

TECHNICAL DATASHEET

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OS4 Ophthalmic Surgery System MD 1105.08

General Information

Intended use: The product is intended to be used for surgical procedures in the anterior and posterior segments of the eye. It includes in combination with the instruments and an irrigation/aspiration (I/A) system the following functions:

- maintaining intraocular pressure (gravity infusion, GFI function)
- irrigation and aspiration (I/A function)
- phacoemulsification (PHACO function, ENDOPHACO function)
- coagulation and coaptation with bipolar diathermy (DIA function)
- bipolar diathermic capsulotomy (CAPS function)
- High frequency deep sclerotomy ab interno (HFDS function)
- operation of a vitrectomy instrument (VIT function)
- injection and extraction of viscoelastic substances (INJECTION and EXTRACTION functions)
- retinal photocoagulation with endolaser (LASER function)
- intraocular illumination (LUM function)
- supply air and maintain intraocular pressure with air (AIR function)

Manufacturer: Oertli Instrumente AG, 9442 Berneck, Switzerland
Certification: CE0297
GMDN-Code: 45072

Technical Data

Classifications

Protection class : 1
CE Classification: Class IIb according Rule 9.2, 11.2
Application parts: non-earthed, Type BF (IEC 60601-1)
Noise level: < 70 dB (A)

Dimensions and weights

Dimensions: Device: 490 x 520 x 1540 mm (W/D/H, infusion pole retracted)
Tray: 800 x 350 mm
Weight: Device: 75 kg (weight with tray VC860300)
Pedal: 6 kg
Tray: 7 kg

DESCRIPTION OF MODEL

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Electrical data

Mains voltages:	115 / 230 VAC
Mains frequency:	50 Hz / 60 Hz
Power consumption:	600 VA
Fuses	3x T 6.3 AH, 250 V, high breaking capacity
Operating mode:	Continuous
Service life:	10 years from the date of manufacture

Power data in the individual functions

PHACO:	26 – 28.8 kHz, 28 kHz nominal 40 W ± 8 W (100% / 1100 Ω) $V_{RMS} = 210V$ (40W / 1100 Ohm)
Vacuum:	5 mmHg – 650 mmHg Accuracy: ± 20% or 30 mmHg (greater value) Adjustable increment: 5 mmHg
Peristaltic flow:	0 ml/min – 60 ml/min Adjustable increment: - 0 – 10 ml/min : 0.1 ml/min - 10 – 60 ml/min: 1 ml/min Accuracy: ± 20%
Reflux peristaltic:	15 ml/min, accuracy: ± 20% 150 mmHg, accuracy: ± 20%
Reflux venturi:	100 mmHg Accuracy: ± 20%
VIT:	- 60 – 10'000 cuts/min with CF cutter, accuracy: ± 20% - 30 – 5'000 cuts/min with SPS vitrectomy cutter, accuracy: ± 20% Max. output pressure: 3.5 bar
DIA:	500 kHz ± 100 kHz 0 – 8 W nominal (50 Ohm) DIA (100%): 100 V max. output voltage (idling voltage) 0.72 A max. HF output current

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CAPS:	500 kHz $\pm$ 100 kHz, specific output values Regular: 7.8 W $\pm$ 1.5 W (50 Ohm), 340 V max. output voltage (idling voltage) 0.57 A max. HF output current High: 9.2 W $\pm$ 1.8 W (50 Ohm), 365 V max. output voltage (idling voltage) 0.60 A max. HF output current
HFDS:	500 kHz $\pm$ 100 kHz, specific output values HFDS: 7.3 W $\pm$ 1.4 W (50 Ohm), 320 V max. output voltage (idling voltage) 0.56 A max. HF output current
AIR/GFI:	0 mmHg - 120 mmHg $\pm$ 10%, min. 5mmHg Increment: 1 mmHg
Visco injection:	0.05 – 5.0 bar Accuracy: 0.5 – 5 bar $\pm$ 0.2 bar
Visco extraction:	0.01 – 1.0 bar, Accuracy: - 0.2 – 0.8 bar $\pm$ 0.1 bar - 0.8 – 1 bar $\pm$ 20%
Light:	LED: 17 lm $\pm$ 25% (23G) LEDplus: 19 lm $\pm$ 25% (23G)
Laser:	Working beam: - Laser class 4, 50 mW – 1.0 W - 532 nm, Pulse length: 10 ms – 5 s Pulse interval: 10 ms – 5 s Increments: - Laser power: 10 mW - Pulse duration: 10 ms - Pulse interval: 10 ms - Nominal ocular hazard distance (NOHD) with laser probe: 10 m - Beam divergence / numerical aperture (NA) with laser probe: 0.22 Aiming beam: - Laser class 3R, max. 5 mW cw - 635 nm $\pm$ 10 nm

Transport and storage conditions

Temperatur: -20°C - +55°C

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Air pressure: 500 hPa - 1060 hPa
Relative air humidity: 10 - 90% non-condensing

Operating conditions

Temperature: +14°C - +28°C
Air pressure 700hPa - 1060hPa
Relative humidity 30% - 75% non-condensing

Supply pressure

Supply pressure: Pressurised air: 5 to 9 bar, 55 NI/min
Connection: NIST EN ISO 5359 connection

Device Accessories

VE860010 Dual-linear, wireless pedal for OS 4
VE860001 Instrument table for OS 4
VX100911 Compressed air hose, 5m, NIST-AIR connection on one end
340833 UPF user protection filter, passive, for Zeiss/HS Moeller microscope
340846 UPF user protection filter, passive, for Leica microscope
340990 UPF user protection filter, passive, for Topcon microscope
F18. Laser safety goggles, filter impact OD6+, blocked wavelength 532 nm
P1E01.1001 MED

The user manual VV016040 for OS4 surgery system contains a detailed list of consumables and instruments that can be used with the device.

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Article Number	VC860200	VC860300
Description	OS 4 surgical platform, anterior/posterior	OS 4 surgical platform, anterior/posterior with endo laser
Phaco	✓	✓
I/A	✓	✓
DIA/CAPS/HFDS GLAU	✓	✓
Anterior vitrectomy	✓	✓
Posterior vitrectomy	✓	✓
Injection/Extraction	✓	✓
Endo Phaco	✓	✓
Laser		✓
Gas forced infusion (GFI)	✓	✓
Fluid/gas exchange	✓	✓
Intraocular illumination		
Light LED	✓	✓
Light LED	✓	✓



Fig. 1: Frontview



Fig. 2: Frontview, with instrument
table expanded



Fig. 3: Backview



Fig. 4: Duallinear pedal