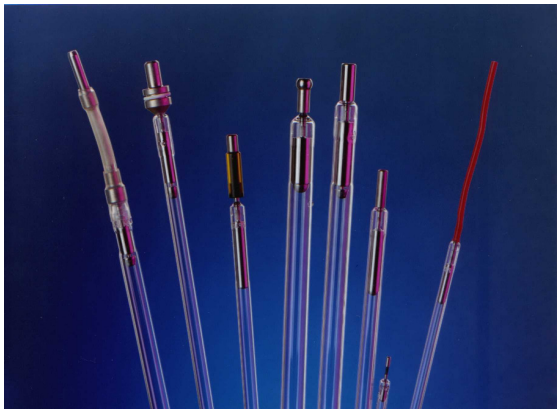
# Data Sheet

# Krypton Arc Lamps – KFC Series

Heraeus has many years of experience in providing DC arc lamps to leading solid-state laser manufacturers. Heraeus arc lamps normally operate in constant DC (or CW) mode and offer high pump efficiency, stability and long lifetimes. Arc lamps can also be supplied for Quasi and modulated CW operation. Typical applications include marking, engraving, cutting, drilling, welding, annealing etc. in many industrial and automotive applications. Heraeus work closely with our customers, extensive internal research facilities and external institutes to provide the industry with quality products. This data sheet is intended to provide some typical examples of common lamps manufactured and readily available. Since lifetime and efficiency is system dependant we welcome enquiries on special designs.
Please feel free to contact us at the address below for more information.



**Key features of Heraeus KFC lamps:**

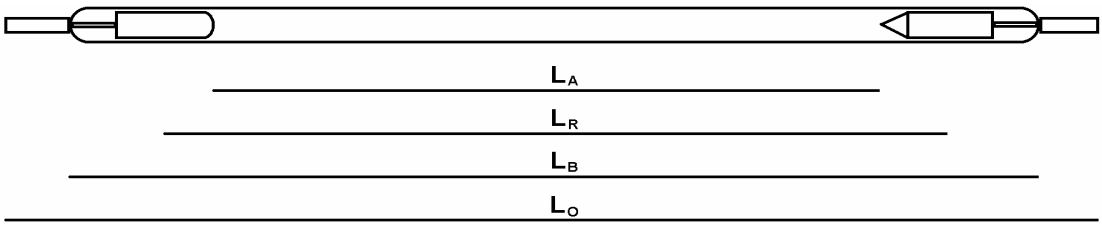
- Quality raw materials and inspection
- High standards of manufacturing and traceability
- Consistent build quality
- Variety of lamp connections available
- All lamps tested to specification
- Large manufacturing capacity
- Superb customer support
- Excellent technical knowledge
- Highly skilled workforce

**Technical data:**

| Lamp type | NL512B | NL5039 | NL5028A | NL5142 | NL547 | NL5075 | NL5178 |
|---|---|---|---|---|---|---|---|
| Bore (mm) | 4 | 4 | 5 | 5 | 6 | 6 | 7 |
| Max wall loading (watts/cm) | 400 | 400 | 520 | 520 | 700 | 700 | 800 |
| Arc Length (mm) | 76 | 102 | 102 | 120 | 150 | 150 | 150 |
| Overall Length (mm) | 215 | 243 | 193 | 251* | 300 | 250 | 325* |
| Connector dims (mm) | 6.35 / 19.0 | 6.35 /38.0 | 5.8 / 17.5 | wires | 5.9 / 16.0 | 6.35 / 13 | wires |
| Minimum Current (Amps) | 7 | 7 | 10 | 10 | 13 | 13 | 17 |
| Maximum Current (Amps) | 24 | 24 | 33 | 33 | 46 | 46 | 56 |
| Operating voltage at nom. Current (Volts) | 145-155 (A) 156-170 (B) | 193-207 | 170-176 | 220-230 | 138-152 | 235-240 | 195-205 |
| Nominal Current (Amps) | 20 | 20 | 30 | 30 | 40 | 40 | 40 |

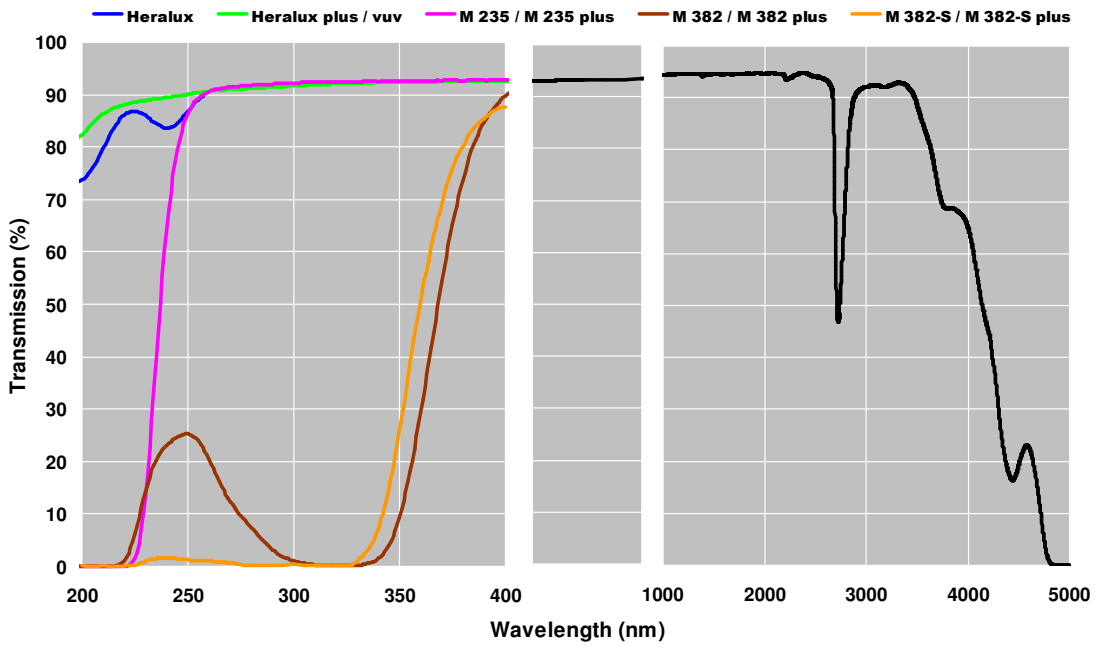
*** maximum non-flex**

## Typical lamp designs – schematic drawing




$L_A$ = Arc Length  $L_R$ = O-ring centres  $L_B$ = Body length
$L_O$ = Overall Length  I.D. = Lamp bore  O.D. = outer diameter
Max OD = maximum lamp outer diameter  Connector = diameter, length and material
Flying Leads = length, wire gauge and insulation type
Operating specification = voltage range at operating current, maximum average power
All lamps water cooled

## Optical Transmission of Envelope Materials



## Typical voltage – current plot for KFC lamp type 4mm bore 100mm arc length

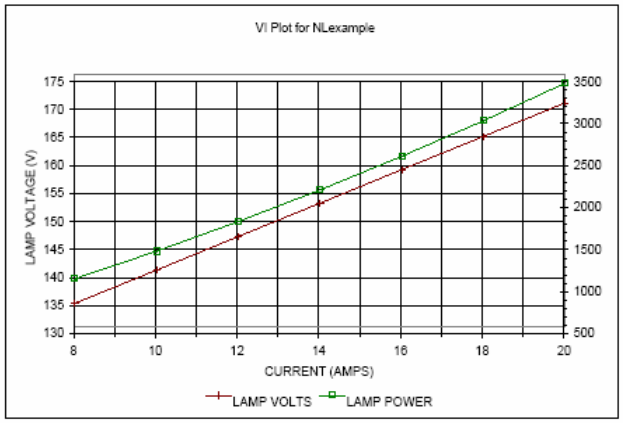
Heraeus

# Lamp Part Number: NLexample

**4mm bore 100mm arc fluid cooled Krypton arc lamp**

| | | | |
|---|---|---|---|
| | : Static Impedance (ohms) | 8.5 | (at Vt x At) |
| Envelope (cdq/cfq) | cdq : Dynamic Impedance (ohms) | 2.98 | (slope) |
| | : Lamp loading (watts) | 3400 | (at Vt x At) |
| Bore (mm): | 4 : Aprox Lifetime (hours) | 422 | (at Vt x At) |
| Arc (mm) : | 100 : Maximum power (watts) | 3456 | (this lamp) |
| Test voltage (Vt) | 170 : Internal Area (cm^2) | 12.6 | (arc length) |
| Test Current (At) | 20 : Wall loading (W cm^2) | 270 | (at Vt x At) |
| | : Pwr Diff: (W/cm) | 340 | (at Vt x At) |
| Vt tolerance= +/- | 3 : Voltage Diff: (V/cm) | 17 | (at Vt x At) |

Note: life times are aproximate and are a guide only




Maximum current for this lamp = 20 amps

Heraeus Noblelight Limited
Cambridge Science Park
Milton Road, Cambridge
CB4 OFQ
United Kingdom
Tel. +44 (0)1223 423324
Fax. +44 (0)1223 423999
www.heraeus-noblelight.com


**International contact**
Heraeus Noblelight Ltd.
Cambridge Science Park
Cambridge CB4 0FQ
Telephone +44 1223 423324
Fax +44 1223 423999
hnl-laserlamps@heraeus.com
www.heraeus-noblelight.com/laser

**China**
贺利氏(沈阳)特种光源有限公司上海分公司
上海市漕河泾开发区田州路99号11号楼4层
200233 上海
TEL: +86 21 5445 2255
FAX: +86 21 5445 2410
E-Mail: info.hns@heraeus.com

**USA**
Heraeus Noblelight LLC
2150 Northmont Parkway Suite L
30096 DULUTH, GA
TEL: +1 770 418 0707
FAX: +1 770 418 0688
E-Mail: info@noblelight.net