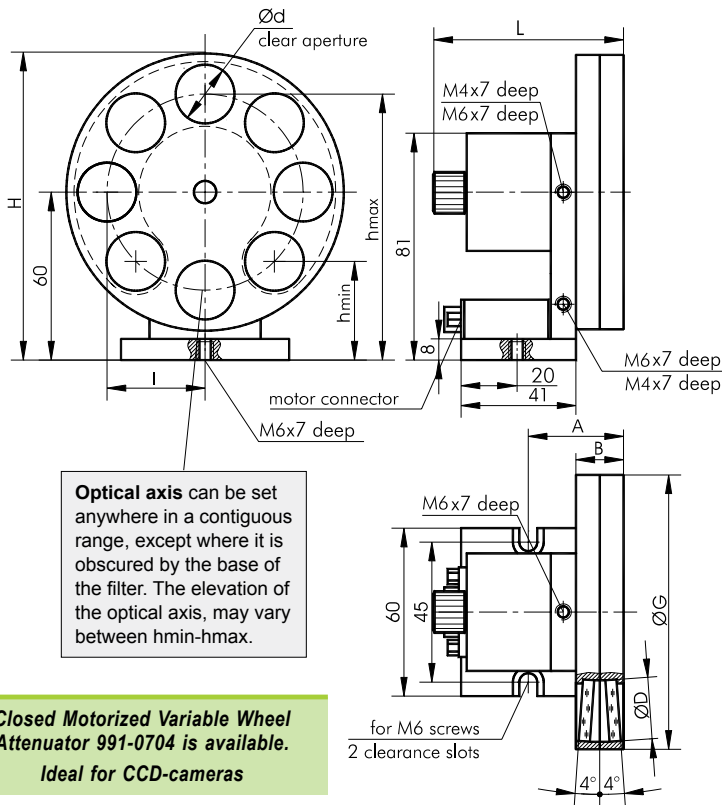


**991-0602** **MOTORIZED VARIABLE TWO WHEELS ATTENUATORS**



991-0602-01

- Filter diameter – Ø20/Ø25.4 mm
- Clear aperture Ø18/Ø23 mm
- Non parallel filters (inclined by 4°)
- Maximum thickness of filters – 2 mm
- Custom design available



Optical axis can be set anywhere in a contiguous range, except where it is obscured by the base of the filter. The elevation of the optical axis, may vary between hmin-hmax.

**Closed Motorized Variable Wheel Attenuator 991-0704 is available. Ideal for CCD-cameras**

**Motorized Variable Two Wheel Attenuator 991-0602** consists of two filter wheels. Each wheel contains eight filter mounts of ØD mm with clear aperture Ød mm. Each mount is inclined by 4° to prevent mutual reflections between filters. We supply the attenuators 991-0602-01 with a standard, most popular, set of filters. See the table below. Alternatively, optics can be manufactured according individual orders. Or we can supply the attenuators without filters, which you can fit by yourself. Bring a filter of each wheel into the optical

path easily by hand or using automation. Two wheels are driven by a single step motor. A computer can operate it via a controller. The Step Motor Controller Card 980-0030F-USB / 980-0030-RS232 and Position Control Software come separately. For fastening, attenuator has clearance slots for M6 and M4 screws. There are also two M6 holes, and one M4 hole (opposite to one of the M6 holes). Material: black anodized aluminium.

Model	D, mm	d, mm	H, mm	G, mm	A, mm	B, mm	L, mm	h <sub>min</sub> , mm	h <sub>max</sub> , mm	I, mm	Price, EUR
991-0602-01	Ø20	Ø18	110	Ø100	35	16.5	73.5	34	97	37	918
991-0602-02	Ø25.4	Ø23	115	Ø110	39	20.5	78	32	99.5	39.5	738

**Note:** 991-0602-01 is with filters dia 20 mm.

991-0602-02 is without filters. 991-0602-02 is suitable for Neutral Density and Colour Glass Filters Ø25.4 mm that should be ordered separately.

**RELATED PRODUCTS**

Neutral Density Filters Ø25.4 mm  
See page 1.13

Colour Glass Filters Ø25.4 mm  
See page 1.15

Stepper, BLDC and DC Motor Controller 980-0040-USB  
see page 8.189



Standard set filters transmittance

Wheel N1	Wheel N2
1	1
0	0
0.9	0.8
0.5	0.3
0.1	0.03
0.01	0.003
0.001	0.0003
0.0001	0.00003

Stepping motor specifications

Rated Current	0.4 A
Resistance	33 Ω
Inductance	52 mH
Holding torque	0.12 N·m
Step angle	1.8 °
Step angle accuracy	5 minutes
Required electrical power	5.6 W

Motors of other types are available.