operate from maximum ratings to a minimum where just enough gas is burning to maintain a flame throughout the length of the burner. Under no operating condition will these burners Back-flash.

DEFINITIONS.

A. **Open Flame Ratings.**

Partial Air-Gas mixture entering burner with sufficient secondary air externally supplied to the flame to complete combustion.

B. **Enclosed Flame Ratings.**

Complete Air-Gas mixture entering the burner for complete combustion. No secondary air required.

C. **Balanced Flame.**

Balanced Flame means flame height is even over entire length of the burner.

IF IN DOUBT—WRITE US—WE WILL BE GLAD TO ASSIST YOU

MAXIMUM CAPACITY—BALANCED FLAME—RATING TABLES

INSPIRATOR SYSTEM—The ratings listed can be obtained by using our Simplified Single Gas Pipe Inspirator System.

AIR-GAS MIXING SYSTEMS—The ratings can be obtained with any complete air-gas mixing devices. Provision must be made for controlling mixture flow to meet burner ratings.

ENCLOSED AND OPEN BALANCED FLAME RATINGS
MANUFACTURED GAS —AVAILABLE INSPIRATOR PRESSURE **1 Lb./Sq. In. & UP** — TABLE "A"

BODY OF TABLE—MAXIMUM CAPACITY—CUBIC FEET PER HR.

Number of Rows Ribbon	Pipe Size	Various Flame Lengths In Inches											
		10	20	30	40	50	60	70	80	90	100	110	120
TWO ROWS	½"	13	32	13									
	¾"	20	40	58	65	65							
	1"	22	42	60	80	95	108	120	126	130			
	1¼"	25	48	72	94	114	134	152	166	178	186	192	192
	1½"	25	48	72	94	114	134	152	166	178	186	192	192
FOUR ROWS	1"	40	78	98	108	112	112	112	112				
	1¼"	50	85	100	110	132	155	178	197	218	233	243	250
	1½"	55	110	160	205	246	284	305	305	305	305	305	305
	2"	58	115	164	210	252	290	312	322	322	322	322	322

ENCLOSED AND OPEN BALANCED FLAME RATINGS
MANUFACTURED GAS —AVAILABLE INSPIRATOR PRESSURE **8" WATER COL. & UP** — TABLE "B"

BODY OF TABLE—MAXIMUM CAPACITY—CUBIC FEET PER HR.

Number of Rows Ribbon	Pipe Size	Various Flame Lengths In Inches											
		10	20	30	40	50	60	70	80	90	100	110	120
TWO ROWS	½"	12	25										
	¾"	15	28	36	38	38							
	1"	24	44	68	84	88	88	88	88				
	1¼"	26	52	76	100	125	150	161	170	178	184	189	189
FOUR ROWS	½"	20	35										
	¾"	25	40	40									
	1"	25	58	78	92	100	102	102	102				
	1¼"	35	64	92	110	130	150	170	186	200	205	205	205
	1½"	35	64	92	118	143	166	185	202	220	236	250	262
	2"	35	75	94	124	156	185	216	236	252	260	260	262
FIVE ROWS	¾"	42	57	45									
	1"	57	83	60									
	1¼"	60	107	116	107								
	1½"	60	107	124	146	170	190	202	205				
	2"	60	107	160	195	221	221	221	221				

OPEN ONLY BALANCED FLAME RATINGS
MANUFACTURED GAS —AVAILABLE INSPIRATOR PRESSURE **3" WATER COL. & UP** — TABLE "C"

BODY OF TABLE—MAXIMUM CAPACITY—CUBIC FEET PER HR.

Number of Rows Ribbon	Pipe Size	Various Flame Lengths In Inches											
		10	20	30	40	50	60	70	80	90	100	110	120
FOUR ROWS	½"	15	23										
	¾"	16	26	26	26								
	1"	24	44	55	66	68	68	68	68				
	1¼"	24	44	58	73	86	100	113	124	132	137	137	
	1½"	26	44	66	87	104	120	132	145	156	165	170	170
	2"	26	44	68	90	112	136	160	184	206	230	242	246
FIVE ROWS	½"	19	26										
	¾"	32	50	43									
	1"	40	55	45									
	1¼"	40	65	110	71								
	1½"	40	70	122	138	148	150	144	136				
	2"	40	76	122	138	148	150	150	150				

MAXIMUM CAPACITY—BALANCED FLAME—RATING TABLES

INSPIRATOR SYSTEM—The ratings listed can be obtained by using our Simplified Single Gas Pipe Inspirator System.

AIR-GAS MIXING SYSTEMS—The ratings can be obtained with any complete air-gas mixing devices. Provision must be made for controlling mixture flow to meet burner ratings.

NATURAL GAS — ENCLOSED AND OPEN BALANCED FLAME RATINGS — AVAILABLE INSPIRATOR PRESSURE — **1 Lb./Sq. In. & UP** — TABLE "D"

BODY OF TABLE—MAXIMUM CAPACITY—CUBIC FEET PER HR.

Number of Rows Ribbon	Pipe Size	Various Flame Lengths In Inches											
		10	20	30	40	50	60	70	80	90	100	110	120
TWO ROWS	½″	5	5										
FOUR ROWS	¾″	10	13	5									
	1″	11	16	21	22	23	23	23	23				
	1¼″	12	17	25	32	39	46	53	59	64	68	71	72
	1½″	13	25	35	46	55	63	70	75	78	79	81	83
	2″	13	25	35	46	55	63	70	75	78	79	81	83

NATURAL GAS — OPEN BALANCED FLAME RATINGS — AVAILABLE INSPIRATOR PRESSURE — **6″ WATER COL. & UP** — TABLE "E"

BODY OF TABLE—MAXIMUM CAPACITY—CUBIC FEET PER HR.

Number of Rows Ribbon	Pipe Size	Various Flame Lengths In Inches											
		10	20	30	40	50	60	70	80	90	100	110	120
TWO ROWS	½″	4	4										
FOUR ROWS	¾″	7	11	3									
	1″	8	13	17	19	19	19	19	19				
	1¼″	9	14	19	25	30	34	37	41	43	45	46	47
	1½″	10	15	21	28	34	40	44	48	52	54	55	56
	2″	10	15	21	28	34	40	44	48	52	54	55	56

MIXED GAS — ENCLOSED AND OPEN BALANCED FLAME RATINGS — AVAILABLE INSPIRATOR PRESSURE — **1 Lb./Sq. In. & UP** — TABLE "F"

BODY OF TABLE—MAXIMUM CAPACITY—CUBIC FEET PER HR.

Number of Rows Ribbon	Pipe Size	Various Flame Lengths In Inches											
		10	20	30	40	50	60	70	80	90	100	110	120
TWO ROWS	½″	7	7										
FOUR ROWS	¾″	12	18	12									
	1″	13	22	27	30	30	30	30	30				
	1¼″	14	24	34	43	52	60	68	76	83	87	87	87
	1½″	17	33	46	58	70	82	92	98	100	100	100	100
	2″	17	33	46	58	70	82	92	98	100	100	100	100

MIXED GAS — OPEN ONLY BALANCED FLAME RATINGS — AVAILABLE INSPIRATOR PRESSURE — **6″ WATER COL. & UP** — TABLE "G"

BODY OF TABLE—MAXIMUM CAPACITY—CUBIC FEET PER HR.

Number of Rows Ribbon	Pipe Size	Various Flame Lengths In Inches											
		10	20	30	40	50	60	70	80	90	100	110	120
TWO ROWS	½″	6	6										
FOUR ROWS	¾″	10	16	10									
	1″	10	18	24	27	27	27	27	27				
	1¼″	10	20	29	38	47	55	62	69	74	78	81	82
	1½″	16	29	42	54	65	74	82	88	93	95	95	95
	2″	16	29	42	54	65	74	82	88	93	95	95	95

GAS CAPACITY OF INSPIRATOR ORIFICES—*Cubic Feet per Hour (Cont'd)*

HIGH PRESSURE TABLE

SPECIFIC GRAVITY 0.60

Orifice Size	Orifice Area	Pressure at Orifice in Pounds per Square Inch (Gauge)									
		1#	2#	3#	4#	5#	6#	7#	8#	9#	10#
"D"	.04753	482	681	836	965	1080	1180	1275	1360	1440	1520
¼" "E"	.04909	497	703	862	990	1115	1215	1315	1400	1485	1565
"F"	.05187	526	744	912	1050	1175	1285	1385	1480	1570	1650
"G"	.05350	545	770	950	1100	1225	1340	1450	1550	1640	1725
17/64"	.05541	560	793	972	1125	1255	1375	1485	1585	1675	1760
"H"	.05557	563	795	978	1135	1270	1385	1500	1600	1695	1780
"I"	.05811	592	837	1030	1200	1330	1460	1575	1680	1775	1875
"J"	.06026	615	870	1070	1240	1380	1515	1630	1740	1845	1950
"K"	.06202	626	885	1100	1270	1420	1550	1670	1780	1890	1985
9/32"	.06213	630	890	1105	1275	1425	1555	1675	1790	1900	2000
"L"	.06605	665	942	1155	1335	1495	1630	1760	1880	1995	2100
"M"	.06835	690	975	1200	1380	1545	1690	1820	1950	2060	2170
19/64"	.06922	700	990	1215	1400	1568	1705	1840	1970	2085	2195
"N"	.07163	723	1020	1255	1450	1620	1770	1910	2045	2160	2275
5/16"	.07670	776	1098	1335	1550	1725	1885	2030	2170	2300	2420
"O"	.07843	790	1117	1365	1570	1750	1920	2070	2210	2350	2470
"P"	.08194	829	1174	1430	1650	1850	2020	2175	2320	2460	2600
21/64"	.08456	855	1210	1475	1700	1900	2075	2235	2400	2525	2660
"Q"	.08657	875	1239	1515	1750	1950	2130	2300	2455	2600	2740
"R"	.09026	913	1292	1575	1815	2030	2215	2400	2550	2700	2850
11/32"	.09281	940	1329	1625	1875	2100	2290	2470	2640	2795	2945
"S"	.09511	960	1359	1670	1920	2150	2350	2535	2700	2855	3000
"T"	.10066	1014	1435	1750	2020	2250	2470	2655	2845	3000	3165
23/64"	.1014	1025	1450	1770	2050	2275	2500	2695	2875	3040	3200
"U"	.10636	1077	1525	1860	2150	2400	2620	2825	3020	3200	3380
3/8"	.11045	1125	1590	1945	2240	2500	2730	2950	3150	3330	3510
"V"	.11163	1130	1600	1970	2260	2525	2760	2980	3190	3370	3550
"W"	.11702	1183	1674	2050	2370	2650	2900	3130	3330	3530	3720
25/64"	.1198	1212	1714	2100	2420	2700	2950	3185	3400	3600	3800
"X"	.12379	1250	1768	2150	2495	2775	3035	3270	3500	3700	3900
"Y"	.12819	1296	1833	2240	2590	2895	3150	3400	3635	3845	4050
13/32"	.1296	1312	1856	2265	2615	2915	3200	3450	3680	3900	4100
"Z"	.13397	1355	1916	2350	2700	3010	3300	3560	3800	4000	4235
27/64"	.1398	1416	2000	2450	2825	3155	3450	3710	3975	4200	4440
7/16"	.1503	1522	2150	2650	3050	3400	3710	4000	4300	4550	4800
29/64"	.1613	1632	2310	2820	3240	3630	3950	4280	4560	4830	5100
15/32"	.1726	1750	2470	3030	3500	3900	4260	4600	4900	5200	5500
31/64"	.1843	1868	2640	3230	3720	4150	4545	4900	5230	5540	5840
½"	.1963	1990	2810	3430	3945	4400	4800	5200	5540	5880	6200

GAS CAPACITY OF INSPIRATOR ORIFICES—*Cubic Feet per Hour (Cont'd)*

HIGH PRESSURE TABLE

SPECIFIC GRAVITY 0.60

Orifice Size	Orifice Area	Pressure at Orifice in Pounds per Square Inch (Gauge)									
		1#	2#	3#	4#	5#	6#	7#	8#	9#	10#
#38	.00809	78.9	112	137	158	177	193	209	222	236	249
#37	.00849	84.2	119	146	169	188	206	222	237	251	265
#36	.00891	89.5	126	154	177	198	217	234	250	265	279
7/64"	.00940	93.5	132	161	186	207	227	245	262	277	292
#35	.00950	95.0	135	165	190	212	232	250	267	283	298
#34	.00968	97	138	168	195	217	238	256	274	290	305
#33	.01003	100	141	172	200	222	244	263	281	298	314
#32	.01057	105	149	181	210	234	256	276	295	313	330
#31	.01131	113	160	197	226	253	277	300	320	339	357
1/8"	.01227	124	175	215	248	277	303	327	350	370	390
#30	.01297	131	186	228	263	294	322	347	370	392	413
#29	.01453	145	205	251	290	324	354	383	409	434	457
#28	.01550	155	219	268	309	346	377	406	436	460	488
9/64"	.01553	156	220	270	311	348	380	410	440	464	491
#27	.01629	163	231	283	327	365	400	432	460	489	515
#26	.01697	171	243	295	342	380	418	452	481	510	539
#25	.01755	176	249	306	354	395	433	467	500	530	558
#24	.01815	181	257	314	363	404	444	479	511	541	570
#23	.01863	187	264	325	375	420	458	495	530	560	590
5/32"	.01917	192	271	333	384	430	470	506	540	572	603
#22	.01936	195	275	339	390	438	479	517	552	585	617
#21	.01986	200	283	346	400	450	490	530	565	600	632
#20	.02036	205	290	355	410	460	502	543	580	613	650
#19	.02164	218	309	378	438	489	534	576	616	654	690
#18	.02256	229	323	396	459	512	560	605	649	687	720
11/64"	.02320	234	331	405	469	522	570	618	661	700	740
#17	.02351	237	335	411	475	532	580	630	672	712	751
#16	.02461	247	350	430	496	553	606	658	700	742	782
#15	.02545	255	360	445	512	572	628	680	724	768	810
#14	.02602	263	372	457	530	590	647	700	747	790	832
#13	.02688	271	383	470	543	606	666	718	767	810	858
3/16"	.02761	279	394	484	560	624	684	740	790	838	885
#12	.02806	284	402	493	570	636	697	752	802	850	900
#11	.02865	290	409	503	581	650	710	770	820	870	920
#10	.02941	297	421	515	595	665	728	785	840	890	940
#9	.03017	305	431	530	610	684	748	806	860	913	964
#8	.03110	313	443	544	630	702	770	830	890	940	990
#7	.03173	321	454	556	643	718	785	850	908	960	1015
13/64"	.03240	326	462	564	653	730	797	862	920	975	1025
#6	.03269	332	469	575	665	740	810	879	937	990	1042
#5	.03317	334	472	579	670	746	816	885	945	1000	1055
#4	.03431	348	491	600	695	774	850	916	980	1035	1095
#3	.03563	360	510	625	720	805	884	952	1020	1080	1135
7/32"	.03758	379	535	660	760	850	930	1005	1075	1135	1197
#2	.03836	390	550	680	783	878	960	1030	1110	1170	1235
#1	.04083	413	584	718	830	927	1015	1095	1170	1240	1305
"A"	.04301	435	614	752	870	969	1068	1148	1225	1300	1370
15/64"	.04314	437	617	758	878	977	1075	1155	1240	1315	1383
"B"	.04449	452	640	780	906	1010	1105	1195	1275	1350	1425
"C"	.04600	463	657	800	929	1030	1130	1225	1310	1385	1460

GAS CAPACITY OF INSPIRATOR ORIFICES—*Cubic Feet per Hour (Cont'd)*

HIGH PRESSURE TABLE

SPECIFIC GRAVITY 0.60

Orifice Size	Orifice Area	Pressure at Orifice in Pounds per Square Inch (Gauge)									
		1#	2#	3#	4#	5#	6#	7#	8#	9#	10#
#80	.000143	1.45	2.05	2.51	2.90	3.24	3.55	3.82	4.09	4.34	4.58
#79	.000165	1.67	2.37	2.90	3.35	3.74	4.10	4.43	4.72	5.00	5.30
1/64"	.000191	1.93	2.74	3.36	3.87	4.34	4.73	5.11	5.48	5.80	6.10
#78	.000201	2.02	2.86	3.51	4.05	4.54	4.96	5.37	5.71	6.05	6.40
#77	.000254	2.52	3.57	4.39	5.05	5.64	6.18	6.69	7.12	7.55	8.00
#76	.000314	3.18	4.50	5.50	6.38	7.10	7.80	8.40	9.00	9.50	10.0
#75	.000346	3.50	4.96	6.04	7.0	7.8	8.6	9.2	9.8	10.5	11.0
#74	.000398	4.00	5.67	7.0	8.0	9.0	9.8	10.6	11.3	12.0	12.7
#73	.000452	4.50	6.38	7.8	9.0	10.0	11.0	11.9	12.7	13.5	14.2
#72	.000491	4.90	6.94	8.5	9.8	11.0	12.0	13.0	13.9	14.7	15.5
#71	.000531	5.30	7.51	9.2	10.6	11.8	13.0	14.0	15.0	15.8	16.7
#70	.000616	6.20	8.78	10.8	12.5	14.0	15.2	16.5	17.5	18.6	19.6
#69	.000670	6.70	9.49	11.7	13.5	15.0	16.5	17.7	19.0	20.1	21.2
#68	.000755	7.50	10.6	13.0	15.0	16.8	18.3	19.8	21.2	22.3	23.6
1/32"	.000767	7.60	10.8	13.2	15.3	17.0	18.6	20.2	21.5	22.8	24.0
#67	.000804	8.00	11.3	14.0	16.1	18.0	19.7	21.2	22.6	24.0	25.3
#66	.000855	8.60	12.2	15.0	17.2	19.2	21.0	22.6	24.2	25.6	27.0
#65	.000962	9.60	13.6	16.8	19.5	21.7	23.8	25.6	27.4	29.0	30.5
#64	.001018	10.2	14.4	17.6	20.3	22.6	24.8	26.7	28.5	30.2	31.9
#63	.001075	10.8	15.3	18.8	21.7	24.2	26.5	28.6	30.5	32.3	34.0
#62	.001134	11.3	16.0	19.5	22.5	25.2	27.5	29.7	31.8	33.6	35.5
#61	.001195	11.9	16.9	20.7	23.9	26.6	29.0	31.4	33.5	35.5	37.4
#60	.001257	12.6	17.9	21.9	25.2	28.1	30.7	33.3	35.4	37.5	39.5
#59	.001320	13.2	18.7	22.9	26.5	29.5	32.2	34.8	37.0	39.3	41.3
#58	.001385	13.8	19.7	24.0	27.7	31.0	34.0	36.7	39.0	41.5	43.9
#57	.001452	14.5	20.5	25.2	29.1	32.6	35.7	38.4	41.0	43.6	46.0
#56	.001698	17.0	24.1	29.5	34.1	38.0	41.7	45.0	48.0	50.9	53.8
3/64"	.001726	17.4	24 6	30.2	35.0	39.0	42.8	46.0	49.1	52.0	55.0
#55	.002124	21.1	29.8	36.8	42.3	47.3	51.8	56.0	59.8	63.4	67.0
#54	.002376	23.4	33.0	40.2	46.4	51.9	56.6	61.0	65.3	69.1	73.0
#53	.002780	27.1	38.2	46.7	54.0	60.0	66.0	71.0	75.8	80.0	84.1
1/16"	.003068	29.8	42.1	51.6	59.4	66.5	73.0	78.5	84.0	89.1	94
#52	.003167	30.8	43.5	53.5	61.8	69	75	81	87	92	97
#51	.003526	34.2	48.4	59.3	69	76	84	91	97	102	108
#50	.003848	37.6	53.2	65.3	75	84	92	99	107	113	119
#49	.004185	40.8	57.7	71	82	91	100	108	115	122	129
#48	.004536	44.7	63.3	77	89	99	109	118	126	133	140
5/64"	.004794	47.4	67.0	82	95	106	116	125	134	142	150
#47	.00484	47.9	67.7	83	96	107	117	127	136	144	152
#46	.00515	51.0	72.2	89	102	115	125	136	145	153	162
#45	.00528	52.6	74.5	91	106	118	129	140	149	158	166
#44	.00581	57.9	81.9	101	116	130	142	153	164	173	183
#43	.00622	61.8	87.4	107	124	138	152	163	175	185	195
#42	.00687	68.4	96.7	118	137	153	167	181	193	205	215
3/32"	.00690	68.5	96.8	119	138	154	168	182	194	206	217
#41	.00724	71.0	100	123	142	158	173	186	200	211	222
#40	.00754	73.6	104	127	147	164	180	194	207	219	230
#39	.00778	76.3	108	133	153	171	187	202	215	227	240

GAS CAPACITY OF INSPIRATOR ORIFICES—*Cubic Feet per Hour (Cont'd)*

LOW PRESSURE TABLE

SPECIFIC GRAVITY 0.60

Orifice Size	Orifice Area	Pressure at Orifice in Inches of Water Column																		
		1″	2″	3″	4″	5″	6″	7″	8″	9″	10″	12″	14″	16″	18″	20″	22″	24″	26″	1#
"D"	.04753	91	129	159	183	205	224	242	259	275	290	317	342	366	388	410	430	449	467	482
1/4″ "E"	.04909	94	133	163	189	211	231	250	267	283	299	327	354	378	401	423	444	464	482	497
"F"	.05187	99	140	172	200	225	245	264	285	299	315	346	374	400	424	447	469	490	510	526
"G"	.05350	102	145	176	207	230	253	272	293	308	325	358	387	414	439	463	485	508	528	545
17/64″	.05541	105	151	184	213	238	261	282	301	320	337	369	398	426	452	476	500	522	544	560
"H"	.05557	106	152	185	214	239	262	283	303	321	338	370	400	428	453	478	502	524	545	563
"I"	.05811	111	156	190	225	250	275	295	318	334	353	389	421	450	477	503	527	551	574	592
"J"	.06026	115	162	200	234	260	285	305	330	345	365	405	437	468	496	523	549	574	596	615
"K"	.06202	118	168	206	238	266	292	315	337	356	376	412	445	476	505	532	559	584	607	626
9/32″	.06213	118	169	207	239	267	293	316	338	358	378	414	447	478	507	534	561	586	610	630
"L"	.06605	126	179	219	253	285	312	336	360	380	403	438	473	506	536	566	593	620	645	665
"M"	.06835	130	185	226	262	294	322	347	373	392	416	454	490	524	555	585	614	642	669	669
19/64″	.06922	132	188	230	266	298	326	352	377	399	421	460	497	532	564	595	624	652	679	700
"N"	.07163	137	195	236	275	307	337	365	390	412	437	475	514	550	583	615	645	674	701	723
5/16″	.07670	146	209	255	295	330	361	390	417	443	467	510	552	590	625	660	691	723	752	776
"O"	.07843	150	213	260	300	335	369	400	427	452	475	519	561	600	636	670	704	735	765	790
"P"	.08194	157	223	272	315	350	385	415	447	473	497	545	589	630	668	705	739	772	805	829
21/64″	.08456	163	230	281	325	363	398	430	460	488	514	563	608	650	689	726	762	796	829	855
"Q"	.08657	166	235	289	333	370	406	439	471	498	525	576	622	666	705	744	780	815	850	875
"R"	.09026	175	245	300	347	386	425	458	490	520	550	600	649	694	736	775	813	850	885	913
11/32″	.09281	178	252	309	357	399	437	472	505	536	565	618	668	714	757	798	837	875	911	940
"S"	.09511	183	259	318	365	408	445	482	516	547	578	632	682	730	774	815	856	895	931	960
"T"	.10066	193	274	336	386	432	473	510	546	580	611	668	722	772	818	863	905	945	985	1014
23/64″	.1014	195	276	338	390	436	478	516	552	586	617	675	729	780	827	872	914	955	994	1025
"U"	.10636	205	290	356	410	458	500	540	575	615	647	709	767	820	869	917	961	1005	1045	1077
3/8″	.11045	214	303	371	428	478	524	566	605	641	676	740	800	855	907	956	1003	1048	1090	1125
"V"	.11163	215	303	373	430	480	525	568	607	645	680	745	804	860	912	961	1008	1054	1097	1130
"W"	.11702	225	319	390	450	503	550	595	635	675	712	779	842	900	955	1007	1055	1103	1148	1183
25/64″	.1198	230	326	399	461	515	565	610	652	692	729	797	862	921	976	1030	1080	1129	1175	1212
"X"	.12379	237	336	412	475	533	582	630	674	715	755	822	888	950	1007	1062	1114	1164	1210	1250
"Y"	.12819	245	349	427	493	552	603	653	698	740	780	852	921	986	1045	1102	1155	1207	1256	1296
13/32″	.1296	249	353	432	499	558	611	660	706	749	789	864	934	998	1060	1115	1170	1223	1272	1312
"Z"	.13397	257	364	445	515	578	630	682	728	774	815	891	963	1030	1091	1150	1208	1262	1313	1355
27/64″	.1398	269	380	466	539	602	659	712	761	807	851	932	1008	1077	1142	1205	1263	1320	1374	1416
7/16″	.1503	290	409	501	579	647	709	765	818	868	915	1000	1083	1158	1227	1294	1358	1420	1476	1522
29/64″	.1613	310	439	537	621	694	760	821	878	931	981	1075	1162	1242	1316	1388	1457	1521	1584	1632
15/32″	.1726	332	470	575	665	742	813	879	939	996	1050	1150	1243	1330	1410	1487	1560	1630	1695	1750
31/64″	.1843	355	502	614	710	793	869	939	1004	1065	1122	1228	1328	1420	1505	1586	1664	1740	1810	1868
1/2″	.1963	378	534	654	756	845	926	1000	1069	1134	1195	1307	1413	1512	1600	1690	1772	1850	1927	1990

CORRECTION FACTORS FOR CHANGE IN SPECIFIC GRAVITY

To Find Capacity of Orifices with a Gas of different Specific Gravity, multiply Capacity shown by these Factors.

Specific Gravity	0.90	0.88	0.86	0.84	0.82	0.80	0.78	0.76	0.74	0.72	0.70	0.68	0.66	0.64
Correction Factor	0.816	0.826	0.836	0.846	0.856	0.866	0.878	0.889	0.902	0.914	0.926	0.941	0.954	0.969
Specific Gravity	0.62	0.60	0.58	0.56	0.54	0.52	0.50	0.48	0.46	0.44	0.42	0.40		
Correction Factor	0.985	1.000	1.017	1.034	1.054	1.074	1.095	1.120	1.143	1.170	1.197	1.225		

Correction Factor for any other Specific Gravity $= \sqrt{\frac{0.60}{\text{Sp. Gr. of Gas}}}$

GAS CAPACITY OF INSPIRATOR ORIFICES—*Cubic Feet per Hour*

LOW PRESSURE TABLE

SPECIFIC GRAVITY 0.60

Orifice Size	Orifice Area	Pressure at Orifice in Inches of Water Column																		
		1″	2″	3″	4″	5″	6″	7″	8″	9″	10″	12″	14″	16″	18″	20″	22″	24″	26″	1#
#80	.000143	0.27	0.38	0.47	0.54	0.61	0.67	0.72	0.77	0.82	0.86	0.94	1.01	1.08	1.15	1.21	1.27	1.33	1.38	1.45
#79	.000165	0.31	0.44	0.54	0.63	0.70	0.77	0.83	0.89	0.94	0.99	1.08	1.17	1.25	1.33	1.40	1.47	1.53	1.59	1.67
1/64″	.000191	0.36	0.51	0.63	0.72	0.81	0.89	0.96	1.03	1.09	1.15	1.26	1.36	1.45	1.54	1.62	1.70	1.78	1.85	1.93
#78	.000201	0.38	0.54	0.66	0.76	0.85	0.93	1.01	1.08	1.15	1.21	1.32	1.43	1.52	1.61	1.70	1.79	1.87	1.94	2.02
#77	.000254	0.48	0.68	0.83	0.96	1.07	1.18	1.27	1.37	1.45	1.53	1.67	1.80	1.93	2.04	2.15	2.26	2.36	2.46	2.52
#76	.000314	0.59	0.84	1.03	1.19	1.33	1.46	1.58	1.69	1.79	1.89	2.06	2.23	2.38	2.52	2.66	2.79	2.92	3.04	3.18
#75	.000346	0.66	0.94	1.15	1.33	1.48	1.63	1.76	1.88	2.00	2.10	2.30	2.49	2.66	2.82	2.97	3.12	3.26	3.39	3.50
#74	.000398	0.76	1.08	1.32	1.52	1.70	1.86	2.01	2.15	2.28	2.41	2.63	2.84	3.04	3.22	3.40	3.56	3.73	3.88	4.00
#73	.000452	0.85	1.21	1.48	1.71	1.91	2.09	2.26	2.42	2.57	2.71	2.96	3.20	3.42	3.62	3.82	4.01	4.19	4.36	4.50
#72	.000491	0.93	1.32	1.61	1.86	2.08	2.28	2.46	2.63	2.80	2.95	3.23	3.48	3.73	3.95	4.16	4.36	4.57	4.75	4.90
#71	.000531	1.00	1.42	1.75	2.01	2.25	2.47	2.67	2.85	3.02	3.19	3.49	3.76	4.03	4.27	4.50	4.72	4.94	5.14	5.30
#70	.000616	1.18	1.67	2.04	2.36	2.63	2.89	3.12	3.34	3.54	3.73	4.08	4.40	4.71	4.99	5.26	5.52	5.78	6.01	6.20
#69	.000670	1.27	1.80	2.21	2.54	2.84	3.12	3.37	3.60	3.82	4.03	4.41	4.76	5.09	5.39	5.69	5.96	6.25	6.49	6.70
#68	.000755	1.42	2.02	2.47	2.85	3.18	3.49	3.77	4.03	4.28	4.51	4.94	5.33	5.70	6.04	6.37	6.68	6.99	7.26	7.50
1/32″	.000767	1.44	2.05	2.50	2.89	3.22	3.54	3.82	4.09	4.34	4.58	5.00	5.40	5.78	6.13	6.45	6.77	7.08	7.36	7.60
#67	.000804	1.52	2.15	2.63	3.04	3.39	3.73	4.03	4.31	4.57	4.81	5.27	5.68	6.08	6.44	6.79	7.13	7.46	7.75	8.00
#66	.000855	1.63	2.32	2.83	3.27	3.64	4.01	4.33	4.63	4.91	5.18	5.66	6.11	6.54	6.93	7.30	7.65	8.02	8.33	8.60
#65	.000962	1.8	2.6	3.2	3.7	4.1	4.5	4.8	5.2	5.5	5.8	6.3	6.8	7.3	7.7	8.2	8.6	9.0	9.3	9.60
#64	.001018	1.9	2.7	3.4	3.9	4.3	4.8	5.1	5.5	5.8	6.1	6.7	7.3	7.8	8.2	8.7	9.1	9.5	9.9	10.2
#63	.001075	2.1	2.9	3.6	4.1	4.6	5.0	5.4	5.8	6.2	6.5	7.1	7.7	8.2	8.7	9.2	9.7	10.1	10.5	10.8
#62	.001134	2.2	3.0	3.7	4.3	4.8	5.3	5.7	6.1	6.5	6.8	7.5	8.0	8.6	9.1	9.6	10.1	10.5	11.0	11.3
#61	.001195	2.3	3.2	3.9	4.5	5.1	5.6	6.0	6.4	6.8	7.2	7.9	8.5	9.1	9.6	10.1	10.6	11.1	11.5	11.9
#60	.001257	2.4	3.4	4.2	4.8	5.4	5.9	6.4	6.8	7.2	7.6	8.3	9.0	9.6	10.2	10.7	11.2	11.8	12.2	12.6
#59	.001320	2.5	3.6	4.4	5.0	5.6	6.2	6.7	7.1	7.6	8.0	8.7	9.4	10.0	10.7	11.2	11.8	12.3	12.8	13.2
#58	.001385	2.6	3.7	4.6	5.3	5.9	6.4	7.0	7.4	7.9	8.3	9.1	9.8	10.5	11.1	11.7	12.3	12.9	13.4	13.8
#57	.001452	2.8	3.9	4.8	5.5	6.2	6.8	7.3	7.8	8.3	8.7	9.6	10.3	11.0	11.7	12.3	12.9	13.5	14.1	14.5
#56	.001698	3.2	4.6	5.6	6.5	7.2	7.9	8.5	9.1	9.7	10.2	11.2	12.1	12.9	13.7	14.5	15.2	15.8	16.5	17.0
3/64″	.001726	3.3	4.7	5.7	6.6	7.4	8.1	8.7	9.3	9.9	10.5	11.4	12.3	13.2	14.0	14.7	15.5	16.1	16.8	17.4
#55	.002124	4.0	5.7	7.0	8.0	9.0	9.8	10.6	11.3	12.0	12.6	13.8	15.0	16.0	17.0	17.9	18.8	19.6	20.4	21.1
#54	.002376	4.5	6.3	7.7	8.9	10.0	10.9	11.8	12.6	13.4	14.1	15.4	16.6	17.8	18.9	19.9	20.9	21.8	22.7	23.4
#53	.002780	5.2	7.3	8.9	10.3	11.5	12.6	13.6	14.6	15.5	16.3	17.8	19.3	20.6	21.8	23.0	24.2	25.2	26.3	27.1
1/16″	.003068	5.6	8.0	9.8	11.3	12.6	13.8	14.9	16.0	17.0	17.9	19.6	21.1	22.6	24.0	25.3	26.5	27.7	28.8	29.8
#52	.003167	5.8	8.3	10.1	11.7	13.1	14.3	15.5	16.5	17.6	18.5	20.3	21.9	23.4	24.8	26.2	27.4	28.7	29.9	30.8
#51	.003526	6.5	9.2	11.3	13.0	14.5	15.9	17.2	18.4	19.5	20.6	22.5	24.3	26.0	27.6	29.1	30.5	31.8	33.2	34.2
#50	.003848	7.1	10.1	12.4	14.3	16.0	17.5	18.9	20.2	21.4	22.6	24.8	26.7	28.6	30.3	32.0	33.5	35.1	36.5	37.6
#49	.004185	7.8	11.0	13.4	15.5	17.3	19.0	20.5	21.9	23.3	24.5	26.8	29.0	31.0	32.9	34.6	36.4	38.0	39.5	40.8
#48	.004536	8.5	12.0	14.6	17.0	19.0	20.8	22.5	24.0	25.5	26.9	29.5	31.8	34.0	36.1	38.0	39.9	41.7	43.4	44.7
3/64″	.004794	9.0	12.7	15.6	18.0	20.2	22.1	23.8	25.5	27.0	28.5	31.2	33.7	36.0	38.2	40.2	42.2	44.1	45.9	47.4
#47	.00484	9.1	12.9	15.8	18.2	20.3	22.3	24.1	25.7	27.3	28.8	31.6	34.0	36.4	38.6	40.7	42.7	44.6	46.4	47.9
#46	.00515	9.7	13.7	16.8	19.4	21.7	23.8	25.7	27.4	29.1	30.7	33.6	36.3	38.8	41.1	43.4	45.5	47.5	49.5	51.0
#45	.00528	10.0	14.1	17.3	20.0	22.4	24.5	26.4	28.3	30.0	31.6	34.6	37.4	40.0	42.4	44.7	46.9	49.0	51.0	52.6
#44	.00581	11.0	15.6	19.1	22.0	24.6	27.0	29.1	31.2	33.0	34.8	38.1	41.1	44.0	46.7	49.2	51.6	53.9	56.1	57.9
#43	.00622	11.8	16.6	20.4	23.5	26.3	28.8	31.1	33.2	35.2	37.2	40.7	44.0	47.0	49.8	52.5	55.1	57.5	60.0	61.8
#42	.00687	13.0	18.4	22.5	26.0	29.0	31.8	34.4	36.8	39.0	41.1	45.0	48.6	52.0	55.1	58.1	61.0	63.7	66.3	68.4
3/32″	.00690	13.0	18.4	22.5	26.0	29.1	31.9	34.5	36.9	39.1	41.2	45.1	48.7	52.1	55.2	58.2	61.1	63.8	66.4	68.5
#41	.00724	13.5	19.1	23.4	27.0	30.2	33.1	35.7	38.2	40.5	42.7	46.8	50.5	54.0	57.2	60.4	63.4	66.2	68.9	71.0
#40	.00754	14.0	19.8	24.3	28.0	31.3	34.3	37.0	39.6	42.0	44.3	48.5	52.4	56.0	59.4	62.6	65.6	68.6	71.5	73.6
#39	.00778	14.5	20.5	25.1	29.0	32.4	35.5	38.3	41.0	43.5	45.9	50.2	54.2	58.0	61.5	64.8	68.0	71.0	74.0	76.3

GAS CAPACITY OF INSPIRATOR ORIFICES—*Cubic Feet per Hour (Cont'd)*

LOW PRESSURE TABLE

SPECIFIC GRAVITY 0.60

Orifice Size	Orifice Area	Pressure at Orifice in Inches of Water Column																		
		1″	2″	3″	4″	5″	6″	7″	8″	9″	10″	12″	14″	16″	18″	20″	22″	24″	26″	1#
#38	.00809	15.0	21.2	26.0	30.0	33.5	36.8	39.7	42.4	45.0	47.4	52.0	56.1	60.0	63.6	67.0	70.4	73.5	76.5	78.9
#37	.00849	16.0	22.6	27.7	32.0	35.8	39.2	42.4	45.2	48.0	50.6	55.5	59.8	64.0	67.9	71.5	75.1	78.4	81.6	84.2
#36	.00891	17.0	24.1	29.5	34.0	38.0	41.6	45.0	48.1	51.0	53.8	58.9	63.6	68.0	72.1	76.0	79.7	83.4	86.7	89.5
7/64″	.00940	17.8	24.9	30.8	35.5	39.7	43.5	47.0	50.2	53.3	56.2	61.5	66.4	71.0	75.3	79.4	83.3	87.0	90.6	93.5
#35	.00950	18	25	31	36	40	45	48	51	55	57	63	68	73	77	81	85	89	92	95
#34	.00968	19	26	32	37	41	45	49	52	56	59	64	69	74	78	83	87	91	94	97
#33	.01003	19	27	33	38	43	47	51	54	57	60	66	71	76	81	85	89	93	97	100
#32	.01057	20	28	35	40	45	50	54	57	61	64	69	75	80	85	89	94	98	102	105
#31	.01131	22	30	37	43	48	53	57	61	65	68	74	80	86	91	96	101	105	110	113
1/8″	.01227	24	33	41	47	53	58	62	67	71	74	81	88	94	100	105	110	115	120	124
#30	.01297	25	35	43	50	56	61	66	70	75	79	86	93	100	106	112	117	122	127	131
#29	.01453	28	39	48	55	62	68	73	79	83	88	95	103	110	117	123	129	135	140	145
#28	.01550	30	42	51	59	66	72	78	84	88	94	102	110	118	125	132	138	144	150	155
9/64″	.01553	30	42	51	59	67	73	79	85	89	95	103	111	119	126	133	139	145	151	155
#27	.01629	31	44	54	62	70	76	83	88	94	99	107	116	124	131	138	145	151	158	163
#26	.01697	33	46	56	65	73	80	86	92	98	103	112	121	130	138	145	152	159	166	171
#25	.01755	34	47	58	67	75	82	89	95	101	106	116	125	134	142	150	157	164	171	176
#24	.01815	35	49	60	69	78	85	92	98	104	110	119	129	138	146	154	162	169	176	181
#23	.01863	36	50	62	71	80	87	94	101	107	113	123	133	142	150	159	166	174	181	187
5/32″	.01917	37	52	63	73	82	89	97	103	110	115	126	136	146	155	163	171	178	186	192
#22	.01936	37	52	64	74	83	91	98	105	111	117	128	138	148	157	165	173	181	189	195
#21	.01986	38	54	66	76	85	93	100	107	114	120	132	142	152	161	170	178	186	194	200
#20	.02036	39	55	67	78	87	95	103	110	117	123	135	146	156	165	174	183	190	198	205
#19	.02164	41	58	72	83	93	101	110	117	124	131	144	155	166	176	186	195	204	212	218
#18	.02256	42	61	75	87	97	106	115	123	130	137	151	162	174	184	194	204	213	222	229
11/64″	.02320	43	63	77	89	99	109	118	126	134	141	154	166	178	189	199	209	218	227	234
#17	.02351	44	64	78	90	101	110	119	128	135	143	156	168	180	191	201	211	220	230	237
#16	.02461	45	67	82	94	105	116	125	134	142	149	162	176	188	199	210	220	230	239	247
#15	.02545	47	69	84	97	109	119	129	138	146	154	168	181	194	206	218	227	237	247	255
#14	.02602	48	70	86	100	112	122	132	141	150	158	173	187	200	212	224	234	245	255	263
#13	.02688	50	73	89	103	115	126	137	145	155	163	178	192	206	218	230	242	252	263	271
3/16″	.02761	51	75	92	106	118	130	140	150	159	168	183	198	212	225	237	249	260	270	279
#12	.02806	52	76	93	108	121	132	143	153	162	171	187	202	216	229	241	253	265	275	284
#11	.02865	54	78	95	110	123	135	146	156	165	174	190	206	220	233	246	258	270	280	290
#10	.02941	55	79	97	113	126	138	149	159	169	178	196	211	226	240	253	265	277	288	297
#9	.03017	56	82	100	116	130	142	153	164	174	184	201	217	232	246	259	272	284	296	305
#8	.03110	58	84	103	119	133	146	158	169	179	189	206	223	238	252	266	279	292	304	313
#7	.03173	60	86	105	122	136	149	161	172	183	193	211	228	244	259	272	286	299	311	321
13/64″	.03240	61	88	108	124	139	152	165	176	187	197	215	232	248	263	277	291	304	317	326
#6	.03269	62	89	109	126	140	154	166	178	189	199	218	236	252	267	282	296	309	321	332
#5	.03317	63	89	110	127	142	155	168	179	190	201	220	238	254	269	284	298	311	324	334
#4	.03431	65	93	114	132	147	161	174	186	198	208	228	247	264	280	296	310	323	337	348
#3	.03563	66	97	118	137	153	168	181	194	205	216	237	256	274	290	306	321	336	349	360
7/32″	.03758	70	102	125	144	161	176	191	204	216	228	249	269	288	305	322	338	353	367	379
#2	.03836	72	104	128	148	165	181	195	209	221	233	256	277	296	314	331	347	363	378	390
#1	.04083	76	111	136	157	175	192	207	222	235	248	272	294	314	333	351	368	385	400	413
"A"	.04301	80	115	143	165	185	202	220	234	247	260	286	309	330	350	369	387	405	421	435
15/64″	.04314	81	117	144	166	186	204	222	237	250	263	287	311	332	352	371	390	407	424	437
"B"	.04449	85	120	148	172	192	210	226	242	255	270	298	322	344	365	385	404	421	439	452
"C"	.04600	87	125	153	176	200	216	235	252	265	280	305	329	352	373	393	413	432	449	463

Carlisle GAS BURNER CORP.

MILLVILLE, N. J.

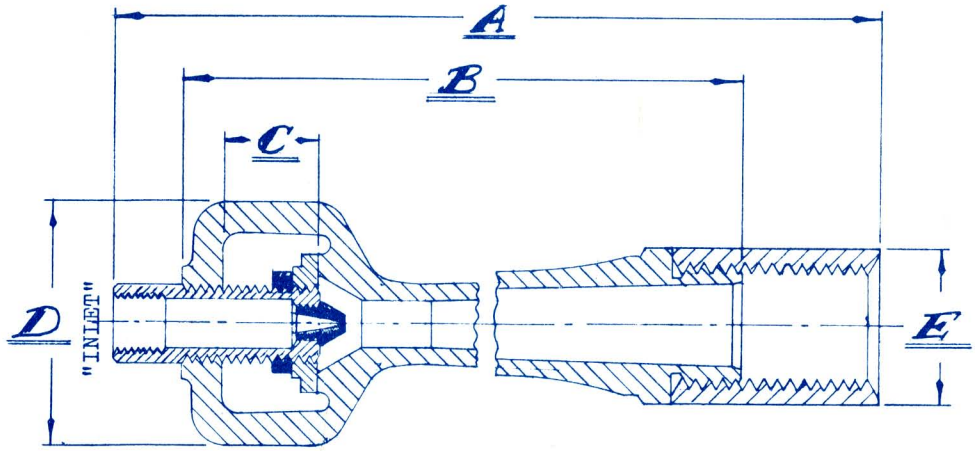
V SERIES INSPIRATORS

Carlisle "V" Series Inspirators use a Gas Jet to Inspirate primary air from the atmosphere, thus forming a Gas-Air Mixture for combustion in Carlisle Pipe and Ribbon Burners as well as in Open Fire Burners.

A constant Air- Gas Ratio is maintained throughout the range of firing rates. This is true in sealed-in premixed furnace Burners if the furnace pressure is atmospheric.

Machining of throat and careful aligning of internal parts insures maximum efficiency of these Inspirators .....

CAPACITY TABLES (following pages) are for 100% primary air.



SELECTION CHART FOR V SERIES INSPIRATORS

NO.	A	B	C	D	E	INLET
V-1	7 1/4	5 3/4	.687	1 3/4	1/2" COUPLING	1/8" NPT
V-2	8 29/32	7 5/16	.687	1 15/16	3/4" COUPLING	1/8" NPT
V-3	11 3/32	9 1/4	1.125	2 25/32	1" COUPLING	3/8" NPT
V-4	13 15/16	12	1.532	3 11/32	1 1/4" COUPLING	3/8" NPT
V-5	15 1/32	13 7/32	1.532	3 9/16	1 1/2" COUPLING	3/8" NPT
V-6	18 3/8	16 1/2	1.750	4 1/8	2" COUPLING	1/2" NPT

Carlisle GAS BURNER CORP.

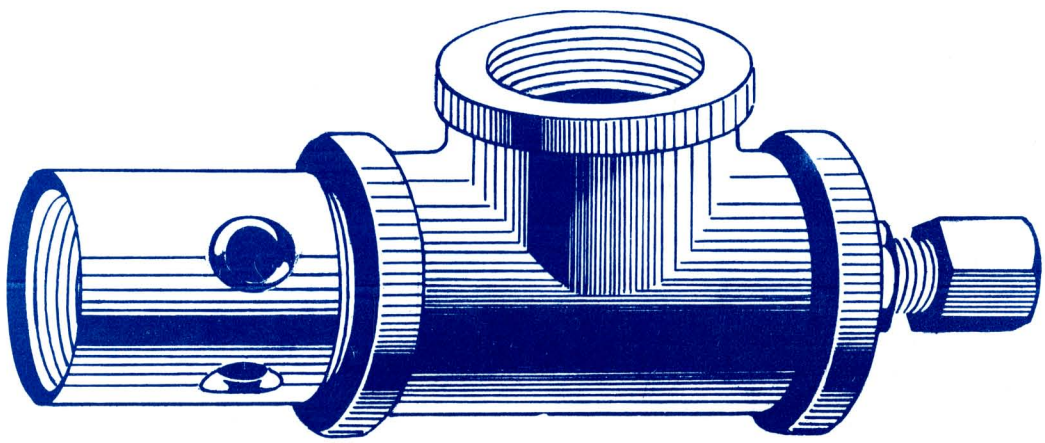
"HP" SERIES INSPIRATORS
(High Pressure)

Carlisle "HP" Inspirators are used where Burner Head Pressures of .5 PSIG or Less are required. These Inspirators use a Primary Venturi and a Secondary Inspirator to entrain up to 90% of the total air required for combustion.

Primary HIGH PRESSURE AIR of from 10 to 15 PSIG is required .....

Injector type design of High Pressure Stage prevents feed back into the Gas line.

Another advantage of the "HP" Inspirator is evident when the cost of High Pressure Air is calculated. These units are ideally suited to Manual Control Operations for a wide range of heating applications where low pressure air is not available.



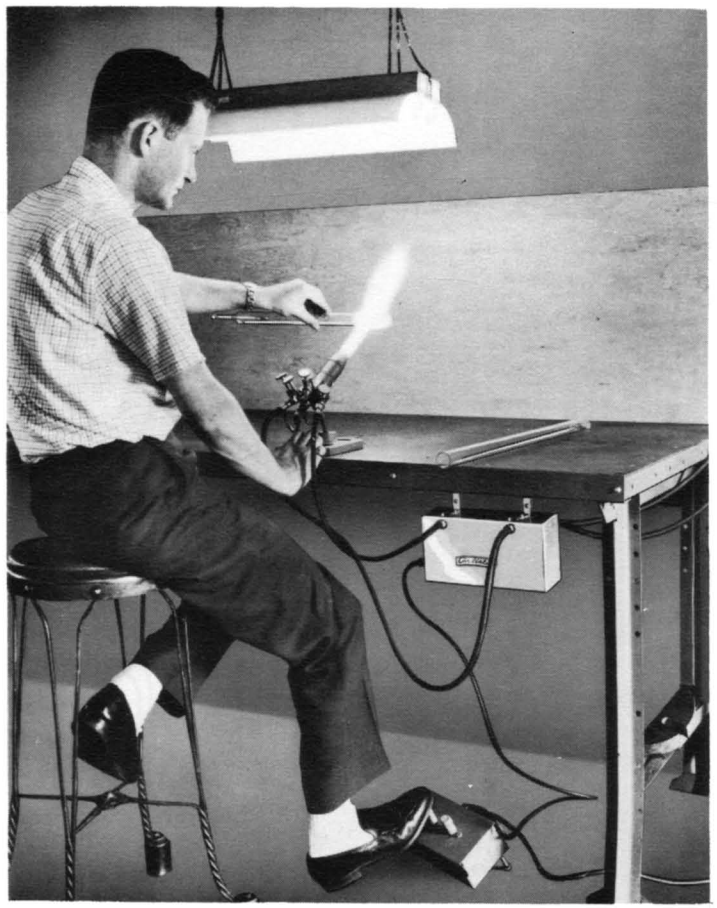
SELECTION CHART - HIGH PRESSURE INSPIRATORS

INSPIRATOR NUMBER	INLETS		OUTLET SIZE	BURNER PORT AREA TOTAL/MIXER
	GAS	AIR		
22	½ NPT	¼ NPT	½" NPT	.148 sq. in.
33	¾ NPT	¼ NPT	¾" NPT	.252 sq. in.
44	1" NPT	¼ NPT	1" NPT	.43 sq. in.
55	1¼" NPT	¼ NPT	1¼" NPT	.89 sq. in.
66	1½" NPT	3/8 NPT	1½" NPT	1.43 sq. in.
77	2" NPT	3/8 NPT	2" NPT	2.45 sq. in.

Carlisle GAS BURNER CORP.

MILLVILLE, N. J.

GAS SAVERS - - - SOLENOID OPERATED



EL-2 GAS SAVER used in conjuction with CARLISLE (CC) BURNER

TWO MODELS AVAILABLE . . . .

EL-2 for use with Gas - Oxygen

EL-3 for use with Gas - Air - Oxygen

BOTH MODELS COMPLETE – Ready to Install

FOOT CONTROLLED – Sturdy, Convenient and Easy to Operate . . . .

VALVE ENCLOSURE – Light Weight Housing with Mounting Brackets – Ready for Installation . . . .

ELECTRICAL CORDS – Sufficient Length Provided for Immediate Use . . . .

EASY TO USE – Both the Experienced and Inexperienced will find ease of operation without Fear of Flashback . . . .

MONEY SAVING – No Waste of Gas or Oxygen while Burners are not in use . . . .

INSTANT IGNITION – Full Flame is instantly available without the necessity of turning on Valves . . . . .

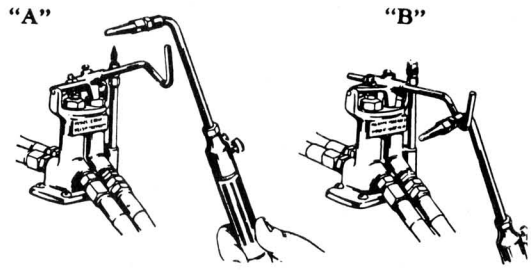
Carlisle GAS BURNER CORP. MILLVILLE, N. J.

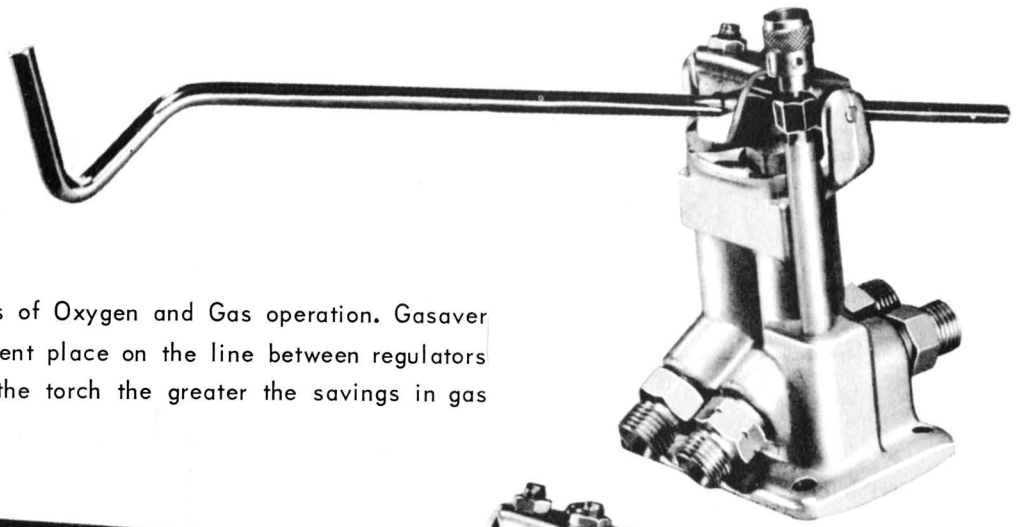
GAS SAVERS

Bulletin 1513

The original gas saving method of cutting your production costs. Oxygen and gas consumption has been cut 25 to 30 per cent and in many cases even more, by installing the Weldit Gasaver. The type of job being worked on is the principle factor in determining how much of a saving can actually be made. However, many users consider that the increase in working operations alone soon pays for the small cost of the Gasaver.

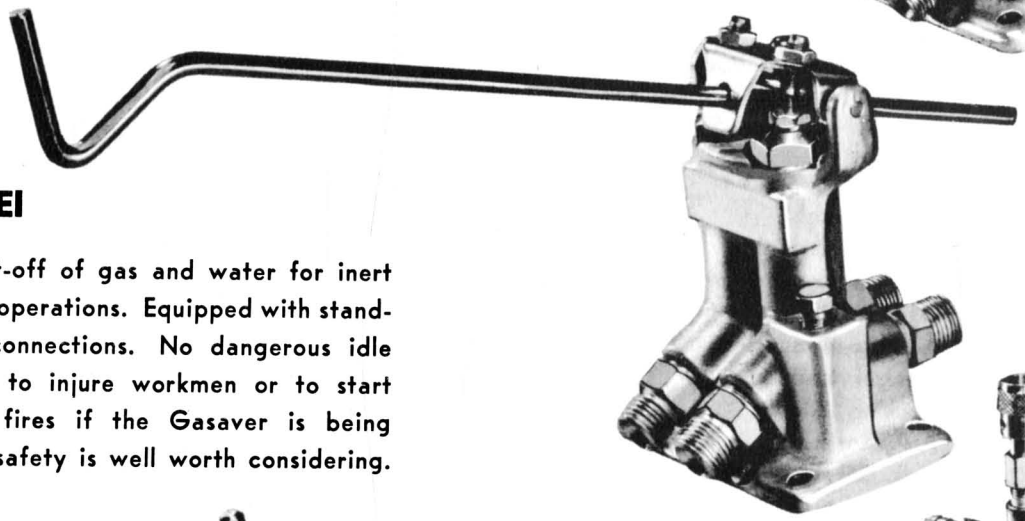
"A"—Shows the ignited torch about to be hung on the lever rod of the Gasaver. "B"—When the torch is hung in place the flame is automatically extinguished. To relight, pick torch off lever rod and pass over pilot light which instantly ignites it to pre-determined flame.





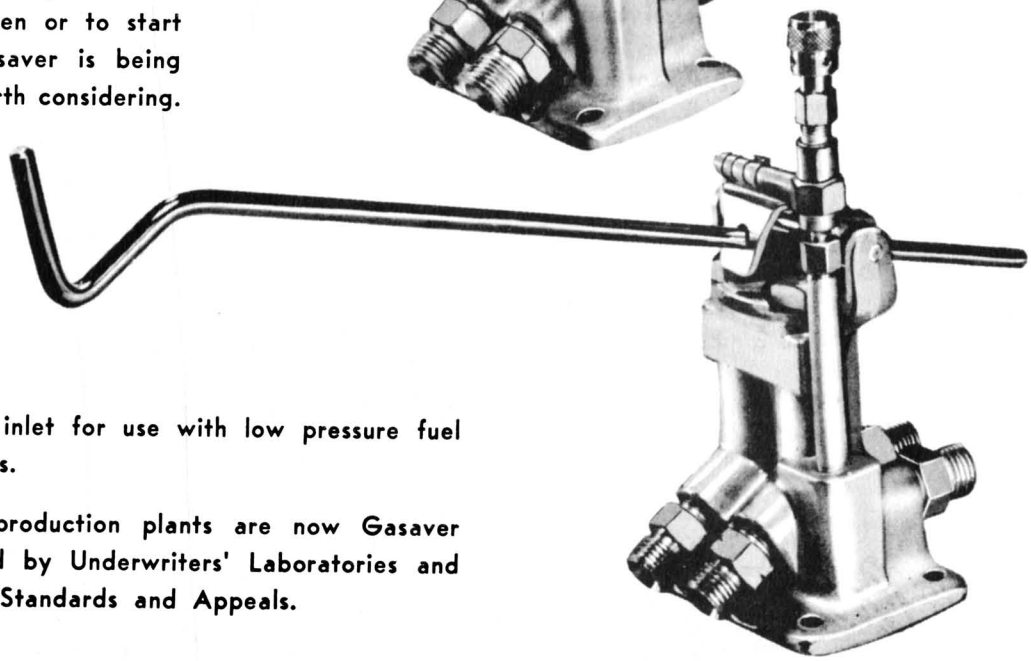
W-101
MODEL E

For general use on all types of Oxygen and Gas operation. Gasaver can be installed any convenient place on the line between regulators and torch — the closer to the torch the greater the savings in gas and oxygen.



W-102
MODEL EI

Positive shut-off of gas and water for inert arc-welding operations. Equipped with standard water connections. No dangerous idle torch flame to injure workmen or to start unexpected fires if the Gasaver is being used. Such safety is well worth considering.

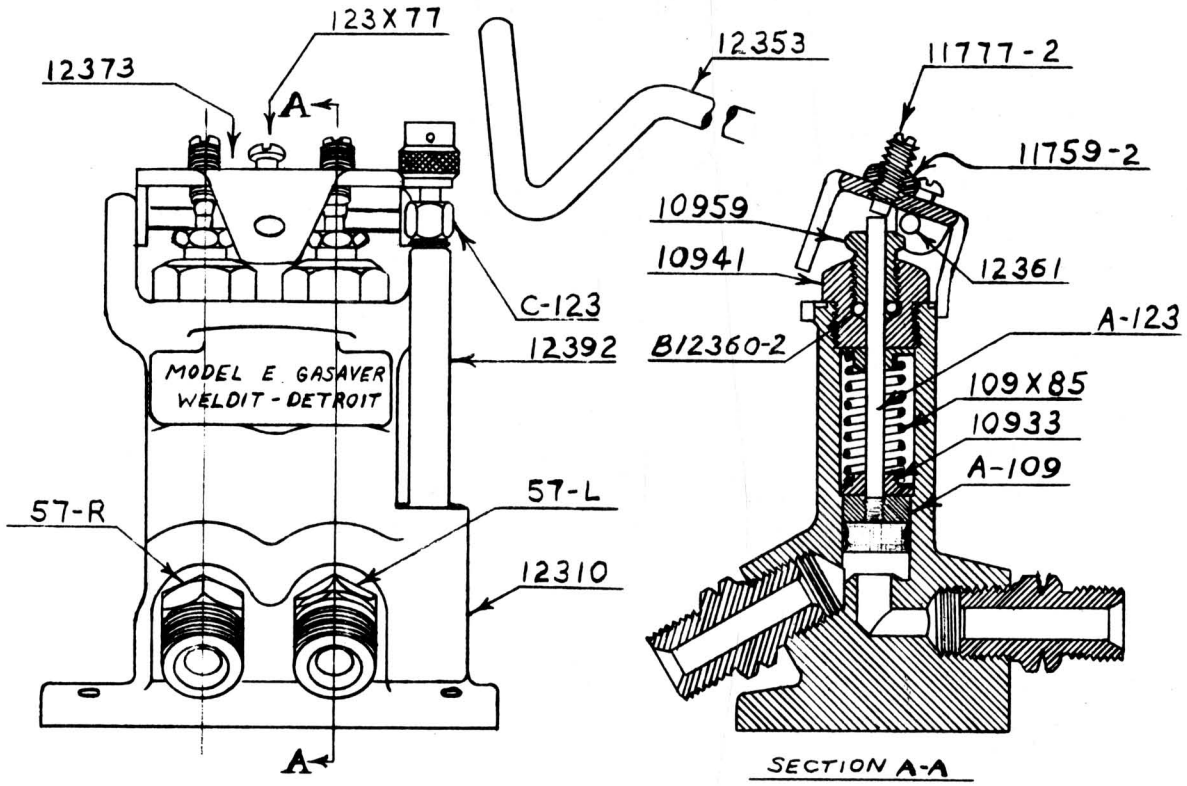


W-103
MODEL ELP

Equipped with separate fuel inlet for use with low pressure fuel gas with injector type torches.

Most of America's largest production plants are now Gasaver equipped. Listed as standard by Underwriters' Laboratories and by New York City Board of Standards and Appeals.

GASAVERS PARTS LIST



Complete with connections. Furnished standard with adjustable arm for any weight welding torch. Gasavers can also be furnished for Butane, Natural or Artificial Gas and Compressed Air.

MODEL E GASAVER PARTS

W-8446	A109	Seat
W-1542	A123	Rod Assembly
W-1566	B123	Plunger Assembly
W-1507	C123	Pilot Light — Acetylene
W-8113	57R	Oxygen Bushing
W-8112	57L	Acetylene Bushing
W-9305	10941-2	Plunger Rod Bushing
W-6045	10959	Packing Gland
W-7887	11759-2	Adj. Screw Lock Nut
W-7736	11777-2	Adj. Screw
W-9303	12310	Body
W-9286	12353	Lever
W-9315	12361	Pinion Rod
W-8805	12373	Saddle
W-7730	12377	Lever Rod Lock Screw
W-6056	12392	Pilot Light Tube
W-8406	B12360-2	Plunger Packing
W-6146	10933	Spring Saddle
W-7809	10985	Spring
W-6265	C12390	Lava Pilot Light Tip

MODEL EI GASAVER PARTS
that differ from Model E

W-8114	898	Water Bushing — replaces 57L
W-6232	12367	Plug — replaces 12392 & C123

MODEL E-LP GASAVER PARTS
that differ from Model E

W-1506	C-123A	Adapter
W-1508	C-123-2	Pilot Light, Nat. Gas
W-1533	C-123L	Pilot Light Assembly — includes C123A & C123-2 — replaces C123

SC-310

Carlisle GAS BURNER CORP.

MILLVILLE, N. J.

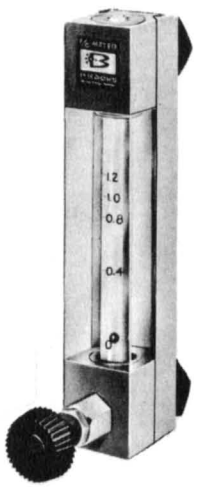
E/C™ (EXTRUDED CHANNEL) FLOWMETERS
Model 1550-65 mm, Model 1555-150 mm, Model 1560-250 mm

DESCRIPTION

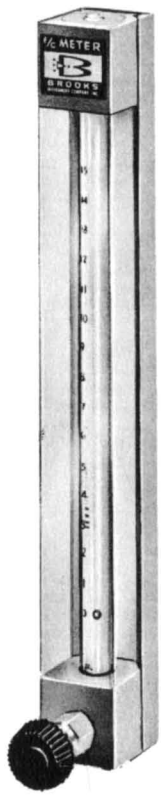
Series 1500 E/C Flowmeters are low cost instruments for measuring liquid or gas flow rates. Units employ a unique, extruded channel-lock design. This permits a single aluminum frame to hold a choice of wetted materials. E/C Flowmeters are available in 65 mm, 150 mm, or 250 mm scale lengths.

DESIGN FEATURES

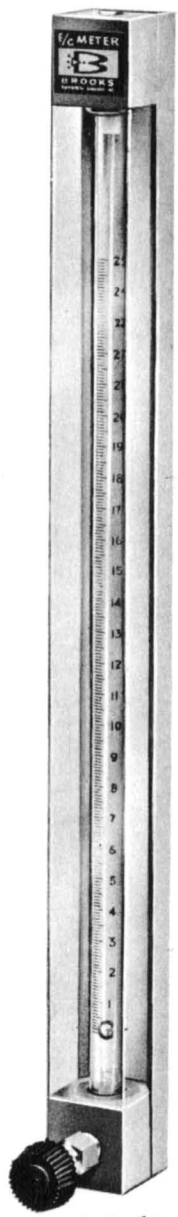
Extruded channel construction
Optional cartridge type, needle flow control valve
Full snap-on acrylic plastic safety shielding
Quick interchangeability of tubes and floats
Wide selection of interchangeable standard tubes and floats



Model 1550-V



Model 1555-V



Model 1560-V

Corresponding models without needle valves: 1550, 1555, and 1560

MATERIALS OF CONSTRUCTION

Metering Tubes . . . . Borosilicate Glass (Ribbed tubes in Models 1555 and 1560 only)

Metering Floats . . . . Standard: 316 Stn. Stl., Glass; Optional: Carboloy, Sapphire, Tantalum

End Fittings . . . . . Anodized Aluminum

Inserts . . . . . Brass, 316 Stainless Steel

Channel-lock Frame . . Anodized Aluminum

Float Stops . . . . . Standard: Teflon* Optional: Stainless Steel

Packing . . . . . Standard: Buna-N O-rings and Neoprene tube packing for meters with Aluminum or Brass inserts; Viton-A* O-rings and tube packing for meter with Stainless Steel inserts
Optional: Kel-F* O-rings and Viton-A tube packing; Kel-F O-rings and Teflon tube packing; Viton-A O-rings and tube packing.

*TRADEMARKS
Kel-F - Minnesota Mining & Mfg. Co.
Teflon - E.I. duPont deNemours & Co., Inc.
Viton-A - E.I. duPont deNemours & Co., Inc.

MATERIALS OF CONSTRUCTION (Cont'd)

Valves (Optional)	Brass seat with Stainless Steel stem for meters with Aluminum or Brass inserts. All Stainless Steel for meters with Stainless Steel inserts.
Safety Shield	Extruded acrylic plastic

SCALES

Length	65 mm Model 1550, 150 mm Model 1555, 250 mm Model 1560
Type	On metering tubes (Contrasting yellow background on 65 & 150 mm tubes.)
Graduations	0-65 mm, 0-150 mm, 0-250 mm, or 0-100 linear reference scale with air or water calibration curve; standard direct reading decal scales. Percent of maximum flow scales are available for models 1555 and 1560, apply to factory.

RATINGS

Pressure	200 psig maximum (Caution: do not use meter in excess of this pressure)
Temperature	200°F maximum

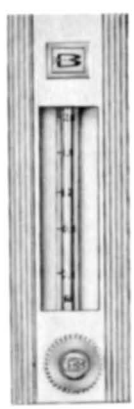
PERFORMANCE

Accuracy	Standard - Model 1550 ± 10%, Model 1550 ± 5%, Model 1560 ± 3%. Accuracy specified for maximum scale from 100 to 10% of scale reading (conforms to ISA RP 16.1.2.3).
Reproducibility	Model 1550 - within 1/2% of instantaneous reading. Model 1555 and 1560 - within 1/4% of instantaneous reading.

PRESSURE DROP (Inquire at factory.)

CONNECTIONS

Standard	Horizontal female 1/8" NPT with front panel mounting nuts.
Optional	1/4" NPT or Hose Adapters Aluminum, Brass or Stainless Steel.



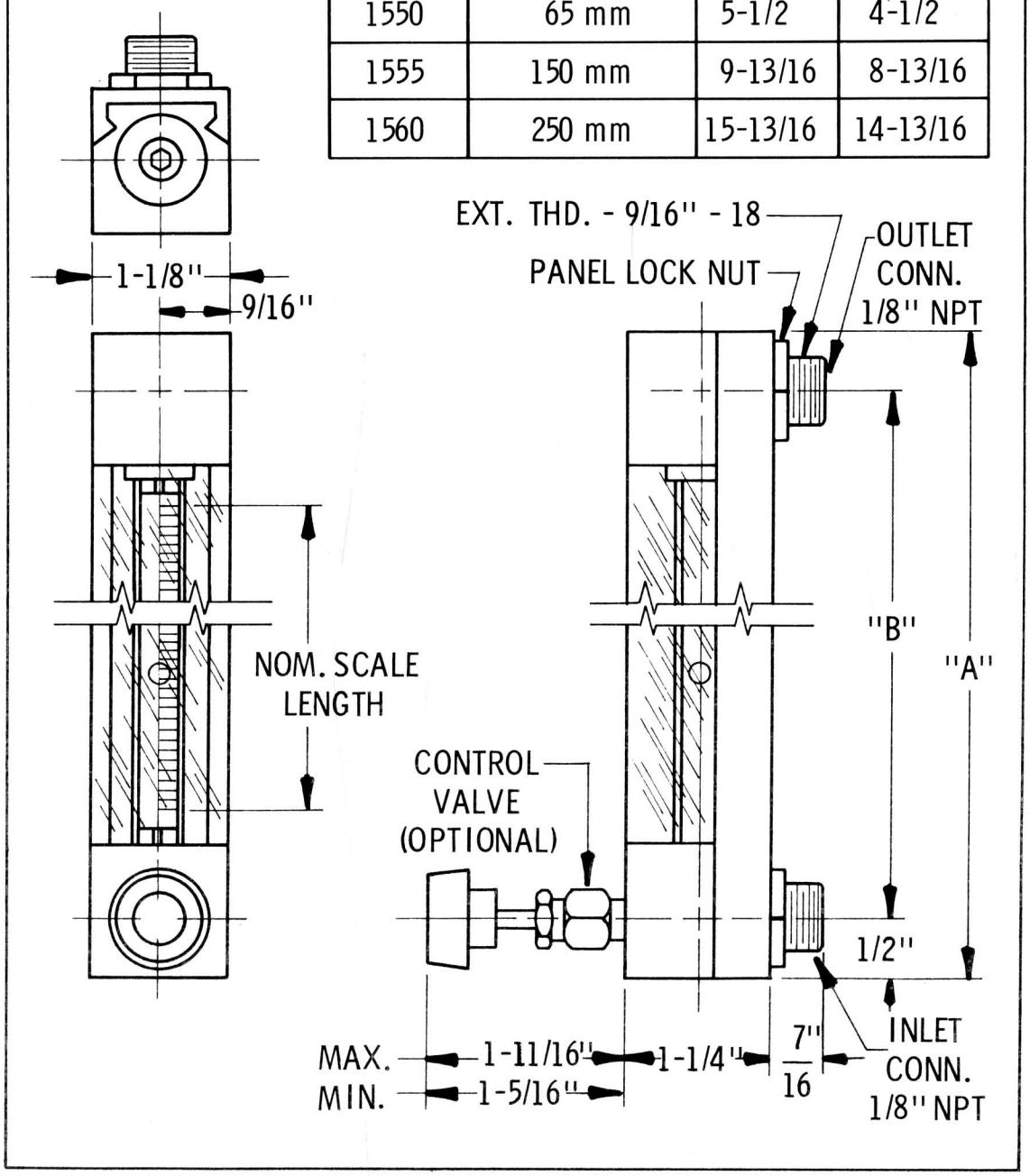
Aluminum bezel for attractive, flush mounting of purge meters. Meters are adaptable to rear, in-line, or gang mounting.

OPTIONAL EQUIPMENT AVAILABLE

Key-lock valves for valves with key lock stem adjustment.
Special cut-off tubes for Model 1550
#6-65D High capacity tubes for Model 1550 (2-30 GPH, Carboloy float)
Base Plates

DIMENSIONS (For certified dimension prints, write to factory.)

MODEL	NOMINAL SCALE LENGTH	A	B
1550	65 mm	5-1/2	4-1/2
1555	150 mm	9-13/16	8-13/16
1560	250 mm	15-13/16	14-13/16



CAPACITIES

E/C Flowmeter Model 1560

250 MM SCALE, RIB GUIDE TUBES, SPHERICAL FLOATS

Meter Size	Tube No.	Float Material	Maximum Flow Rate	
			Water (cc/min.)	Air ⁄ (SCFH)
2	R-2-25-D	Glass	5.60	0.769
		Sapphire	10.1	1.05
		Stn. Stl.	20.0	1.69
		Carboloy	33.7	2.53
		Tantalum	36.3	2.70
2	R-2-25-A	Glass	18.2	1.83
		Sapphire	28.8	2.42
		Stn. Stl.	50.0	3.67
		Carboloy	76.2	5.30
		Tantalum	81.7	5.76
2	R-2-25-B	Glass	50.5	4.68
		Sapphire	75.7	6.19
		Stn. Stl.	126	9.33
		Carboloy	192	13.6
		Tantalum	206	14.5
2	R-2-25-C	Glass	85.8	7.98
		Sapphire	130	10.3
		Stn. Stl.	215	15.7
		Carboloy	330	22.2
		Tantalum	356	23.8
6	R-6-25-A	Glass	202	18.2
		Sapphire	299	23.6
		Stn. Stl.	493	34.6
		Carboloy	730	48.7
		Tantalum	785	51.6
6	R-6-25-B	Glass	552	48.1
		Sapphire	806	61.8
		Stn. Stl.	1290	90.0
		Carboloy	1900	126
		Tantalum	2030	133

⁄ All air flows given are at 14.7 psia and 70°F.

E/C Flowmeter Model 1555

150 MM SCALE, RIB GUIDE TUBES, SPHERICAL FLOATS

Meter Size	Tube No.	Float Material	Maximum Flow Rate	
			Water (cc/min.)	Air ⁄
2	R-2-15-AAA	Glass	0.61	51 cc/min.
		Sapphire	1.14	77 "
		Stn. Stl.	2.50	148 "
		Carboloy	5.28	256 "
		Tantalum	5.84	279 "
2	R-2-15-AA	Glass	1.02	90.9 "
		Sapphire	1.98	138.8 "
		Stn. Stl.	4.96	268.0 "
		Carboloy	9.30	453.5 "
		Tantalum	10.45	488.0 "
2	R-2-15-D	Glass	5.8	378 "
		Sapphire	10.5	518 "
		Stn. Stl.	20.8	832 "
		Carboloy	35.0	1245 "
		Tantalum	37.8	1330 "
2	R-2-15-A	Glass	17.8	1.79 SCFH
		Sapphire	28.2	2.37 "
		Stn. Stl.	48.9	3.59 "
		Carboloy	74.6	5.18 "
		Tantalum	79.9	5.64 "
2	R-2-15-B	Glass	53.2	4.93 "
		Sapphire	79.8	6.52 "
		Stn. Stl.	133.4	9.83 "
		Carboloy	202.0	14.36 "
		Tantalum	217.0	15.3 "
2	R-2-15-C	Glass	88.0	8.18 "
		Sapphire	133.2	10.6 "
		Stn. Stl.	221.0	16.1 "
		Carboloy	338.0	22.8 "
		Tantalum	365.0	24.4 "
2	R-6-15-A	Glass	206	18.5 "
		Sapphire	304	24.0 "
		Stn. Stl.	502	35.2 "
		Carboloy	742	49.6 "
		Tantalum	798	52.6 "
6	R-6-15-B	Glass	564	49.2 "
		Sapphire	824	63.2 "
		Stn. Stl.	1323	92.0 "
		Carboloy	1944	129.0 "
		Tantalum	2078	136.0 "

E/C Flowmeter Model 1550

65 MM SCALE, PLAIN TUBES, SPHERICAL FLOATS

Tube & Float	CFH Air ⁄	Tube & Float	GPH Water
1-65A Glass	0.2 - 1.2	1-65C Glass	0.01 - 0.14
2-65A Glass	0.2 - 2.0	2-65C Stn. Stl.	0.05 - 0.5
2-65B Stn. Stl.	0.5 - 5.0	2-65D Stn. Stl.	0.1 - 1.0
3-65A Glass	0.5 - 6.0	3-65C Glass	0.05 - 0.7
3-65B Stn. Stl.	1.0 - 10	3-65D Stn. Stl.	0.10 - 1.6
4-65A Glass	1.2 - 12	4-65C Glass	0.2 - 2.0
4-65B Stn. Stl.	2.0 - 18	4-65D Stn. Stl.	0.5 - 4.0
5-65A Glass	5.0 - 45	5-65C Glass	1.0 - 9.0
5-65B Stn. Stl.	10.0 - 80	5-65D Stn. Stl.	2.0 - 17
6-65A Glass	5.0 - 60	6-65C Glass	1.0 - 11
6-65B Stn. Stl.	10.0 - 90	6-65D Stn. Stl.	2.0 - 20
		6-65F Carboloy	3.0 - 30

These specifications are subject to change without notice.

Printed in U. S. A.

Carlisle GAS BURNER CORP.

MILLVILLE, N. J.

TWO STAGE REGULATORS

1100 Series (*Forged Aluminum Alloy*)

Performance—Plus

- *durable, precision-made parts*
- *highest quality materials and workmanship*
- *adjusting mechanism ball bearing actuated and fully protected*
- *simplified design, virtually trouble free*
- *easy access to all parts without special tools*

The KGM 1100 Series two-stage regulator is the result of nearly 50 years experience in regulator engineering and manufacturing. Truly a triumph in precision regulation, KGM 1100 Series regulators provide the ultimate in long-lasting, dependable service. 1100 Series regulators deliver *constant* working pressure and volume from full cylinder inlet pressure to the end point where inlet pressure approaches working pressure.

GAS SERVICE	COMM. NO.	DELIVERY RANGE	FLOW CAPACITY	INLET CONNECTION	INLET CGA	OUTLET FITTING	GAGES HP	GAGES LP	GAGE SIZE
		PSI	CFH						
*OXYGEN	231-C-220054	0-50	2000	.908—14 RH—FEMALE	540	"B" RH	4000	60	2½"
OXYGEN	231-K-220154	0-100	3000	.908—14 RH—FEMALE	540	"B" RH	4000	200	2½"
OXYGEN	231-7-220254	0-175	4800	.908—14 RH—FEMALE	540	"B" RH	4000	400	2½"
ACETYLENE	231-G-223030	0-15	500	.830—14 RH—FEMALE	300	"B" LH	500	15	2½"
ACETYLENE (POL)	231-L-223151	0-15	500	.880—14 LH—MALE	510	"B" LH	500	15	2½"
HYDROGEN	231-C-226035	0-50	6000	.830—14 LH—FEMALE	350	"B" LH	4000	100	2½"
HELIUM	231-6-222035	0-50	5000	.830—14 LH—FEMALE	350	"B" LH	4000	100	2½"
NITROGEN	231-K-228058	0-100	3000	.960—14 RH—MALE	580	"B" RH	4000	200	2½"
NITROGEN	231-B-228159	0-100	2750	.960—14 LH—MALE	590	"B" LH	4000	200	2½"
*ARGON	231-Y-221058	0-100	3000	.960—14 RH—MALE	580	"B" RH	4000	200	2½"

SINGLE STAGE REGULATORS

1200 Series (*Forged Aluminum Alloy*)

Two Stage Performance—
Single Stage Price

- *strong, light, corrosion resistant*
- *nylon reinforced diaphragms*
- *stainless steel filter virtually eliminates seat failure*
- *damage-proof adjusting screw assembly with stainless steel stem and Herculoy riser*

The KGM 1200 Series regulators provide superior performance, longer life, and simplified maintenance; the result of an entirely new design. The built-in filter check unit keeps out foreign matter (even sand and cement dust). The filter also reduces the velocity of high pressure gas when a fresh tank is opened.

GAS SERVICE	COMM. NO.	DELIVERY RANGE	FLOW CAPACITY	INLET CONNECTION	INLET CGA	OUTLET FITTING	GAGES HP	GAGES LP	GAGE SIZE
		PSI	CFH						
OXYGEN	231-G-120054	0-50	2000	.908—14 RH—FEMALE	540	"B" RH	4000	60	2½"
OXYGEN	231-H-120154	0-100	3000	.908—14 RH—FEMALE	540	"B" RH	4000	200	2½"
OXYGEN	231-A-120254	0-175	4800	.908—14 RH—FEMALE	540	"B" RH	4000	400	2½"
ACETYLENE	231-L-123030	0-15	500	.830—14 RH—FEMALE	300	"B" LH	500	15	2½"
ACETYLENE (POL)	231-Q-123151	0-15	500	.880—14 LH—MALE	510	"B" LH	500	15	2½"
HYDROGEN	231-G-126035	0-50	6000	.830—14 LH—FEMALE	350	"B" LH	4000	100	2½"
CARBON DIOXIDE	231-7-127032	0-50	1700	.830—14 RH—FEMALE	320	"B" RH	4000	60	2½"
NITROGEN	231-P-128058	0-100	3000	.960—14 RH—MALE	580	"B" RH	4000	200	2½"
*NITROGEN	231-9-128259	0-100	3000	.960—14 LH—MALE	590	"B" LH	4000	200	2½"
PROPANE	231-H-123251	0-50	1600	.880—14 LH—MALE	510	"B" LH	500	100	2½"
ARGON	231-4-121058	0-100	2750	.960—14 RH—MALE	580	"B" RH	4000	200	2½"
HELIUM	231-0-122035	0-50	5000	.830—14 LH—FEMALE	350	"B" LH	4000	100	2½"

NOTES: Inlet fittings are KGM standards and comply with CGA standards. Fittings other than KGM (CGA) standards available on request.

PSI—pounds pressure per square inch. CFH—cubic feet flow per hour.

*Nonstock item, delivery on request.

PLEASE ORDER BY COMMODITY NUMBER

Carlisle GAS BURNER CORP.

MILLVILLE, N. J.

PIPELINE STATION REGULATORS

1500 Series (*Forged Aluminum Alloy*)

Single Stage Regulators for Efficient, Economical Pipeline Service

- *constant, accurate regulation at normal pipeline pressures*
- *many parts interchangeable with standard cylinder regulators*
- *virtually maintenance-free*

KGM 1500 Series pipeline station regulators incorporate typical KGM quality construction and design. For low volume, low pressure applications or heavy duty cutting service, KGM pipeline station regulators provide top performance. Hydrogen service models available for welding, hydrogenation processes, and metallurgical furnace applications.

Do not use KGM pipeline station regulators on cylinders. Allow at least 25 lb. differential between line pressure and desired working pressure. Pipeline regulators are designed for 300 lb. pressure maximum.

GAS SERVICE	COMM. NO.	DELIVERY RANGE	FLOW CAPACITY	INLET CONNECTION	INLET CGA	OUTLET FITTING	GAGE	GAGE SIZE
		PSI	CFH					
*OXYGEN	231-2-150154	0-50	2000	.908—14 RH—FEMALE	540	"B" RH	60	2½"
OXYGEN	231-3-150154	0-100	3000	.908—14 RH—FEMALE	540	"B" RH	200	2½"
*OXYGEN	231-T-150254	0-175	4800	.908—14 RH—FEMALE	540	"B" RH	400	2½"
ACETYLENE	231-6-153030	0-15	500	.830—14 RH—FEMALE	300	"B" LH	15	2½"
NITROGEN	231-9-158058	0-100	3000	.960—14 RH—MALE	580	"B" RH	200	2½"

"ON GUARD" REGULATORS

SINGLE STAGE MODELS (*Forged Aluminum Alloy*)

Patented Gage Guard for Positive Protection

- *spring lock action gage guard strong enough to withstand impact of accidental cylinder upset*
- *durable, uniform, precision made parts of highest quality materials—many parts interchangeable from one stage to two stage models*
- *stainless steel inlet nipple withstands rough handling*

KGM "ON GUARD" regulators stay on the job, not on the shelf. Carefully engineered for long life under extreme operating conditions, "ON GUARD" regulators provide top economy, safety, and performance. Practically no repair necessary, internal or external.

SINGLE STAGE MODELS

GAS SERVICE	COMM. NO.	DELIVERY RANGE	FLOW CAPACITY	INLET CONNECTION	INLET CGA	OUTLET FITTING	GAGES HP	GAGES LP	GAGE SIZE
		PSI	CFH						
OXYGEN	231-7-140054	0-100	3000	.908—14 RH—FEMALE	540	"B" RH	4000	200	2"
OXYGEN	231-8-140154	0-175	4800	.908—14 RH—FEMALE	540	"B" RH	4000	400	2"
ACETYLENE	231-A-143030	0-15	500	.830—14 RH—FEMALE	300	"B" LH	500	15	2"
ACETYLENE (POL)	231-E-143151	0-15	500	.880—14 LH—MALE	510	"B" LH	500	15	2"
PROPANE	231-E-143251	0-100	3000	.880—14 LH—MALE	510	"B" LH	500	100	2"

NOTES: Inlet fittings are KGM standard and comply with CGA standards. Fittings other than KGM (CGA) standards available on request.
PSI—pounds pressure per square inch. CFH—cubic feet flow per hour. PLEASE ORDER BY COMMODITY NUMBER

Carlisle GAS BURNER CORP.

MILLVILLE, N. J.

WET-CUT

Glass Cut-off Machines

NO. CGB-21-A **NO. CGB-41-B**

These Models are identical in construction except that the CGB-21-A uses a 12" Wheel and the CGB-41-B uses a 14" Wheel.

Both Models are constructed of Heavy Cast Iron, with Galvanized Pans. Wagon Bars and Main Shaft are of Cold Rolled Steel.

Since both Models are intended for Light Duty work, a 1/2 H.P. Motor is sufficient.

OBSOLETE

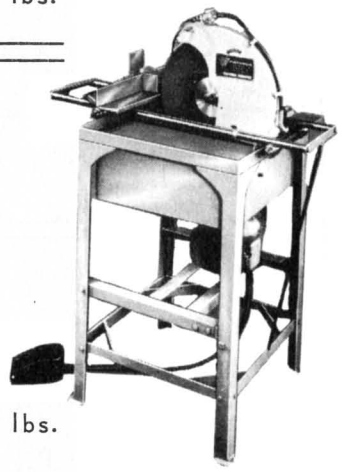
CGB-21-A

Uses 12" OD Wheel x ¾" Hole
Cutting Depth – 3½"
Maximum Diameter of Work – 8"

CGB-41-B

Uses 14" OD Wheel x ¾" Hole
Cutting Depth – 4½"
Maximum Diameter of Work – 7"

Width – 19" Depth – 21" Height – 48" Net Weight – 165 lbs.



NO. CGB-41-C

This Model is basically the same as Model CGB-41-B except that it is constructed for heavier work. This Model is recommended for use with a ¾ H.P. Motor and has an adjustable Motor Base for taking up belt tension.

Uses 14" OD Wheel x ¾" Hole
Cutting Depth – 4½"
Maximum Diameter of Work – 7"

Width – 19" Depth – 21" Height – 48" Net Weight – 170 lbs.

NO. CGB-21

Bench Model Cut-Off Machine has ball bearing pivoting carriage with work table 1½" x 1½" angle and two adjustable Sprayers for Coolent.

Uses 12" OD Wheel x ¾" Hole
Cutting Depth – 1½"
Maximum Diameter of Work – 2"

Width – 20½" Depth – 19" Height – 15½" Net Weight – 43 lbs.
Motor – 1/3 H.P., 110 V, 1 phase, 1725 RPM, with cord and switch

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Recommended Motor:
Either ¾ or 1 H.P.

NO. CGB-41-D

Heavy Duty Machine with the following outstanding features:

Wagon Bars, Main Shaft and Roller Shaft made from Stainless Steel.

Rollers with Inserted Roller Bearings.

Aluminum wheel guard bearing cover; Wheel Guard swings back for changing wheels.

Completely enclosed with Heavy Gage Sheet Metal Cabinet.

Uses 14" OD Wheel x ¾" Hole
Cutting Depth – 4½"
Maximum Diameter of Work – 8"

Width – 21" Depth – 23" Height – 48" Net Weight – 200 lbs.

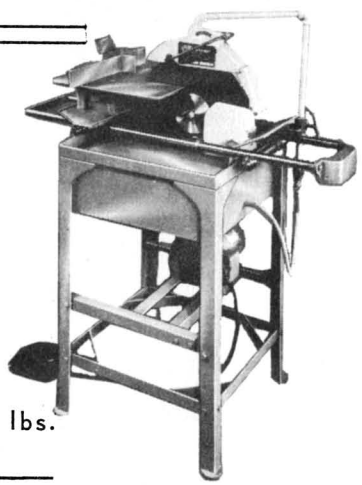
NO. CGB-41-U

This UNIVERSAL Model may be used for making repeated 10" Cuts by removing the Upper Table.

The Upper Hood can be raised and lowered to accomodate any work.

Uses 14" OD Wheel x ¾" Hole
Cutting Depth – 10"
Maximum Diameter of Work – 10"

Width – 19" Depth – 21" Height – 51" Net Weight – 185 lbs.



MOTORS, Heavy Duty – Mounted

1/3 H.P.,	110 Volt,	1 phase,	60 cycle,	A.C.
1/2 H.P.,	110/220 Volt,	1 phase,	60 cycle,	A.C.
1/2 H.P.,	220/440 Volt,	3 phase,	60 cycle,	A.C.
3/4 H.P.,	220/440 Volt,	3 phase,	60 cycle,	A.C.
3/4 H.P.,	110/220 Volt,	1 phase,	60 cycle,	A.C.
1 H.P.,	220/440 Volt,	3 phase,	60 cycle,	A.C.
1½ H.P.,	220/440 Volt,	3 phase,	60 cycle,	A.C.

ABRASIVE CUTTING WHEELS

Box of 15, No.C-12, 12" OD x 1/16" x 3/4" Arbor
Box of 12, No.C-14, 14" OD x 1/16" x 3/4" Arbor

WHEEL TECHNICAL DATA

These wheels are a rubber-bonded silicon carbide, 120 grain size composition, especially designed for borosilicate and quartz.

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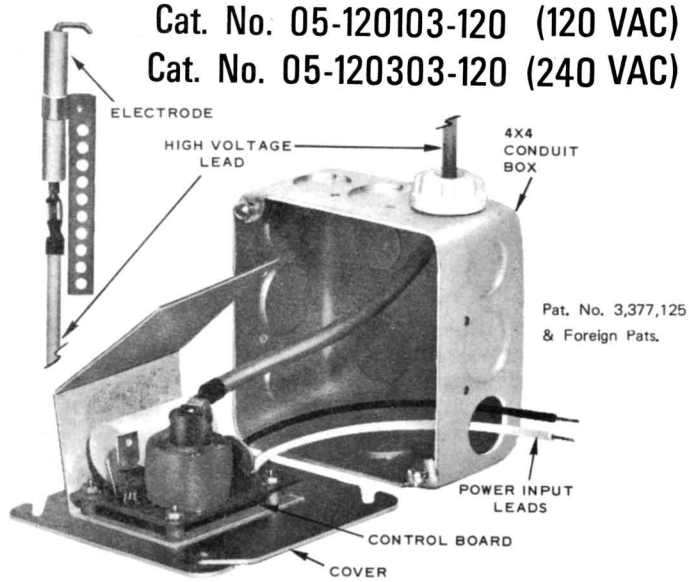
SYSTEM DESCRIPTION

The Fenwal Series 05-12 automatically relights gas pilots. It should be applied only to those systems which already incorporate the necessary pilot-safety control devices. Sparks are provided from the electrode to burner ground until the pilot flame is established. When the pilot flame is established, the sparks stop. If the pilot flame goes out, the spark immediately starts up again and continues until the flame is re-established. If pilot flame cannot be re-established, the pilot safety device will cool and shut off the gas supply. Under this condition sparks may or may not continue, depending on the manner in which the system is electrically connected.

PILOT RELIGHTER SYSTEM

Cat. No. 05-120103-120 (120 VAC)
Cat. No. 05-120303-120 (240 VAC)



SPECIFICATIONS

Control Assembly, 120 VAC: Model 05-120103-000
Voltage: 120 Volts Nominal, 50/60 Hz
Control Assembly, 240 VAC: Model 05-120303-000
Voltage: 240 Volts Nominal, 50/60 Hz
Electrode Assembly: Model 05-100000-120
Current Drain: 25 Milliamperes
Ambient: -40° to +165°F
Power Input Leads: 8-inch 18 AWG
Electrode: GAP 1/8" ± 1/32"
High Voltage Lead: 24 inches long (standard) 36 and 48 inch lengths optional extra

Note: Model 05-120103-120 consists of 05-120103-000 control board, 05-100000-120 electrode, and high voltage cable.

INSTALLATION

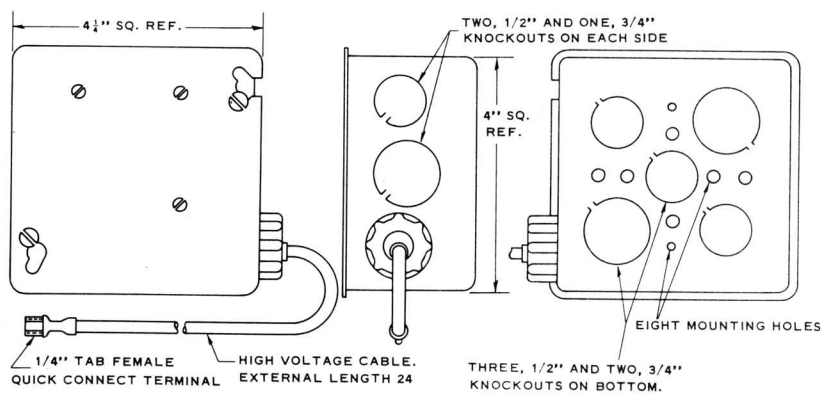
Control Board – The control board is factory mounted in a standard 4 x 4 conduit box. It is not position sensitive, and can be conveniently mounted in a horizontal or vertical position. Refer to outline drawing.

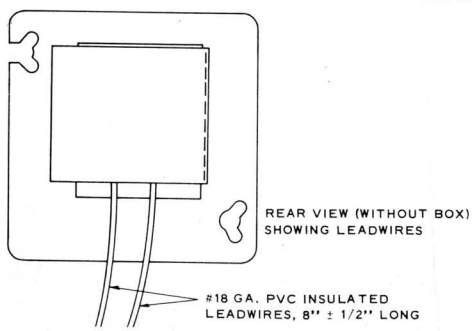
Electrode – Proper installation of the electrode assembly is important. A universal type mounting clamp is supplied with the electrode (refer to outline drawing). The clamp may be mounted flush against an adjacent surface or wrapped around tubular objects. NOTE: The clamp should not be closer than 5/8" from either end of the electrode ceramic. See Typical Mounting Arrangements.

Electrode Tip Location – Optimum performance of Fenwal's 05-12 Pilot Relighter can be achieved only with suitable positioning of electrode tip. Make certain that a 1/8" gap (± 1/32") exists between electrode tip and burner. The electrode tip must be inside the flame envelope and about 1/4" from the base of the flame. IMPORTANT: Ceramic insulator should not be inside the flame pattern.

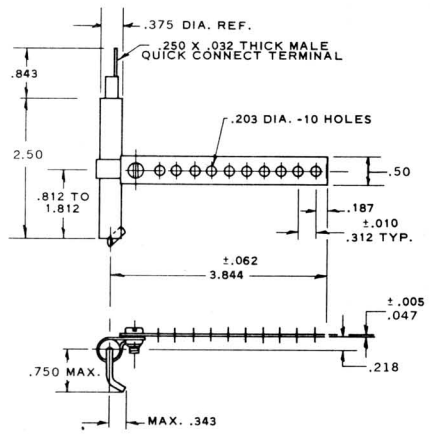
OUTLINE DIMENSIONS

CONTROL BOARD AND CONDUIT BOX ASSEMBLY



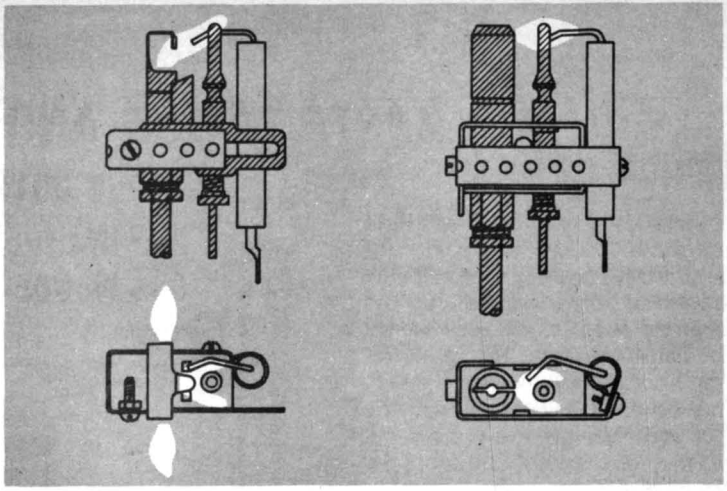


ELECTRODE ASSEMBLY



CAUTION: HIGH VOLTAGE

TYPICAL ELECTRODE POSITIONING AND MOUNTING



CAUTION:
HIGH VOLTAGE

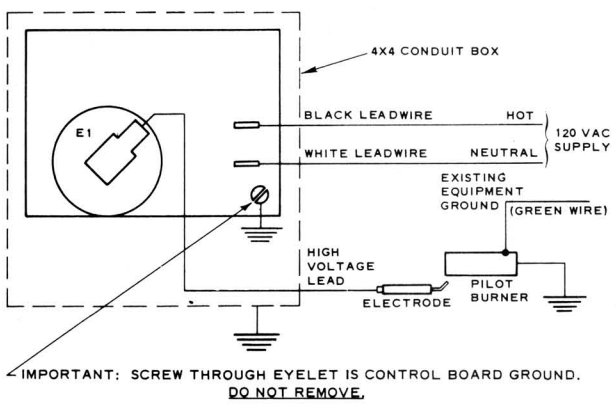
WIRING

Input Power – The input leads must be connected as noted in the appropriate wiring diagram. Eight inch, 18 AWG power input leads are supplied. The pilot burner must be grounded either through existing equipment ground (green wire) or other suitable ground. The conduit box must be grounded to metal frame of burner. The control board is factory grounded to the conduit box through the eyeleted mounting hole (refer to wiring diagrams).

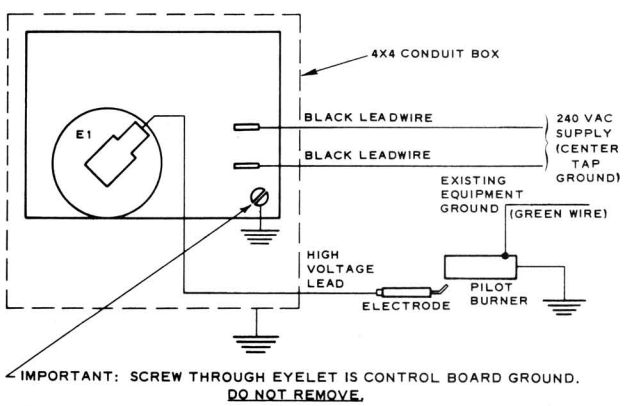
High Voltage – The standard system is provided with a 24" high voltage lead with spade connection. This lead should be attached to the male terminal at the base of the electrode. Either 36 or 48" long high voltage leads are available as an optional extra.

IMPORTANT: Make certain that the high voltage lead and terminal is at least 5/8" away from any grounded surface.

120 VAC MODEL 05-120103-120



240 VAC MODEL 05-120303-120



OPERATION

CAUTION: HIGH VOLTAGE

Before proceeding, make sure that input leads are correctly connected. The white lead must be connected to neutral on Model 05-120130-120 (120 VAC).

Initial Operation

1. Manually shut off the main gas supply and apply electrical power to the system.
2. Check that a spark occurs across the spark gap. If no spark occurs, check to see that the conduit box and the burner are grounded.
3. Manually open the pilot gas supply.
4. Observe that a pilot flame is established before 5 sparks have occurred and that the spark then ceases. Electrode tip must be in the flame and in some installations must heat up before sparking will cease. If sparking does not stop, check the equipment ground connection (green wire connected to burner).

Check

1. Turn off the pilot gas supply. The spark must reoccur.

WARRANTY

A Fenwal Incorporated product is warranted to be free from defects in material and workmanship. The liability of Fenwal Incorporated is limited to replacement, provided the product is returned, transportation prepaid, to a Fenwal authorized wholesaler, within 12 months after delivery to the purchaser.

Fenwal's liability hereunder does not extend to any products, articles, or parts thereof installed, operated, maintained, repaired, or altered improperly or otherwise than in conformity to Fenwal's applicable instructions, or which have been the subject of misuse, accident, or neglect. THESE WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED, INCLUDING WITHOUT LIMITATION IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS. OUR WARRANTY LIABILITY MAY BE ALTERED ONLY BY A WRITTEN INSTRUMENT SIGNED BY AN OFFICER OF FENWAL INCORPORATED.

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