



PULSAR²ESP

OPTIKON™
Man and Technology

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Minimal Stress

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REF 111007

Modular workstation for anterior and posterior segment surgery

Modulo Vit REF 121010



- Double Pump Venturi-Peristaltic.
- Double Infusion: I.V. Pole/Forced *Minimal IOP* (patented).
- Continuous micrometrical stroke length control & adjustment by *Minimal Stress System* (patented).
- Programmable Emission Mode
- Co-M.I.C.S.; M.I.C.S. (incision size range 3.2 mm - 1.0 mm).
- High Speed Vitrectomy: up to 2500 cuts/min.
- 20/23/25G Vitrectomy.
- HID Xenon Light.
- Programmable Double Linear Footpedal.
- LCD Touch Screen.
- User Friendly Control Software.

TECHNICAL FEATURES

Pulsar² ESP *Minimal Stress* - Base Module

PROGRAMMABILITY

- **PROGRAMS**
Over 1000 user programs, each including 3 U/S, 2 DIATH, 2 I/A, 2 VIT modes.

EQUIPMENT CONTROL

- **USER INTERFACE**
Graphic User Interface, 12.1" LCD with touch screen
- **REMOTE CONTROL**
Cable wired, controls all functions
- **FOOTPEDAL**
Dual linear programmable footpedal controls all equipment functions
- **AUTOMATIC CART FOR BOTTLE**
Programmable and controlled by pedal and console

IRRIGATION

- **FLUID DELIVERY**
Gravity fed. Eye pressure determined by the height of I.V. pole
Patented forced irrigation. Eye pressure determined by programmable air pressure (range 14-80 mmHg)
- **VALVING ELEMENT**
Solenoid driven pinch valve
- **CONTROL**
System footpedal/console

ASPIRATION

- **ASPIRATION PUMP TYPES**
Venturi and Peristaltic
- **ACTUATING MEDIUM**
Pressurized air from external source
Pressure: from 500 to 800 KPa (72 to 116 PSI)
Flow: at least 30 Normal litre/minute @500mmHg
- **DEFAULT VACUUM LEVEL**
User programmable
- **AVAILABLE VACUUM RANGE**
5 to 500mmHg
- **DEFAULT FLOW RATE**
User programmable
- **FLOW RATE RANGE**
2 to 50cc/min (peristaltic only)

ASPIRATION RISE TIME

Three levels, SLOW, MEDIUM, FAST

SURGEON MODE

(Linear Aspiration): Linear aspiration (Vacuum and/or flow rate) from zero to preset linearly controlled via system footpedal

SAFETY SYSTEM

ACS3 (Anterior Chamber Surge Suppression System)

CONTROL

System footpedal

VITRECTOMY

HANDPIECE TYPE

20/23/25G pneumatically powered guillotine cutter (VIT)

CUTTING MODE

Reciprocating motion

DEFAULT CUT RATE

User programmable

CUTTING RATE

From 60 up to 2500 cuts per minute (VIT)

PORT SIZE

Adjustable from 0.2 to 0.7 mm (reusable cutters only)

ACTUATING MEDIUM

Pressurized air from external source

OPERATING PRESSURE

230 KPa (33,4 PSI)

SURGEON MODE

Linear cut rate from 0 to preset controlled via system footpedal

CONTROL

System footpedal

DIATHERMY

TYPE

Bipolar generator. Generator stops when RF power is not needed

OPERATING FREQUENCY

2 MHz

NOMINAL POWER

7W (450 Ohm)

NO LOAD MAX. VOLTAGE

100V

DEFAULT BIPOLAR POWER

User programmable

BIPOLAR POWER

5 to 100%

SURGEON MODE

Allows linear control of the diathermy power via system footpedal depression

HANDPIECE TYPE

(Linear power): Bipolar microforceps, slim stat pencil eraser, intraocular diathermy pencils

CONTROL

System footpedal

PHACOEMULSIFIER

HANDPIECE TYPE

Piezoelectric

FREQUENCY

Approx. 40KHz

TIP STROKE

From 0 to 100µm

POWER

Panel or linear control of the U/S power via system footpedal depression

U/S MODE

Linear or panel; Continuous, Short Pulse, Single Burst, Multi Burst, Continuous Burst, Programmable Emission Mode

U/S TIMER

From 0.00 minutes to 9.59 minutes - Equivalent Phaco Time display

CONTROL

System footpedal

TECHNICAL SPECIFICATIONS

DIMENSIONS

330 x 410 x 450 mm

WEIGHT

15 Kg

INPUT VOLTAGE

100/120/220/230-240 V A.C. SELECT.

FREQUENCY

50/60Hz

POWER CONSUMPTION

145W

INPUT AIR PRESSURE

From 500 to 800 KPa (72 to 116 PSI)

REGULATORY

CE MARKING

European directive 93/42/EEC

SAFETY

Conforms to IEC 60601-1
IEC 60601-1-2
IEC 60601-2-2

Vit Module

ILLUMINATION

SOURCE

5100°K HID Xenon lamp

LIGHT INTENSITY

Adjustable in 4 steps by motorized diaphragm

FILTERS

Green filter

STERILE AIR INFUSION

PRESSURE RANGE

From 5 to 80mmHg (steps of 5mmHg)

STERILITY

Achieved by 0.22 microns sterile single use filter

SAFETY SYSTEMS

Activation warning tone

SILICONE INFUSION

PRESSURE RANGE

From 40 KPa (5,8 PSI) to 500 Kpa (72,5 PSI)
Step of 20 KPa (29 PSI)

CONTROL

Linear injection control

INJECTION SYSTEM

Pre-filled 1000 and 5000 cSt disposable syringes

REMOVAL

Single use dedicated kit

SAFETY SYSTEMS

Activation warning tone

SCISSORS

MICROSCISSORS TYPE

Semi-disposable pneumatically powered - progressive cut

CUTTING RANGE

From 60 to 320 cuts/min ~ single cut

ACTUATING SYSTEM

Pressurized air

ELECTRICAL SPECS

MAINS VOLTS

100/120V 50-60Hz - 220/240V 50Hz

POWER CONSUMPTION

75 W