

Oriel Apex Arc Lamp Sources



66450 Apex Arc Source

New! Oriel Apex Sources with a Rear Reflector are now available. Potentially up to 60 % throughput improvement can be achieved, as a portion of the backwards emitted radiation is captured to the output.

Apex is our answer to Researchers who need a simple-to-use, low wattage, economically priced UV-NIR source. The lamp is held in a pre-aligned base - no need for lamp adjustments. The power supply is pre-set to operate the specified lamp - you don't need to adjust the current or voltage. Simply install the lamp and turn the source on. Choose an Apex system, over our Modular Research Series Systems, if you don't need to interchange between lamps, and you don't need all the user features of a stand-alone power supply (such as remote control via a PC and display of lamp operating parameters). We offer Apex systems to run 50 to 200 W short arc lamps. We also offer Deuterium Apex Systems (see page 125), Quartz Tungsten Halogen Apex Systems (see page 143), and IR Apex Systems (see page 143).

Fig. 1 shows the simple optical path of a standard Apex Arc Lamp Source. An F/2.2 fused silica aspheric lens collects the lamp's radiation and collimates it to a 1.3 inch diameter (33 mm) beam. If you need to focus the output into a fiber, use our Apex Fiber Illuminator (see page 157). If you need to focus onto a monochromator slit, use an Apex Monochromator Illuminator (see page 152). The systems described on this page are free-space systems, although they can be re-focused using a focusing lens assembly.

Arc lamps emit UV radiation, even the ozone free models. Personnel working around these sources should wear protective eyewear and gloves (see page 246). UV radiation can cause burns to the eyes and skin.

Specifications

Collimated Output Diameter	1.3 in. (33 mm)
Lens Multiplication Factor *	0.05
Beam Uniformity	±5 %
Light Ripple	<0.5 % r.m.s.
Line Regulation	0.1
AC Input	95 - 132 V/2A 190 - 264 V/1A 50 - 60 Hz

* The lens multiplication factor is a measured parameter for the lens. It helps in computing the approximate total power of the collimated output in any wavelength band.

- New! Oriel Apex Sources with a Rear Reflector available
- Fully integrated, compact, economical systems
- Run 50 to 200 W short arc lamps
- Highly collimated, 1.3 inch diameter output beams
- Fixed power operation - no voltage or current adjustments required

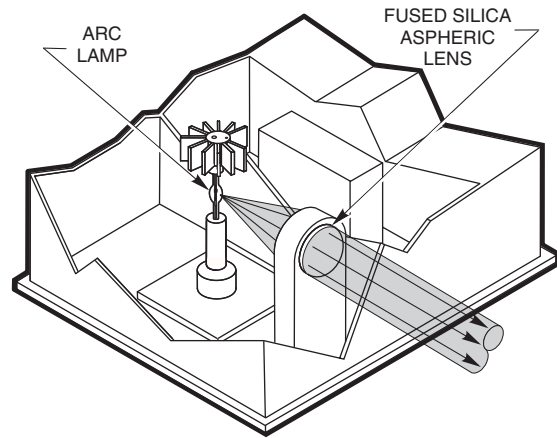
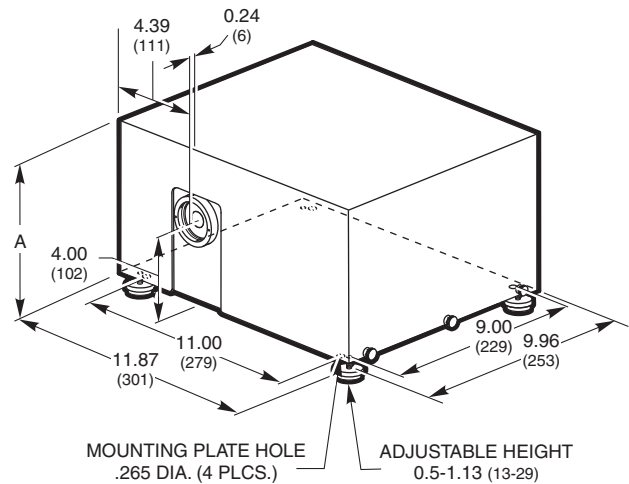


Fig. 1 Optical configuration of a standard Apex Arc Sources.



MOUNTING PLATE HOLE .265 DIA. (4 PLCS.)
ADJUSTABLE HEIGHT 0.5-1.13 (13-29)

SYSTEM	A
50-100W SYSTEMS	7.02 (178)
150-200W SYSTEMS	8.52 (216.4)

Fig. 2 Dimensional diagram of Apex Arc Lamp Sources

WEB See our website
for more info

Ordering Information

Apex Arc Sources

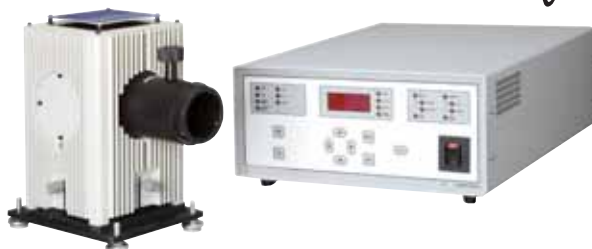
Source Type	Beam Divergence (Half Angle)	Model
Apex Sources with Rear Reflector		
75 W Xe, High Stability	0.52 °	71213
75 W Xe, Ozone Free*	0.18 °	71214
100 W Xe, Ozone Free*	0.29 °	71215
150 W Xe Ozone Free*	0.13 °	71228
200 W Hg(Xe), Ozone Free*	0.10 °	71229
50 W Hg	0.78 °	71216
100 W Hg	0.53 °	71217
200 W Hg	0.78 °	71231
200 W EmArc™, Enhanced Metal Arc	0.35 °	71232
Standard Apex Sources		
75 W Xe, High Stability	0.52 °	66450
75 W Xe, Ozone Free*	0.18 °	66451
100 W Xe, Ozone Free*	0.29 °	66452
150 W Xe Ozone Free*	0.78 °	66453
200 W Hg(Xe), Ozone Free*	0.53 °	66454
50 W Hg	0.13 °	66455
100 W Hg	0.10 °	66456
200 W Hg	0.78 °	66457
200 W EmArc™, Enhanced Metal Arc	0.35 °	66458

* To substitute an ozone producing lamp for an ozone free lamp, contact a Sales Engineer.

Replacement Lamps

Lamp Type	Effective Arc Size W x H (mm)	Model
75 W Xenon	1.0 x 1.5	6247
75 W Xe, OF	0.25 x 0.5	6263
100 W Xenon, OF	0.4 x 0.8	6257
150 W Xenon, OF	0.5 x 2.2	6255
200 W Hg(Xe), OF	0.5 x 1.5	6292
50 W Mercury	0.2 x 0.35	6282
100 W Mercury	0.25 x 0.25	6281
200 W Mercury	0.6 x 2.2	6283NS
200 W EmArc™, Enhanced Metal Arc	0.3 x 1.0	6297

Oriel Series Q Arc Lamp Sources



66056 Series Q Arc Source

Power Supply

The 69907 is a highly regulated source of constant current, or power, for low power arc lamps. When combined with the Series Q Housing, output ripple is less than 0.1% rms. Additionally, it has a number of useful features:

Which Source Should I Choose?

Use Table 1 to guide you in your selection of source. The choice depends upon your spectral range of interest and output beam requirement.

Table 1 Series Q Housing Condensers

Model	Condenser Type	F/#	Lens Material	Lens Multiplication Factor*	Transmittance Range of Lens Material
60056	F/1.5, single element fused silica	F/1.5	UV grade fused silica	0.06	200 - 2500
60063	F/0.8, Pyrex ashore	F/0.85	Pyrex®	0.13	350 - 2500
60064	F/1, 2-element fused silica	F/1	UV Grade Fused Silica	0.11	200 - 2500
60069	F/2.2, fused silica asphere	F/2.2	UV grade fused silica	0.05	200 - 2500

* Does not include the rear reflector contribution of 60%. Refer to formulae and sample calculations to compute the approximate total output power from your source, (see page 62).

- New asphere condensers for superior uniformity
- Inexpensive, versatile, low wattage UV-NIR CW sources
- Convective cooled lamp housing offers more stable lamp output
- Up to four output ports let you simultaneously illuminate multiple samples

The Series Q are our most popular low wattage arc lamp sources, and it's easy to see why: they are adaptable without being complicated to operate, highly stable, and economically priced. We offer various models of Series Q Arc Sources; the difference is in the lamp-housing condenser (see Table 1). Some condensers are intended for collimated beams, but can also be positioned to produce a diverging or converging beam. We also offer focused output models. All have a 1.5 Inch Series female flange. These systems include everything you need to begin your work. They run Hg and Xe arc lamps from 50 to 100 W, see page 62 for our spectral irradiance curves of these lamps.