

Amglo



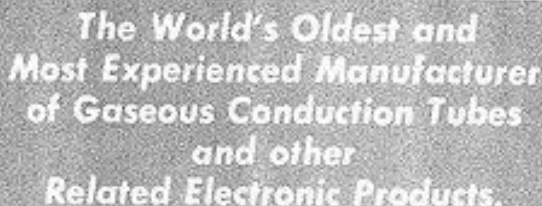
—for a quarter century—has pioneered in the research, development and manufacture of a wide variety of Gaseous Conduction Tubes.

The conduction of electricity through inert gases has long been a subject of fascinating and constantly increasing interest to scientists throughout the world. Volumes have been written about this complex phenomenon and much remains to be learned.

Within these pages various types of Inert Gas Tubes are illustrated and described. Many are original AMGLO developments. Some have opened the door for the creation of new and important electronic products.

Gaseous Conduction Tubes, with their almost limitless applications, are becoming a rapidly expanding part of the electronic field. We suggest that this catalog be kept available for ready reference, and that you keep AMGLO in mind for your future requirements of either standard or special tubes.

- Stroboscopic Tubes
- Reflective Base Flashtubes
- Self-Ionizing Flashtubes
- Grid Controlled Flashtubes
- Special Service Tubes
- Signal Lights—
Neon, Argon, Krypton, Xenon
and Fluorescent
- Reflectors and Accessories
- Ignition Coils
- Constant Speed DC Motors and Timers
- Transistorized Power Supplies



*The World's Oldest and
Most Experienced Manufacturer
of Gaseous Conduction Tubes
and other
Related Electronic Products.*

AMGLO CORPORATION

4325-33 NORTH RAVENSWOOD AVENUE • CHICAGO 13, ILLINOIS
TELEPHONE BUckingham 1-2727 • CABLE ADDRESS "AMGLO"

Amglo HD-Series

ULTRA-HIGH EFFICIENCY REFLECTIVE BASE FLASHTUBES

(Patented)

Incorporating many advanced design features, these flashtubes, because of higher operating efficiency and an increase in reflector working area, provide more light for the same power.

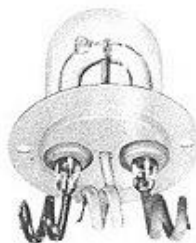
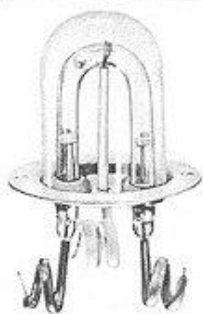
A highly reflective Alzak disc replaces the light absorbing area of the usual tube base and socket. This saving of space and weight permits construction of shallow, lightweight lampheads and allows inclusion of storage capacitors if desired. Wiring the flashtube directly into the circuit improves operating efficiency and reliability, simplifies construction and reduces costs.

The resilient neoprene mounting protects the tube from mechanical shocks and provides electrical insulation.

Focal position is adjustable without removal of cover glass.

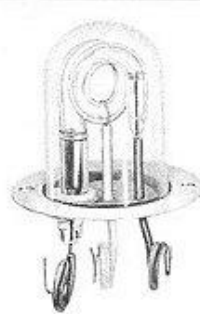
New electrode and processing developments have increased power ratings and extended tube life so that up to 100,000 flashes may be obtained.

AMGLO HD-Series Flashtubes are provided separately—or mounted, with Pyrex cover glass on reflective discs which fit AMGLO AR-365 Ultra-Reflectors, illustrated and described below.



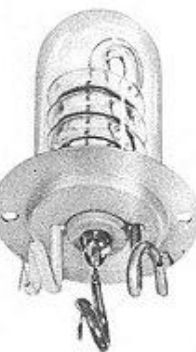
TYPE HD-1

Operating voltage 160-300 V. Energy input for photographic use 30-200 Watt-seconds. For stroboscopic use 0.1 to 10 Watt-seconds according to operating voltage and flashing rate.



TYPE HD-2

Operating voltage 350-500 V. Energy input 30 to 200 Watt-seconds. For use with electrolytic condensers of 450 volt rating.



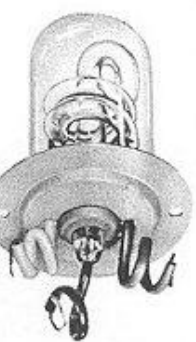
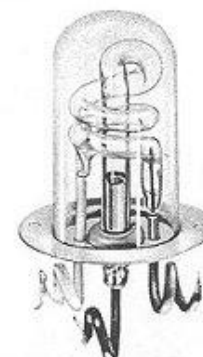
TYPE HD-3

Operating voltage 600-1000 V. Energy input 30 to 200 Watt-seconds. Electrolytic capacitors of 450 volt rating may be connected in series or series-parallel to provide 900 volt operation.



TYPE HD-4

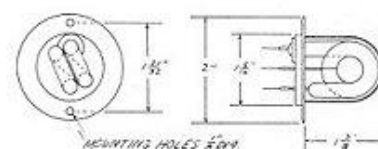
Operating voltage 2000-2500 V. Energy input 30 to 300 Watt-seconds. Oil type capacitors, of appropriate rating, are employed to provide flashes of shorter duration than those obtained with low voltage flashtubes.



TYPE HD-2A

Operating voltage and energy input similar to HD-2. Employs two turn spiral with central cathode housing.

REFLECTIVE MOUNTING DISC



Mounting disc of highly reflective Alzak aluminum replaces conventional base to eliminate the dead spot directly behind the flashtube. When mounted in a reflector a continuous reflecting surface is obtained. Drawing shows HD-2 reflective disc, with the standardized mounting dimensions for all models.

Amglo

ULTRA REFLECTORS

Designed expressly for flashtube use, the AMGLO AR-365 Reflector, with its ultra-efficient reflective surface, provides an economical method for obtaining a substantial increase in useable light.

Used with AMGLO HD-Series Flashtubes, AR-365 Reflectors provide ultra-high reflectivity and remarkably even illumination over an arc of 60°.

Made of tarnish-proof Alzak aluminum, the special step design permits the use of a semi-specular Alzak surface to provide an efficiency of 86% as compared to 50%, or less, for ordinary reflectors.

Illustration shows mounted HD-type flashtube with Pyrex cover glass and R-65C Back Cover Cap. Reflector measures 6½" in diameter, 3½" in depth, including cap.

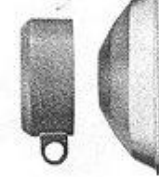


AR-365 Reflector
Front View

R-520
Camera Bracket, for
Rollei and other Twin
Lens Cameras.



R-65C
Back
Cover



HD Series
Flashtube

AR-365
Reflector



FF-132



LF-132

P-850 Camera Bracket, 8½" base x 10" high for 4x5 cameras.

S-300 Camera Bracket, 6½" base x 5½" high.

FF-132 Flashgun Mount. Mounts reflector to most 1½" flashguns.

LF-132 Lampstand Fitting. Mounts reflector to ¾" lamp stand.

R-65C Back Cover, 1½" deep x 4½" diameter. Provides space for triggering components. Bracket permits mounting to any of above Amglo fittings.

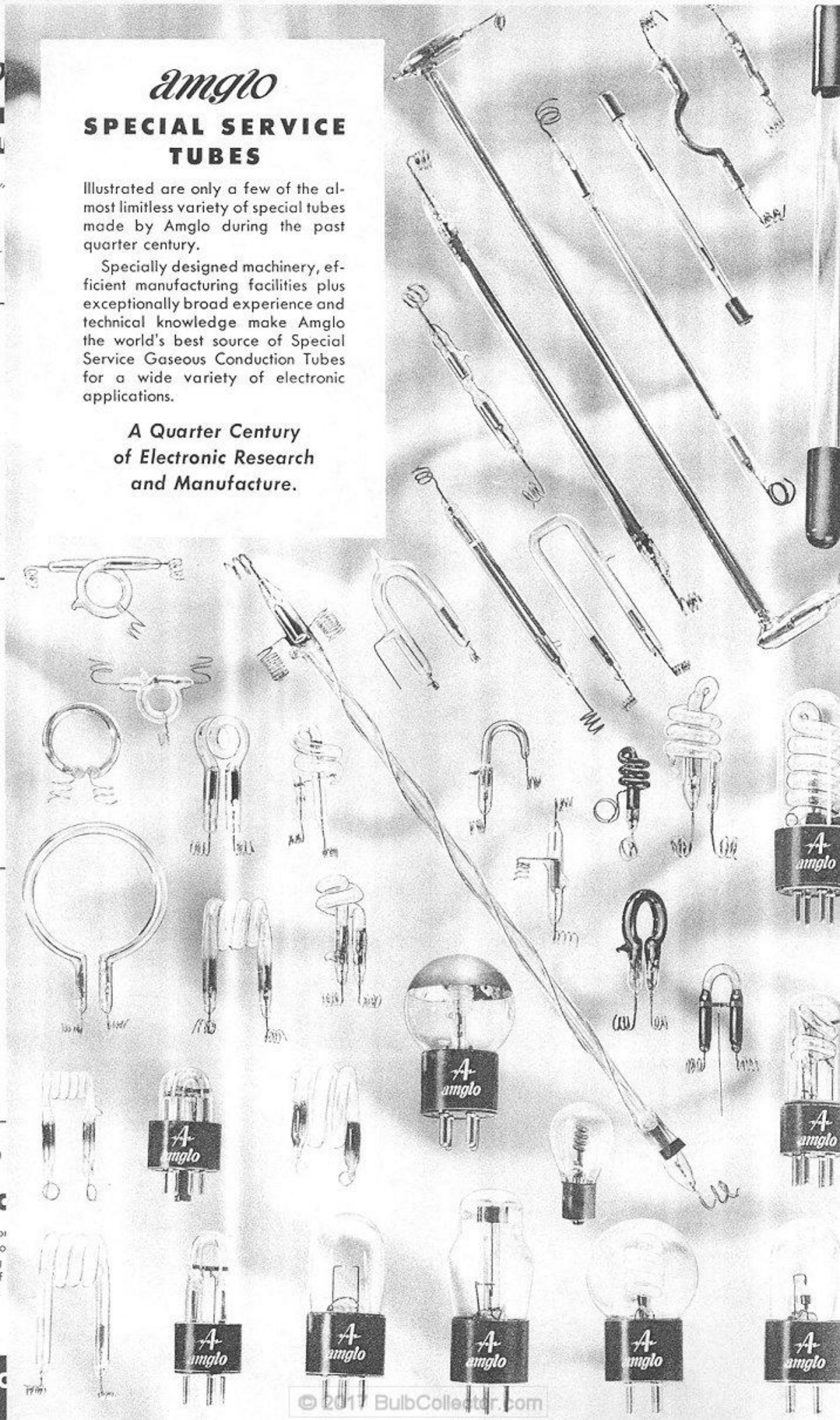
amglo

SPECIAL SERVICE TUBES

Illustrated are only a few of the almost limitless variety of special tubes made by Amglo during the past quarter century.

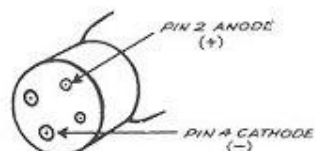
Specially designed machinery, efficient manufacturing facilities plus exceptionally broad experience and technical knowledge make Amglo the world's best source of Special Service Gaseous Conduction Tubes for a wide variety of electronic applications.

*A Quarter Century
of Electronic Research
and Manufacture.*



amglo

SELF-IONIZING FLASHTUBES



These tubes are noted for their high peak lumen output and unfailingly uniform characteristics throughout their long service life. The open end, helix construction with Xenon gas filling the entire bulb, the rare metal electrodes and transparent, vaporized metallic film on the helix, cause these patented flashtubes to "strike" when the stored energy is applied without using ignition coils.

A relay with silver-cadmium oxide contacts, is used to close the circuit between flashtube and storage capacitors. Series connected tubes, in pairs, may be used in the construction of

multi-lamp speedlight equipment. Circuits, reflectors, special relays and other such components may be obtained from AMGLO.

The 6500° K sunlight color temperature provides superior tonal rendition and better definition. No correction filters are required with daylight color film to obtain perfectly balanced color values.

Diagram at left shows AMGLO standard basing connections for all self-ionizing flashtubes. For characteristics and dimensions, see table below.

Characteristics and Dimensions of Amglo Flashtubes

Amglo Lamp Number	5804X	54R4X	48U4X	56J2Z	56J2Z-A	78R9D	1TZ	HD-1	HD-2	HD-2A	HD-3	HD-4
Discharge Method	Relay			High Voltage Pulse								
Maximum Energy Input Watt-Secs.	150	200	400	250	200	300	1000	200	200	200	250	300
Recommended Capacitance Micro-farads	15-50	15-80	80-200	80-600	300-2000	15-120	250-500	1000-4400	300-2000	300-2000	80-600	15-120
Self Ionization Voltage	1600	1650	1800	1000	3000	3500	600	1000	1000	1800	4000	
Voltage Range	1800-4000			600-1000	350-500	1000-2850	1500-3000	160-300	350-500	350-500	600-1000	2000-2500
Recommended Operating Voltage	2250-2850			900	450	2000-2500	2000-2850	180 or 270	450	450	900	2250
Av. Resistance During Ionization	6 ohms	5 ohms	3.5 ohms	3 ohms	2 ohms	6 ohms	8 ohms	1 ohm	2 ohms	2 ohms	3 ohms	6 ohms
Approx. Light Duration in Milli-Seconds	.09-.3	.075-.4	.27-.7	.24-1.8	.6-4	.09-.7	2-4	1-4.4	.6-4	.6-4	.24-1.8	.09-.7
Bulb Diameter	1 1/4"	1 1/2"	2 1/8"	1 1/8"	1 1/4"	1 1/4"		1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"
Base Diameter	1 1/2"			1 1/4"	1 1/4"	1 1/8"		2"	2"	2"	2"	2"
Length Less Pins	3 1/2"	4"	4 1/8"	3"	3"	3 1/8"		1 1/8"	1 1/8"	1 1/8"	2"	2 1/2"
Type Base	No. 1-4 pin			No. 3-Octal 3 Pin	No. 3-Octal 3 Pin	No. 2-5 Pin	Special	Ref. Disc	Ref. Disc	Ref. Disc	Ref. Disc	Ref. Disc



AMGLO 54R4X

Ideal for both AC and Portable Speedlights where brief, action freezing flashes are essential. Rated at 200 Watt-seconds; higher power may be used when energy is applied to two series-connected tubes.



AMGLO 48U4X

Rated at 400 Watt-seconds, this tube is widely used in high power AC Speedlights and for multi-flash operation requiring a rapid sequence of flashes at lower power.



AMGLO 5804X

Provides high efficiency operation with oil type capacitors. Short duration, high peak lumen flash stops fastest action. Rated at 150 Watt-seconds.

amglo

IGNITION COILS

Both types of ignition coils are for use with .25 or .5 Mfd. condensers of appropriate voltage rating and will provide a high voltage pulse of approximately .02 milli-second duration.



No. ST-25

Light weight air-core type. Provides Secondary Peak Voltage of 3 to 5 KV with Primary Voltage of 100-180 V. Length 3/4"-Dia. 1/2"-Weight 1/8 Oz.



No. MT-55

Heavy duty iron-core type. Gives Peak Secondary Voltage of 3-10 KV with 75-150 Primary Voltage. Length 2 1/8"-Dia. 1 1/8"-Weight 1 1/2 Oz.

AMGLO CORPORATION, 4333 NO. RAVENSWOOD AVENUE, CHICAGO 13, ILL.

A Quarter Century of Electronic Research and Manufacture

amglo

SIGNAL LIGHTS

LOW HEAT LOSSES

Illustrated below are a few of the many types of signal lights manufactured by Amglo. Light produced by the ionization of inert gases provides extremely high operating efficiency. These tubes do not have the huge heat loss (92%) of incandescent lamps and this energy, ordinarily wasted, is converted into useful light.

LOW FILTER LOSSES

Since more of the electrical energy is used to produce useful light in the required color, filter losses are very low. In comparison, an incandescent lamp produces light in all the colors of the spectrum. To obtain a single color a filter is used to prevent transmission of the unwanted

colors which required a large proportion of the consumed current to produce.

HIGH OPERATING EFFICIENCY

Operating without these huge heat and filter losses Amglo Signal Lights are the ideal light sources for Traffic, Marine, Aviation and Industrial signal applications. Battery operation is practicable because of the brilliant light produced at low current drain.

LONG LAMP LIFE

Completely free from sudden burn-outs, lamp life is 100% reliable and extremely long. In many applications a lamp life of twenty, or more, years may be expected.

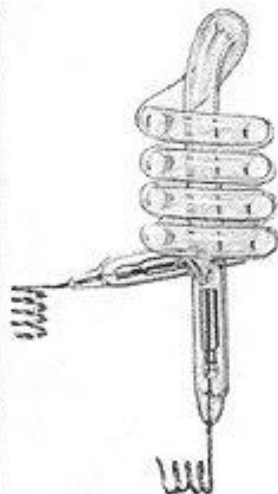


AMGLO 60C4R

Produces exceptionally brilliant neon red light with low energy input. Helix comprising five turns of tubing with open end enclosed in bulb containing inert gas. Provides highest known efficiency in lamps of this type.

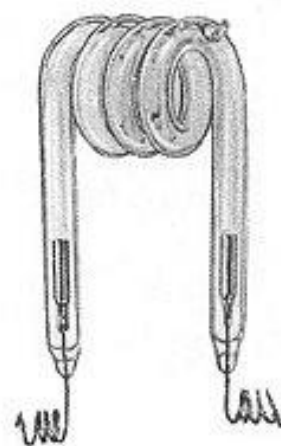
Tube height 3 3/4" exclusive of pins. Standard 4 pin base of 1 3/8" diameter fits Std. radio tube socket No. 78S4.

Also provided with other type bases and to produce other colors.



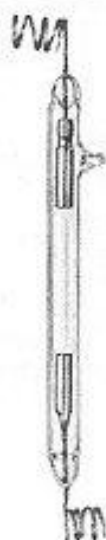
AMGLO VS-6B

Similar in construction, and operating characteristics to HS-6B. This tube provides single hole mounting using a rubber or neoprene grommet. Overall height 2 3/4". Helix 7/8" diameter x 1" long of 6 mm tubing.



AMGLO HS-6B

Made of extremely strong, 6 mm hard glass with tungsten seals these tubes employ special Amglo low work function electrodes to provide more light and longer service life. Mounts on 1 1/8" centers through rubber or neoprene grommets. Overall height 2 1/2" exclusive of leads. Helix 7/8" O.D. x 1" long.



AMGLO M6-LZ

Made of 6 mm hard glass tubing with tungsten seals. Provides high light output in small space. Especially suited for applications where this type structure provides optical or mounting advantages. May be mounted by leads or through rubber or neoprene grommet. Overall length 4 3/8", exclusive of leads.

AMGLO LIGHTING AND FLASHING ACCESSORIES

amglo DC MOTORS AND TIMERS

Widely used in Military, Industrial and Telephone Switchboard applications, Amglo DC Motors and Timers provide a reliable means of controlling circuits from a battery or other DC supply.

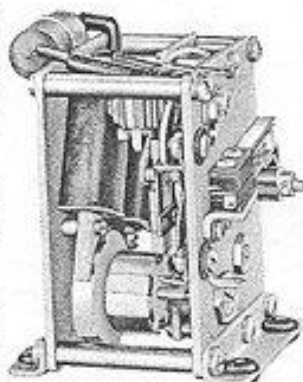
The patented Magnetic Reed Control maintains phenomenal accuracy of speed over wide voltage and load fluctuations.

A precision instrument of rigid construction, the high torque produced at low current drain makes it ideally suited for many vital applications requiring accuracy and dependability under extreme conditions of vibration, gravity and temperature.

Operating Voltage—3—110 V., DC
Output Shaft Speed—As needed,
900 RPM to 1 Rev. in 24 or more hours

Power Input—0.06 to 2 Watts
Torque—up to 150 inch ounces at 1 RPM

Weight—12 to 16 oz.
Cams and switches to provide required circuit closures



Model No. LD-311
(illustrated above)

OTHER TYPES
and **SIZES**
AVAILABLE

Send us your requirements for recommendations

amglo

TRANSISTORIZED POWER SUPPLY

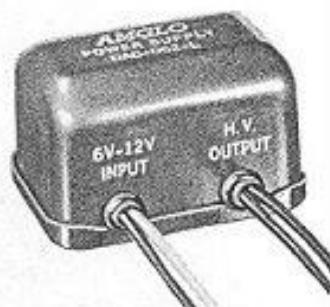
Provides a compact, reliable, low cost means for lighting inert gas tubes from a 6 volt battery.

Higher operating efficiency is obtained through the use of a moderately low-voltage output which also produces higher voltage pulses for initiating ionization.

Maximum ionization is provided by the high frequency output with low current drain from battery.

Size 2" x 2 1/2" x 1 1/2".
Weight 9 ounces.

Current drain 400 ma at 6 v. d. c.



Illustrated is Model DAC-062L with connecting leads, which is also available as Model DAC-062P, with 4 pin plug-in base, to fit Std. 4 prong radio tube socket No. 78S4.

amglo

U-35 SERIES

STROBOSCOPIC TUBES

The most extensively used of all Stroboscopic Tubes, Amglo U-35 is standard equipment in a wide variety of Stroboscopic Instruments, Medical Electronic Units, Automotive Ignition Timers, Wheel Balancing Stroboscopes, Highspeed Photographic Units and similar applications.

It is capable of flashing at rates up to several thousand per minute when operated within the recommended voltage range. Either electrolytic or oil type capacitors may be employed; usually 1 to 2 Mfd. at the higher flashing rates and 2 to 4 Mfd. at rates to 30 per second. The Xenon gas filling produces a brilliant white light of 6500° Kelvin color temperature.

Because it is non-polarized, connections may be accidentally reversed without damage or purposely reversed periodically to double the already long service to be expected.

Many other advanced AMGLO features are included in the construction of this remarkable tube. It will provide continuous, unfaltering performance in heavy duty applications where other tubes rapidly change their characteristics or fail completely.

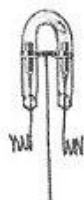
Proper tube type should be matched to the power supply to avoid skipping and double flashing.

When not enclosed with bulb, trigger band may be adjusted to provide the required degree of triggering sensitivity for the particular operating voltage in use.

Tubes illustrated below are available in U-35 Series for operation in the 400-600 V. Range and U-35A Series for the 150-400 V. Range.



Mounted in 3 pin base with white reflective disc. Plugs into standard 6 prong radio tube socket No. 78S6. Dia. 1 1/4" x 1 3/4" high, exclusive of pins. Adjustable trigger band.



Without base or disc. Glass portion of 6 mm tube 1 1/2" long x 3/4" wide. Mounts on 1/2" centers. Flexible tinned braid electrode connections. Rigid connection to adjustable trigger band.



Identical dimensions to above. Supplied without trigger lead or band. For non-critical applications a fine wire may be wrapped around upper portion of tube to apply trigger pulse.



Similar to top illustration but enclosed in clear glass envelope. Height 2 1/8" exclusive of pins. Mounted in 3 pin base 1 1/8" dia. with inside reflective disc.



Similar to above but has outside frosted glass envelope. The 1 1/8" dia. 3 pin base, with inside reflective disc, plugs into No. 78S6 standard radio tube socket.

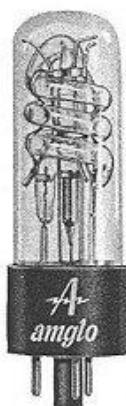
amglo GRID CONTROLLED FLASHTUBES

The use of many exclusive features developed by AMGLO engineers in the construction of these closed spiral, grid controlled, flashtubes has increased operating efficiency to new and higher standards for this type of tube. These AMGLO improvements increase light emission, extend service life and help maintain unchanging characteristics throughout the life of the tube.

Rare metal electrodes, for higher light intensity—auxiliary gas reservoirs, for longer service life and additional light—symmetrical light producing

areas, for superior distribution—additional helix supports, for increased ruggedness—these are only a few of the many advanced engineering features responsible for superior performance.

Scientifically balanced for operation in the recommended voltage range, AMGLO Flashtubes provide a continuum of the Xenon spectrum during discharge. This full range of rich colors, produce superb color balance, without filters, with daylight color film and matchless negative quality with panchromatic types.



AMGLO 56J2Z

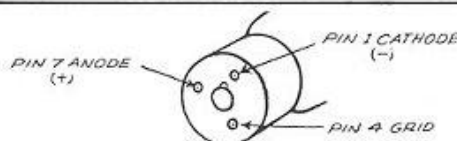
With 3 turn spiral, exactly balanced for 900 volt operation, AMGLO 56J2Z provides the ultimate in brilliant light output and longer life.

The power supply may comprise two series connected electrolytic capacitors of 450V rating, or, for higher power, two series connected pairs may be connected in parallel. In higher power units, 900 volt operation is preferable in order to shorten flash duration to prevent light cut off when the camera shutter is set at the higher speeds.

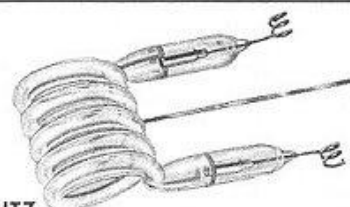


AMGLO 56J2Z-A

Similar to 56J2Z, except that the two turn spiral is balanced for use with 450V electrolytic capacitors connected in parallel. Produces a brilliant white light of 6500° Kelvin color temperature and maintains phenomenal efficiency, from lowest energy input to full rating of 200 watt-seconds. AMGLO 56J2Z-A is the ideal interchangeable flashtube for 450V operation.



Base Diagram No. 3 (Octal) used on Flashtubes 56J2Z and 56J2Z-A



AMGLO TYPE ITZ

This heavy duty tube with extra rugged electrodes can be used for intermittent service with an energy input up to 1500 watt-seconds. At 50 to 100 watt-seconds it may be flashed at the rate of several times per second for brief intervals.

Non-polarized; the electrode connections may be reversed occasionally to greatly extend service life.

Made of 10 millimeter hard glass tubing, the spiral measures 2" diameter. Tube is mounted in reflector by means of two porcelain bushings, as used with neon signs, or rubber or neoprene grommets spaced 2 1/2" centers.

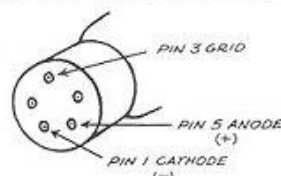


AMGLO 78R9D

Unexcelled in light output, life expectancy and ruggedness, AMGLO 78R9D is superior for operation in the 2000 to 2500 volt range.

Having all the latest AMGLO improvements, including ruggedized construction, it provides short duration flashes for ultra-crip definition and the ability to "freeze" higher speed action.

The highly accurate Xenon gas filling produces a brilliant white light of 6500° K. color temperature.



Base Diagram No. 2 used on Flashtube 78R9D

AMGLO TYPE 6LZ

Widely used by universities and cosmic ray research workers for cloud chamber photography, for chart recorders, for exposing photo-sensitive materials and for many stroboscopic applications. Tube may be provided clear or accurately half coated externally in vacuum with vaporized aluminum to act as a cylindrical reflector.

Vaporized coating can also be provided to cover entire working length of tube except for a narrow window of specified diameter.

Made to specifications in regard to active length, tubing diameter, type of glass (Nonex, Pyrex, Vycor or Quartz) and operating voltage.

Tube diameters ordinarily used range from 6 mm to 10 mm. Overall length of tube is 2 1/2" to 3" longer than working area to permit space for electrodes.

Maximum rating, of larger tubes 1500 watt-seconds, assuming a cooling interval of 60 seconds between flashes. For more rapid flashing rate, watt-second energy input should be proportionately reduced.

These tubes may also be obtained with Xenon or other gas filling, or with Argon and Mercury for producing Ultra Violet light.

