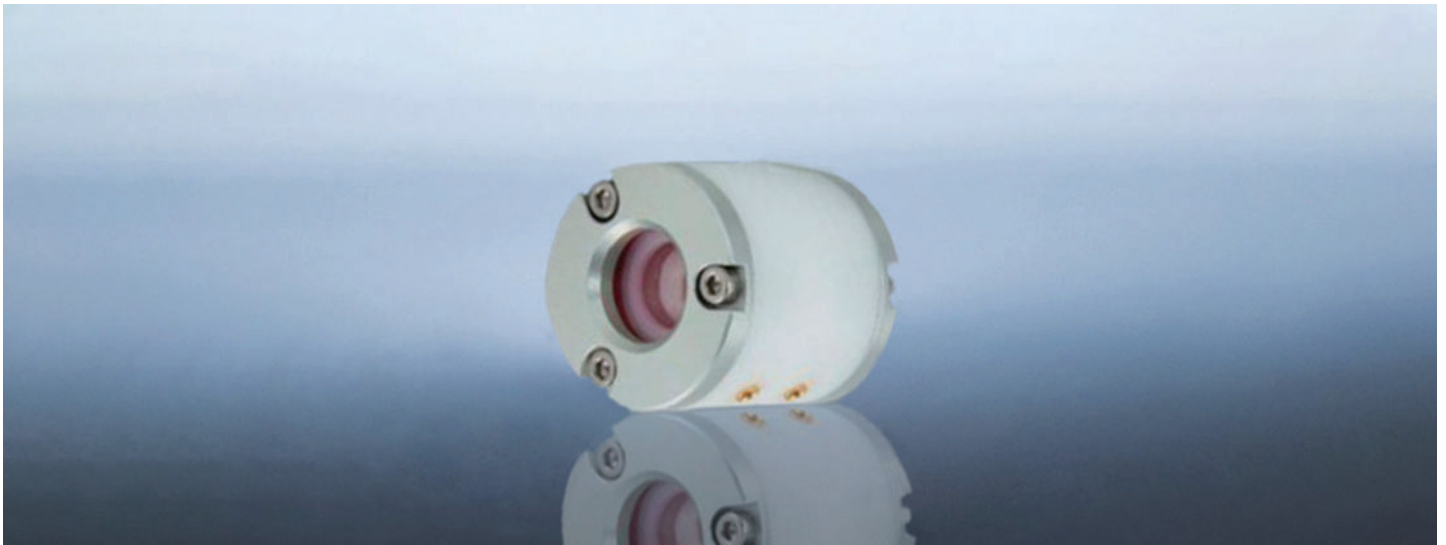


# KD\*P POCKELS CELLS



## DESCRIPTION

DKDP ( $KD_2PO_4$ ) pockets cells, also known as potassium deuterium phosphate pocket cells or DKDP pocket cells, are a pockets cells device with excellent overall performance. DKDP crystals have a low optical loss, high extinction ratio, good electro-optical properties, and good tolerance to the environment, etc. They can be used in electro-optical Q-switches, high-speed camera switches, military, and aviation laser systems, and dye lasers 800 nm two- and three-fold and 1064 nm two-, three- and four-fold fields. Ambient temperature range: 10~50 degrees, temperature change should not exceed 5 degrees every 20 minutes, ambient humidity: <40%, try to use with a humidity control device (desiccant and desiccator), when not in use, please store in a dry box.

## FEATURES

- Non-Static Birefringence
- No light refraction damage
- High resistance to photodamage threshold
- Excellent electro-optical coefficient
- Good tolerance to environment
- Good airtightness and no adhesive
- DKDP crystals with high deuterium content

## APPLICATIONS

- Electro-optical modulation
- Electro-optical Q-regulation
- High-speed camera switch
- Medical / Cosmetic Laser
- Multifunctional R&D laser platform
- Military and Aerospace Laser Systems

## KD\*P PHYSICAL CHARACTERISTICS

Insertion loss	<0.2%
Wavefront distortion	< $\lambda/6$ @633nm
Voltage extinction ratio	>2000:1(cp) >1500:1(cp)
quasi-straight	<0.5°
Quarter-wave voltage	~ 3400V
Surface quality	20/10
Capacitance	6 ~ 10pF
Light Passing Aperture	≥90%
Coatings	AR @1064nm (R<0.2%) or customized upon request
Damage Threshold	1GW/cm <sup>2</sup> 10ns 10Hz @1064nm



# KD\*P POCKELS CELLS

## KD\*P PHYSICAL CHARACTERISTICS

Chemical formula	$KD_2PO_4$
Transparency range	200-1600nm
Nonlinear coefficient	$d_{36}=0.40\text{pm/V}$
Refractive index	$n_o=1.4948, n_e=1.04554$
Electro-optical coefficient	$r_{41}=8.8\text{pm/V}, r_{63}=25\text{pm/V}$
Longitudinal half-wave voltage	$U_{\pi}=2.98\text{KV}(\lambda=546\text{nm})$
Optical damage threshold	$1\text{GW/cm}^2 @10\text{ns } 1064\text{nm}$
Extinction ratio	$>30\text{dB}$
Sellmeier equation	$n_o^2=1.9575544+0.2901391\lambda^2/(\lambda^2-0.0281399)-0.0282439$ $n_e^2=1.5005779+0.6276034\lambda^2/(\lambda^2-0.0131558)-0.0105406$

## KD\*P SINGLE CRYSTAL Q-SWITCH SPECIFICATIONS

Product Model	Clear Aperture (mm)	Crystal Size(mm <sup>3</sup> )	Shell Size (mm)	Quarter Wave Voltage (@ 1064 nm), kV DC	Capacitor , pF	Transmittance	Wavelength Range	Damage Threshold, 10ns 10Hz 1064nm	Extinction Ratio	Electrode Method
CLKDP-S1520-3542-AR	15mm	Dia.15x20 mm <sup>3</sup>	Dia.35x42 mm	3.2kV	5pF	$>98.5\%$	1030nm-1064nm	350 MW/cm <sup>2</sup>	1000:1	Cylindrical pin electrode
CLKDP-S1220-3236-AR	12mm	Dia.12x20 mm <sup>3</sup>	Dia.20x35 mm	3.2kV	5pF	$>98.5\%$	1030nm-1064nm	600 MW/cm <sup>2</sup>	1000:1	End face pin electrode
CLKDP-S1220-3240-AR	12mm	Dia.12x20 mm <sup>3</sup>	Dia.35x42 mm	3.2kV	5pF	$>98.5\%$	1030nm-1064nm	350 MW/cm <sup>2</sup>	1000:1	Cylindrical pin electrode
CLKDP-S1220-2540-AR	12mm	Dia.12x20 mm <sup>3</sup>	Dia.25x40 mm	3.2kV	5pF	$>98.5\%$	1030nm-1064nm	350 MW/cm <sup>2</sup>	1000:1	Cylindrical pin electrode
CLKDP-S1020-2532-AR	10mm	Dia.10x20 mm <sup>3</sup>	Dia.25x32 mm	3.2kV	5pF	$>98.5\%$	1030nm-1064nm	350 MW/cm <sup>2</sup>	1000:1	Cylindrical pin electrode
CLKDP-S0816-1926-AR	8mm	Dia.8x16 mm <sup>3</sup>	Dia.19x26 mm	3.2kV	5pF	$>98.5\%$	1030nm-1064nm	350 MW/cm <sup>2</sup>	1000:1	Cylindrical pin electrode
CLKDP-S0816-1926-SG	8mm	Dia.8x16 mm <sup>3</sup>	Dia.19x26 mm	3.2kV	5pF	$>98\%$	1030nm-1064nm	750 MW/cm <sup>2</sup>	1000:1	Cylindrical pin electrode
CLKDP-S0816-2028-AR	8mm	Dia.8x16 mm <sup>3</sup>	Dia.20x28 mm	3.2kV	5pF	$>98.5\%$	1030nm-1064nm	350 MW/cm <sup>2</sup>	1000:1	Cylindrical pin electrode
CLKDP-S0816-1930-AR	8mm	Dia.8x16 mm <sup>3</sup>	Dia.19x30 mm	3.2kV	5pF	$>98.5\%$	1030nm-1064nm	350 MW/cm <sup>2</sup>	1000:1	End lead
CLKDP-S0918-1928-AR	8mm	Dia.9x18 mm <sup>3</sup>	Dia.19x28 mm	3.2kV	5pF	$>98.5\%$	1030nm-1064nm	350 MW/cm <sup>2</sup>	1000:1	End face pin electrode



# KD\*P POCKELS CELLS

## KD\*P DOUBLE CRYSTAL Q-SWITCH SPECIFICATIONS

Product Model	Clear Aperture (mm)	Crystal Size (mm)	Shell Size (mm)	Quarter Wave Voltage (@ 1064 nm), kV DC	Capacitor, pF	Transmittance	Wavelength Range	Damage Threshold, 10ns 10Hz 1064nm	Extinction Ratio	Electrode Method
CLKDP-D1220-3565-AR	12mm	Dia.12x20 mm 3 a pair	Dia.35x65 mm	1.6kV	8pF	>97.5%	1030nm-1064nm	350 MW/cm <sup>2</sup>	500:1	Cylindrical pin electrode

## STRUCTURE

