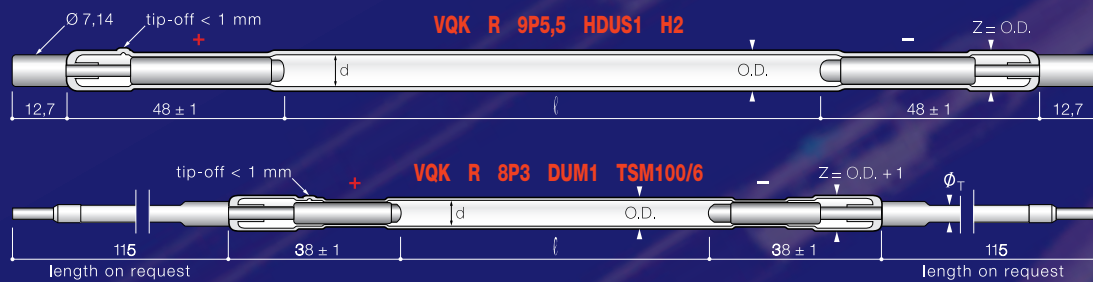


High Average Power Pulsed Flashlamps

DU SERIES



DU SERIES Flashlamps for HIGH POWER PULSED SOLID-STATE LASERS

“DU” type electrode manufacturing allow great lamp lifetime for the high power applications.

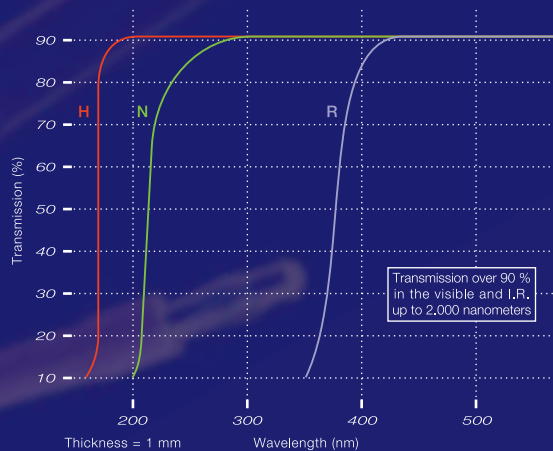
These electrodes withstand high currents over 1 ms and thermal gradients are optimised for each use.

DU series krypton flashlamps are suitable for typical pulse durations between 100 μ s and 10 ms +.

For improved lamp lifetime, optimized DU series are :

DUS	from 1 μ s to 500 μ s
DU	from 500 μ s to 3 ms
DUM	from 3 ms to 10 ms +

DIFFERENT TYPES OF SILICA TUBING



R : Cerium doped silica. Even after extensive use there is practically no violet coloured absorption center near 540 nanometers.

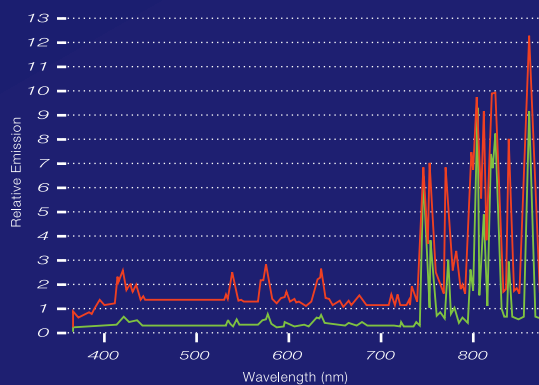
This silica filters practically all the UV, no deterioration of doped glass rods or reflectors, no ozone formation, and has no damaging effect on the eyes.

Considerable conversion of UV into fluorescence centered at 435 nanometers : particularly recommended for pumping Yag crystals.

N : Natural fused silica with little fluorescence (selection of quartz crystals). After long use, coloured centers appear near 540 nanometers. Robust material.

H : Pure synthetic non-fluorescent silica. No appearance of absorption at 540 nanometers. This silica is mainly used for optical pumping of rubies and for distant UV flash sources.

TYPICAL KRYPTON OUTPUT SPECTRUM High Power Pulsed Flashlamp



The current profile is quasi flat during the pulse width.

The emission of continuum is increasing with current faster than the IR emission of spectral lines. Variation of the emission with 2 different current densities : 300 A/cm² and 800 A/cm².

DU SERIES ORDERING CODE											
VQK R . . . DUS1 + Tube end	6P2	6P3	6P4	7P2	7P3	7P4	7P5	8P3	8P4	8P5	8P6

<i>d</i> (I.D. ± 0,2 mm) (O.D. = d+2 mm)	4	5	6
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Arc length	(mm)	51	76	101	51	76	101	127	76	101	127	152
	(inch)	2	3	4	2	3	4	5	3	4	5	6
Φ_T leads (± 0,1 mm)		3	3	3	3	3	3	3	6	6	6	6
Ko ($\Omega A^{1/2}$)		15,6	23,3	30,8	12,5	18,6	24,8	31,1	15,5	20,6	25,9	31
Voltage (V)	Min.	600	720	840	600	720	840	960	720	840	960	1080
	Max.	1600	1900	2200	1600	1900	2200	2500	1900	2200	2500	2900
Max. Power in water (W)		1300	1900	2600	1600	2400	3200	4000	2900	3800	4800	5700
Trigger Voltage (kV)		15/22	15/22	16/22	16/22	16/22	17/22	18/22	16/22	17/22	18/22	19/22

DU SERIES ORDERING CODE											
VQK R . . . DUS1 + Tube end	9P3	9P4	9P5	9P5,5	10P4	10P5	10P5,5	10P6	12P5	12P5,5	12P6

<i>d</i> (I.D. ± 0,2 mm) (O.D. = d+2 mm)	7	8	10
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Arc length	(mm)	76	101	127	139	101	127	139	152	127	139	152
	(inch)	3	4	5	5,5	4	5	5,5	6	5	5,5	6
Φ_T leads (± 0,1 mm)		6	6	6	6	6	6	6	6	6	6	6
Ko ($\Omega A^{1/2}$)		13,3	17,7	22,2	24,3	15,5	19,4	21,3	23,3	15,6	17	18,6
Voltage (V)	Min.	720	840	960	1020	840	960	1020	1080	960	1020	1080
	Max.	1900	2200	2500	2700	2200	2500	2700	2900	2500	2700	2900
Max. Power in water (W)		3300	4500	5600	6100	5100	6400	7000	7700	8000	8800	9600
Trigger Voltage (kV)		17/22	17/22	18/22	18/22	18/22	19/22	19/22	20/22	19/22	20/22	20/22

Above specifications valid for all DU series (DUM, DU and DUS) except for Max. Power in water 10 % higher for the DUM and DU models.

Physical characteristics

Standard silica : R (N or H silica available on request)
Wall thickness : 0,5 mm (DUM - DU) : O.D. = d + 1 mm
1 mm (DUS) : O.D. = d + 2 mm
Z = d + 2 mm (DUM - DU - DUS)
Gas type : Krypton (Xenon or Krypton/Xenon available)
Fill pressure : 1 kg/cm² (other pressures available)
Connectors : - M6 (Ø 4,75 x 13), H1 (Ø 6,35 x 11),
H2 (Ø 7,14 x 12,7) ...
- High voltage insulation flexible leads with specific
lengths available : TS, TS M... :
- Ø 3 mm ext : Temperatures -70°C +250°C
Insulation 22 kV

- Ø 6 mm ext : Temperatures -70°C +250°C

Insulation 37 kV

Electrode dimensions : 38 mm (48 mm for HDU series).

Electrical characteristics

Pulsed Krypton flashlamps are used in high power solid-state lasers.
Controlled electronic devices drive voltage and current with quasi flat current profiles during each pulse.
Simmer operations are highly recommended.

Cooling requirements

Fluid cooled only. Use deionised water with average flow of 8 liters/min.
Exchangers must be made of non-metallic material, except stainless (no copper or derivatives).

Specifications are subject to change without notice - Standard features given in the table : other specifications on request.