

# LEYSOP LTD

manufacturers and suppliers of electro-optic components

Longitudinal electric field KD\*P design

Dry or fluid filled

High power handling

High extinction ratio  
>1000:1

Low optical loss

Standard Ø35mm package



## Compact OEM Pockels Cells

Electro-Optic Q-switches continue to find applications where very fast switching times are required and recent advances in solid state switching circuits now make the electro-optic Q-switch a more effective solution for high performance Q-switch pulsed laser systems. The miniaturization of these devices has also generated renewed interest in their use.

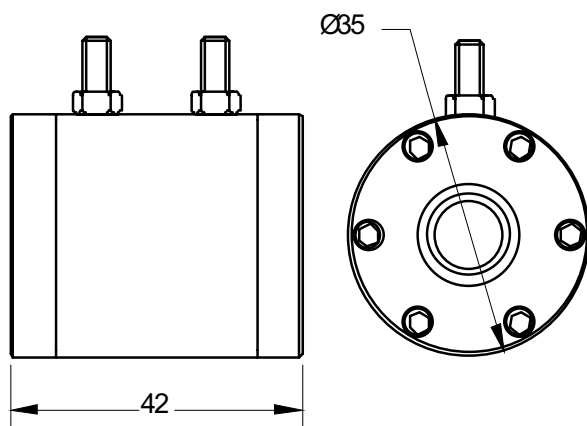
Leysop produce a miniature KD\*P longitudinal mode Pockels cell for integration into compact laser heads without compromising on the excellent performance of the larger units. The diameter of the package conforms to the industry standard 35mm which conveniently fits with large numbers of

readily available commercial kinematic mounts.

The package body is made from a high performance polymer material with black anodized end rings. Electrical connections are made using either 1mm Cambion pins or by means of 4mm stud terminals (as shown above) and either form can be supplied as preferred. For reasons of electrical safety and also shielding of radiated emissions we do not recommend this type of cell for use outside of a suitable enclosure.

Both fluorocarbon fluid filled and dry cells can be supplied for operation with all the common visible to Near IR laser wavelengths.

# LEYSOP LTD



EM510M shown approximately at full size

The longitudinal KD\*P Pockels cell has been the mainstay of electro-optic Q-switching for many years for good reason. It provides very high extinction ( $>1000:1$ ) with larger apertures than are practical using alternative transverse field devices. The switching voltages required however are higher than for transverse field devices as there is no advantage to be obtained from increasing the crystal length. Devices can be used in either half wave or quarter wave switching modes for lower operating voltage.

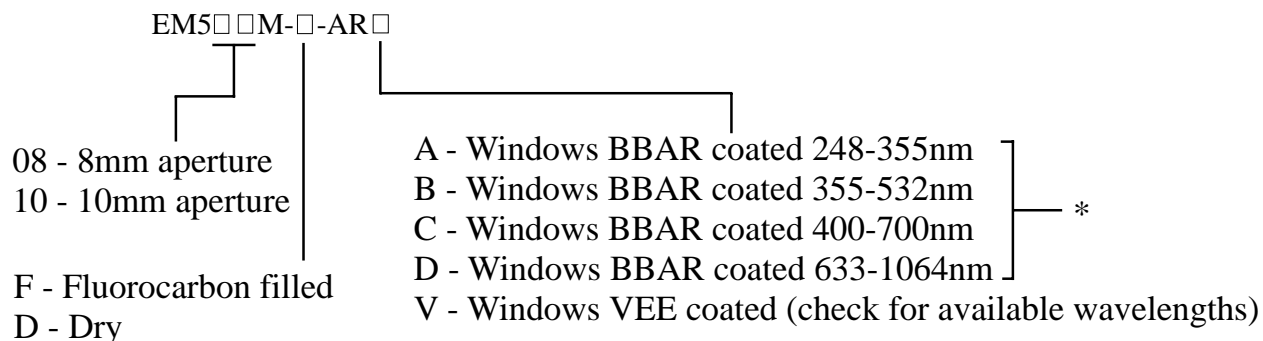
## PRODUCT SPECIFICATIONS

Model	EM508M	EM510M
Aperture	8mm	10mm
Wavelength range	0.3-1.2 $\mu$ m	0.3-1.2 $\mu$ m
Approximate Halfwave voltage (DC)	6.0kV	6.0kV
Approximate Halfwave voltage (AC)	7.2kV	7.2kV
Maximum voltage	10.0kV	10.0kV
Optical rise time	<1.0ns	<1.0ns
Contrast (extinction ratio) @ 1064nm	>1000:1	>1000:1
Capacitance un-terminated	~5pF	~5pF
Damage threshold (1064nm, 10ns pulse)	~600MW/cm <sup>2</sup>	~600MW/cm <sup>2</sup>
Insertion loss	<4%	<4%
Physical dimensions	Ø35mm x 37mm long	Ø35mm x 42mm long

Specifications for guidance only, subject to modification without notice.

### Specifying the Compact Pockels Cell Q-switch:-

The Q-switch is available as standard with either 8mm or 10mm aperture in both fluid filled (immersion) or dry type. Units may be supplied with windows either broadband (BBAR) coated or single wavelength (VEE) coated. The model code is thus:



\*For dry cells, specify the actual operating wavelength(s) on the order to allow for optimization of the coatings on the crystal