



## ADENDUM KERANGKA ACUAN KERJA (KAK)

NAMA PEKERJAAN : Paket Pekerjaan Pengadaan Barang. Paket 2 Peralatan  
Laboratorium Untuk Riset WGPS PUAPT 2024 (*Various  
Brand*)

SUMBER DANA : RKAT UGM TAHUN ANGGARAN 2024, Biro Manajemen  
Strategis UGM

ANGGARAN DANA RKAT  
TAHUN 2024

## KERANGKA ACUAN KERJA (KAK)

- 1. PEKERJAAN**                      **Paket Pekerjaan Pengadaan Barang. Paket 2 Peralatan Laboratorium Untuk Riset WGHA PUAPT 2024 (*Various Brand*)**

.
- 2. LATAR BELAKANG**

Isu global saat ini yang paling berpotensi berdampak terhadap kehidupan masyarakat Indonesia adalah isu perubahan iklim. Dalam rangka meningkatkan daya saing bangsa dalam menghadapi isu-isu strategis melalui investasi di Perguruan Tinggi Negeri Badan Hukum, Direktorat Jendral Pendidikan tinggi, Riset dan Teknologi menyelenggarakan program pusat unggulan antar perguruan tinggi. Pemerintah mempunyai target perguruan tinggi di Indonesia masuk dalam 500 (lima ratus) universitas besar dunia dengan melaksanakan program Pusat Unggulan Antar Perguruan Tinggi (PUAPT).

Universitas Gadjah Mada yang merupakan salah satu Perguruan Tinggi Negeri Badan Hukum yang sudah masuk dalam 500 (lima ratus) sehingga UGM berkesempatan untuk melaksanakan program Pusat Unggulan Antar Perguruan Tinggi (PUAPT). Tahun 2024 ini UGM melaksanakan program PUAPT ini dalam 2 (dua) topik prioritas yaitu Pengembangan Ketahanan Pangan dan Kemandirian Kesehatan.

Sebagai Perguruan Tinggi Badan Hukum (PTNBH) Universitas Gadjah Mada diberi kewenangan untuk mengatur secara mandiri proses Pengadaan Barang dan Jasanya hal ini tertuang dalam Peraturan Rektor Universitas Gadjah Mada nomor 12 Tahun 2022 tentang Pengadaan Barang/Jasa Universitas sebagaimana diubah terakhir Peraturan Rektor nomor 12 Tahun 2024 tentang Pengadaan Barang/Jasa Universitas. Dalam Peraturan Barang/Jasa tersebut antara lain mengatur bahwa barang untuk kebutuhan penelitian dapat menyebutkan satu brand/merk dalam penyusunan spesifikasi teknis.

Dalam paket 2 ini adalah Kemandirian Kesehatan tentunya membutuhkan dukungan berupa peralatan-peralatan laboratorium yang canggih, teknologi terbaru serta memenuhi berbagai standar yang telah ditentukan.
- 3. RUANG LINGKUP**                      Ruang Lingkup paket 2 ini adalah Pengadaan 34 jenis item barang termasuk instalasi, test commissioning pelatihan dan layanan purna jual.
- 4. SUMBER ANGGARAN**

a) Anggaran RKAT UGM Tahun 2024, Biro Manajemen Strategis  
b) Total perkiraan biaya yang diperlukan untuk pengadaan Peralatan ini adalah **Rp40.614.447.300 (Empat puluh milyar enam ratus empat belas juta empat ratus empat puluh tujuh ribu tiga ratus rupiah).**
- 5. SPESIFIKASI TEKNIS**                      Spesifikasi Teknis item barang terlampir.

- 6. JANGKA WAKTU PELAKSANAAN PEKERJAAN**      Jangka waktu pelaksanaan pekerjaan/pengadaan barang : 90 (sembilan puluh) hari kalender, terhitung sejak Tanggal Surat Perintah Pengiriman.
- 7. PELATIHAN & SURAT DUKUNGAN**
- DIPERLUKAN Pelatihan/Training dalam Pengoperasian Peralatan ini.
  - Surat dukungan dari distributor resmi di Indonesia berupa :
    - Keaslian barang
    - Pernyataan bahwa produk/barang yang ditawarkan adalah barang berkualitas / *Good Industry Practice* (standard pabrikan) dan merupakan barang baru, bukan barang rekondisi dan bukan barang bekas.
    - Garansi minimal 1 (satu) tahun berupa full service dan sparepart.
    - Jaminan ketersediaan sparepart minimal selama 5 tahun.
    - Maintenance rutin setiap minimal 6 bulan sekali selama masa garansi.
    - Respon time kerusakan melalui telpon maksimal 2 jam setelah telpon dan teknisi on site dalam waktu 2x24 jam.

Yogyakarta, 26 Maret 2024

Pejabat Pembuat Perjanjian

**LAMPIRAN KERANGKA ACUAN KERJA**

**Paket Pekerjaan Pengadaan Barang**

**Paket 2 Peralatan Laboratorium Untuk Riset WGPS PUAPT 2024 (Various Brand)**

NO ITEM	KODE BARANG	NAMA BARANG	SPESIFIKASI	Volume	Satuan	TUJUAN PENGIRIMAN
1	WGHA 01	DBT and Contrast Enhance mammography	Name Of Product Digital Mammography Brand / Manufacturer Siemens Healthcare Gmbh Model / Type Mammomat Revelation (Premium) Country Of Origin Germany FDA Clearance : yes CE Mark (MDD) : yes Certificate : ISO 13485 Where Marketed : Worldwide Reference Of Technical Analog or Digital Mammography : Digital Mammography Remote operation : Yes Basic Unit Height adjustment : 69 cm (27.2") to 150 cm (59.1") (object table), motorized Compression : 50 N to 200 N, automatic and manual adjustment Maximum SID : 65 cm (25.6") Minimum SID : 65 cm (25.6"), Magnification factors 1.8, geometric Swivel range + 180° to – 180°, motorized, isocentric rotation Controls : One-click-to-image and single-touch positioning at system body. Acquisition Workstation (AWS). Generator console is integrated in the AWS, radiation is released from a separate control box Object table movement: Can be adjusted from the examination stand as well as via the foot switch.	1	Unit	Rumah Sakit Akademik UGM

NO ITEM	KODE BARANG	NAMA BARANG	SPESIFIKASI	Volume	Satuan	TUJUAN PENGIRIMAN
			<p>Clinical application : Screening, diagnostic and biopsy procedures</p> <p>Detector</p> <p>Detector type : Amorphous selenium (aSe)</p> <p>Detector size, cm (in) : 24 cm x 30 cm</p> <p>Field sizes : 18 cm x 24 cm or 24 cm x 30 cm</p> <p>Acquisition matrix size : 2816 x 3584 pixels</p> <p>Pixel size : 85µm</p> <p>X-Ray Production</p> <p>Generator power : 5 kW</p> <p>kV range : 23 kV to 35 kV2</p> <p>mAs range : 2 mAs to 630 m1As in mAs mode and 7 mAs to 715 mAs in AEC mode</p> <p>Focal spot nominal value 0.15 / 0.3 (IEC 60336) for Mo and W focal spot</p> <p>Nominal voltage : Max 49 kV</p> <p>Tube heat storage capacity 2,430,000 HU</p> <p>Anode heat storage capacity 162,000 HU</p> <p>Inherent filtration : 1,0 Be/40 IEC 60522</p> <p>Anode speed (rpm) : &gt; 8520 rpm</p> <p>Tomosynthesis : Yes, 3D Tomosynthesis - With its wide acquisition angle of 50°, it enables precise 3D digital breast imaging that significantly improves the early detection rate of breast cancer</p> <p>Biopsy : Yes, Stereotactic Biopsy - system will position automatically with One-Click Targeting on the object with ±1mm precision</p> <p>Contrast Enhancement : Yes, TiCEM - imaging technique using iodinated intravenous (IV) contrast integrate with Titanium Contrast Enhanced Mammography</p> <p>Image Display</p> <p>In-room monitor size : 19"</p> <p>Software : syngo or image processing system</p> <p>Connectivity</p> <p>DICOM Send/Receive : Yes</p>			



NO ITEM	KODE BARANG	NAMA BARANG	SPESIFIKASI	Volume	Satuan	TUJUAN PENGIRIMAN
			Temperature Control Block\Tube Ramping Rate Adjustable 0.1~5°C ; Gradient Temp. Range 30~100°C; Gradient spread 1~30 °C Hot Lid Temperature 30~110°C Number of Programs 10000 +(USB FLASH) Max. No. of Step 30 Max. No. of Cycle 100 Time Increment/Decrement 1 Sec ~ 600 Sec Temp. Increment/Decrement 0.1~10.0°C Pause Function Yes Auto Data Protection Yes Hold at 4°C Forever Language English Computer Software Yes Mobile phone APP Yes LCD 5 inch, 800×480 pels, 65K color Communication USB2.0 , WIFI; Power supply 85~264VAC , 47~63Hz , 200W			
3	WGHA 34	Tissue Homogenizer	OSE-TH-02 TGrinder H24R Temperature set range : -10°C~40°C The time needed from room temperature to 0°C : <30 min Temperature accuracy : ±2°C Vibration linear velocity: 4.00-7.00 m/s, progressive increase by 0.05 m/s Rotating speed : 2430-4260 m/s, progressive increase by 10 rpm Time setting : Running time: 1-90 sec, Pause time between cycles: 1-120 sec, Number of cycles: 10 Procedure storage : 3 preset procedures, and 47 self-defined procedure Sample throughput : 24×2 ml grinding tube (standard configuration), 12×5 ml grinding tube (selective assembly) Time from start to speed stabilization/ deceleration to complete stop : <4 sec Noise level : ≤65 Db	1	Unit	Laboratorium Riset Terpadu/ FK-KMK

NO ITEM	KODE BARANG	NAMA BARANG	SPESIFIKASI	Volume	Satuan	TUJUAN PENGIRIMAN
4	WGHA 06	Incubator	<p>SciGene-Illumina Hybex  Specified by Illumina for NGS sample prep and BeadChip applications</p> <ul style="list-style-type: none"> <li>• Regulates sample temperatures <math>\pm 0.1^{\circ}\text{C}</math></li> <li>• Heated lid minimizes cap condensation</li> <li>• Removable Blocks for 0.2 PCR, 0.6 and 1.5 ml tubes</li> <li>• Fits MIDI block sold by Illumina.</li> <li>• Simple temperature calibration</li> </ul> <p>Equipment Included : Hybex heating base  Electrical Cat # 1057-30-0 : 115V AC, 50/60Hz, 3A, Cat # 1057-30-2 : 230V AC, 50/60Hz, 1.6A  Dimensions (HxWxD) : 10 x 6 x 12 inches (21 x 15 x 30 cm)  Instrument Weight : 6 lbs (3 kg) net (heating base)</p> <p>Performance and Controls  Temperature Range : Ambient <math>+5.0^{\circ}\text{C}</math> to <math>99.0^{\circ}\text{C}</math>  Temperature Regulation : <math>\pm 0.1^{\circ}\text{C}</math> from set point</p>	1	Unit	Laboratorium Riset Terpadu/ FK-KMK
5	WGHA 13	Magnetic Stand for Midiplate	<p>Invitrogen Magnetic Stand-96  Description :  The DynaMag-96 Side Magnet is optimized to pull all types of Dynabeads (range 1-4.5 <math>\mu\text{L}</math> in diameter) to the side of PCR Tubes or to the sides of well in 96 well plates. Designed for both automation platforms (e.g., Tecan) and manual workflows, this magnet is not compatible with PCR tubes but is compatible with PCR-Strips and 96-well plates (200<math>\mu\text{L}</math>), non skirted and half skirted</p> <p>Efficient mixing without sample handling  This magnet has an extra column (13 total). This enables sample mixing simply by shifting the 96-well plate back and forth from the right-most position to the left-most position. This shifting draws the beads back and forth through the sample and</p>	1	Unit	Laboratorium Riset Terpadu/ FK-KMK



NO ITEM	KODE BARANG	NAMA BARANG	SPESIFIKASI	Volume	Satuan	TUJUAN PENGIRIMAN
			<p>allows mixing to be achieved without handling, promotion faster processing and less sample handing-induced variation</p> <p>Handling volume When used in combination with the DynaMag-96 bottom magnet on an autamation platform, the two magnets allow for significant volume changes through a workflow .</p> <ul style="list-style-type: none"> <li>- High was volumes : DynaMag - 96 Side Magnet</li> <li>- Low evolution volumes : DynaMag - 96 Bottom Magnet</li> </ul> <p>Specifications: For Use With (Equipment)   Magnetic Stand Shipping Condition   Room Temperature Product Line   Ambion™ Quantity   1 Each Type   Magnetic Stand</p>			
6	WGHA 14	Magnetic Stand for PCR Plate Tube	<p>Invitrogen DynaMag™-96 Side Magnet Description : Catalog #12331D The DynaMag-96 Side Magnet is optimized to pull all types of Dynabeads (range 1-4.5 uL in diameter) to the side of PCR Tubes or to the sides of well in 96 well plates. Designed for both automation platforms (e.g., Tecan) and manual workflows, thias magnet is not compatible with PCR tubes but is compatible with PCR-Strips and 96-well plates (200uL), non skirted and half skirted</p> <p>Efficient mixing without sample handling This magnet has an extra column (13 total). This enables sample mixing simply by shifting the 96-well plate back and forth from the right-most position to the left-most position. This shifting draws the beads back and forth through the sample and allows mixing to be achieved without handling, promotion faster processing and less sample handing-induced variation</p>	1	Unit	Laboratorium Riset Terpadu/ FK-KMK

NO ITEM	KODE BARANG	NAMA BARANG	SPESIFIKASI	Volume	Satuan	TUJUAN PENGIRIMAN
			<p>Handling volume  When used in combination with the DynaMag-96 bottom magnet on an automation platform, the two magnets allow for significant volume changes through a workflow .  - High was volumes : DynaMag - 96 Side Magnet  - Low evolution volumes : DynaMag - 96 Bottom Magnet  Specifications:  Description Magnet  For Use With (Equipment) DynaMag™  Shipping Condition Room Temperature  Product Line DynaMag™</p>			
7	WGHA 17	Freezer -80°C	<p>Haier Low Energy ULT Freezer-LED Display  SPECIFICATIONS  Technical Data  Type : -86°C ULT Freeer  Cabinet Type : Upright  Capacity (L/Cu.Ft) : 626/22.1  Climate Class : N  Cooling Type : Direct cooling  Defrost Mode : Manual  Refrigerant : HC  Noise Lever (dB) : 49  Performance :  Cooling performance(°C) : -86  Temperature Range(°C) : -40~-86   Controller : Microprocessor  Display : LED  Electrical Data :</p>	1	Unit	Laboratorium Riset Terpadu/ FK-KMK

NO ITEM	KODE BARANG	NAMA BARANG	SPESIFIKASI	Volume	Satuan	TUJUAN PENGIRIMAN
			Power Supply(V/Hz) : 220-240/50 Power(W) : 650 Electrical Current(A) : 5 Display : LED Electrical Data : Power Supply(V/Hz) : 220-240/50 Power(W) : 650 Electrical Current(A) : 5 Include : 1 bag, cooling bead with specification: Item : Techne ceramic beads Container load (20'/40'/40'H) : 12/24/24 Functions : High/Low Temperature : Y Remote Alarm : Y Hot Condenser : Y Power Failure : Y High/Low Voltage : N/A Sensor Error : Y Low Battery : Y High Ambient Temp : Y Door Ajar : Y Accessories : Caster : Y Foot : Y Test Hole : Y Shelves/Inner Doors : 43499 Temperature Recorder : Optional USB Interface : Y Rs232/485 Interface : Optional CO2 Backup System : Optional			

NO ITEM	KODE BARANG	NAMA BARANG	SPESIFIKASI	Volume	Satuan	TUJUAN PENGIRIMAN
			LN2 Backup System : Optional Chart Recorder : Others : Pack size : 1 bag, 1.7Kg Al2O3 90% Specific weight (gr/cm3) 3.55 Density of loose material (kg/l) 2 – 2.1 Hardness (Mohs scale) 9 Porosity 0 Colour White Size (mm) 1.5 – 2.5 Autoclavable			
8	WGHA 22	Focused-Ultrasonicator	Covaris ME220,Ultrasonicator #500565 ME220 microTUBE Strip Starter Kit • This kit includes the ME220 Rack 8 microTUBE Strip V2 (500518), the ME220 Rack Loading Station (500523), and the ME220 Waveguide 8 place (500526).  #5202408 microTUBE-50 AFA Fiber H Slit Strip V2 (12) The ME220 Focused-ultrasonicator is the multi-sample, multi-application benchtop sample preparation solution for every lab. Capable of 1 to 8 sample batch processing at the bench-top, this compact, easy-to-use system enables precise and accurate results with AFA-energetics®.  Technical Specification      Description Primary Applications: Cell lysis: mammalian, bacterial, yeast, cfDNA Extraction from Plasma, DNA Extraction from Dried Blood Spots, DNA/RNA/Chromatin Shearing, DNA/RNA/Total NA/Protein Extraction from FFPE, Tissue lysis and extraction. Treatment Power: 20 W Avg. Incident Power	1	Unit	Laboratorium Riset Terpadu/ FK-KMK

NO ITEM	KODE BARANG	NAMA BARANG	SPESIFIKASI	Volume	Satuan	TUJUAN PENGIRIMAN
			Part Number: 500506 Power Requirements: 100-240 VAC 500 VA, 50-60Hz, 5 Amp Slo-Blow Fuse Operating Environment: Ambient temperature: 19 °C to 25 °C (66 °F to 77 °F) Relative humidity: 30% to 70% Operating Temperature: Programmable +6.0 °C to +40.0 °C Safety: Complies with Low Voltage Directive 2006/95/EC. Certified to IEC/EN/UL 61010-1:2004 "Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use, Part1: General Requirements Regulatory Labeling: CE, ETL Mark (for Product Safety), WEEE SonoLab Version: SonoLab 8 Operating System: Windows 10 WCS: NA Chiller: Stand-alone benchtop Sample Processing Capacity: Single Tube NGS Sample Volumes: 15 to 130 µl Recommended Batch Size: 1 to 8 Samples Covaris Consumablesmicro: TUBE 8 strip, milliTUBE Upgrade Potential: Yes Associated Accessories: ME220 Accessories			
9	WGHA 27	Vacuum Manifold (Requirement for NIPT)	Qiagen QIAvac 24 Plus Vacuum Manifold Includes: - Vacuum Pump (15V, 60 Hz) - Qiavac Connecting System QIAvac 24 Plus Qiagen cat. 19413 2 Vacuum Pump (115 V, 60 Hz) Qiagen cat. 84010 3 QIAvac Connecting System Qiagen cat. 19419	1	Unit	Laboratorium Riset Terpadu/ FK-KMK

NO ITEM	KODE BARANG	NAMA BARANG	SPESIFIKASI	Volume	Satuan	TUJUAN PENGIRIMAN
			<p>QIAGEN QIAvac vacuum systems enable fast and efficient vacuum processing of up to 24 spin columns using the QIAvac 24 Plus, of 96-well plates using the QIAvac 96 and up to 6 HiSpeed Mega or Giga Columns using the QIAvac HiSpeed LS Vacuum.</p> <p>For optimal results, we recommend using the QIAvac 24 Plus and QIAvac 96 together with the QIAvac Connecting System and a Vacuum Pump.</p> <p>The QIAGEN Vacuum Pump is suitable for all standard laboratory vacuum procedures (capacity 34 L/min, 8 mbar vacuum abs.). The Vacuum Pump, in combination with QIAvac vacuum manifolds, enables vacuum processing of many QIAGEN nucleic acid purification kits. Vacuum-driven liquid processing is an attractive alternative to centrifugation that minimizes the hands-on time needed for sample preparation.</p>			
10	WGHA 32	Biological Safety Cabinet Class II	<p>Esco Labculture Class II A2 BSC, 4ft/1.2m LA2- 4A1-E</p> <p>Kabinet yang menyediakan aliran udara bersih, digunakan untuk bekerja dengan sampel patogen, memberikan proteksi untuk operator dan sampel agar tidak terkontaminasi. Aksesoris: 1 pc lampu UV, 2 pcs electrical outlet kit, 1 pc support stand.</p> <p>Aksesoris: 1 pc lampu UV, 2 pcs electrical outlet kit, 1 pc support stand.</p>	2	Unit	Laboratorium Riset Terpadu/ FK-KMK
11	WGHA 33	Autoclave	<p>Cryste Purister</p> <p>Brand                    Cryste</p> <p>Model                    Purister</p> <p>Cat#                      Purister 60</p> <p>"Specification:</p> <p>Inner (Dia. x H)mm    Ø350 x 650</p>	1	Unit	Laboratorium Riset Terpadu/ FK-KMK

NO ITEM	KODE BARANG	NAMA BARANG	SPESIFIKASI	Volume	Satuan	TUJUAN PENGIRIMAN
			Out(W x D x H)mm 570 x 610 x 1200 Capacity 60 L Weight(Kg) 104 Temp Type Digital Temp Operating for sterilization 105°C~121°C Temp Display Ambient +10°C ~ 124°C Pressure Operating for sterilization 1.2bar at 121°C, 1.3bar at 124°C			
12	WGHA 46	Microcentrifuge, Refrigerated, High-speed	INFITEK Cfgr-15D High-Speed Refrigerated Micro Centrifuge with 15000rpm with CE FDA Eac Model NO. CFGR-15D; Max Speed 8000~30000r/min; Max Rcf 21,380xg; Motor Type DC Brushless Motor; Noise 56dB Max; Transport Package High-Quality Cartons; Trademark Infitek; Origin China; Max. Speed 15,000rpm (200-15,000rpm) in 100rpm increments.; Max. RCF 21,380xg, step: 10xg; Capacity 1.5/2mLx24, 0.5mLx36, PCR8x4, 5mLx12, 5mLx18.; Temperature setting -20°C- 40°C; Run Time 30s-99 min; HOLD (continuous running); Acceleration and deceleration time 25s↑25s↓; Motor Type DC brushless motor; Safety Performance Dual door lock, over-speed detection, over-temperature detection with Internal diagnosis system.; Power Requirements Single phase, 200-240V, 50Hz, 500W; Noise ≤56dB; Dimensions(mm) 332(width) × 553(depth) × 283(height); Weight 30 kg; Other functions Rotation speed/RCF switchover, inching operation, running process indicator, sound alert. Acceleration/deceleration in 9 steps, program storage capacity.; Ergonomic electronic lock design,the centrifuge lid can be closed with single finger touch. Pre-cooling, the compressor will automatically start cooling as long as the set temperature is lower than the ambient temperature.; Sound indicator to prompt that the upper cover is closed to maintain the temperature inside the chamber, after centrifugation.; Advanced R290 fluorine free refrigerant, low carbon and environmental	1	Unit	Lab Fismatel FMIPA UGM

NO ITEM	KODE BARANG	NAMA BARANG	SPESIFIKASI	Volume	Satuan	TUJUAN PENGIRIMAN
			<p>protection.; Temp range:-20°C- 40°C, fast and powerful cooling capacity, 7 minutes cooling from room temp to 4°C. Temp can kept at max speed.;</p> <p>Up to 9 program storage capacity according to experimental needs.;</p> <p>Three-layer sealed rotors ensure air-tightness and biological;</p> <p>High-strength aluminum alloy withstand numerous high temperature and high pressure sterilizations.;</p> <p>Five rotors with 0.2mL, 0.5mL, 1.5mL, 2mL and 5mL centrifuge tubes/ PCR tubes capacity.;</p> <p>An external condensation tank prevents water accumulation within the centrifuge chamber.;</p> <p>Rotor imbalance detection alarm.</p>			
13	WGHA 55	ELVE Gradient Thermal Cycler (32x0.2ml)	<p>Elve-32g Elve Series Mini Gradient PCR Gene Amplifier Model ELVE-32G; Capacity 32x0.2ml(4x8); Tube 0.2ml single, 8 straight tube;</p> <p>Temperature Range 4~100°C; MAX. Heating Rate 5°C/s; MAX. Cooling Rate 4°C/s; Uniformity <math>\pm 0.2^\circ\text{C}</math>; Accuracy <math>\pm 0.2^\circ\text{C}</math>; Display Resolution 0.1°C; Temperature Control Block\Tube; Ramping Rate Adjustable 0.1~5°C; Gradient Temp. Range 30~100°C; Gradient Spread 1~30°C; Hot Lid Temperature 30~110°C; Number of Programs 10000 +(USB FLASH); Max. No. of Step 30; Max. No. of Cycle 100; Time Increment/Decrement 1 Sec ~ 600 Sec; Temp. Increment/Decrement 0.1~10.0°C; Pause Function Yes; Auto Data Protection Yes; Hold at 4°C Forever; Language Chinese/English; Computer Software Yes; Mobile phone APP Yes; LCD 5 inch, 800x480 pels, 65K; Communication USB2.0 , WIFI; Dimensions 267mmx190mmx115mm (LxWxH); Weight 2.6kg; Power Supply 85~264VAC ; 85~264VAC: 47~63Hz , 200W</p>	1	Unit	Lab Fismatel FMIPA UGM
14	WGHA 56	PCR Thermo cyclers, Gradient, 96x0.2ml	<p>INFITEK Thermal Cycler, PCR-96S Gradient type; PCR tube: 96x0.2mL;</p> <p>Max. Heating/Cooling rate : 4.5°C/s, 4°C/s; Temperature uniformity <math>\leq \pm 0.2^\circ\text{C}</math>; 8 inch LCD screen; Large user program storage. Capacity 96x0.2ml;</p> <p>Display Resolution 0.1°C; Temperature Range 0-105°C; Temperature Control Block/Tube; Heating Rate 4.5°C/s; Ramping Rate Adjustable 0.1-4.5°C; Cooling Rate 4°C/s; Gradient Temp. Range 30-105°C; Uniformity <math>\leq \pm 0.2^\circ\text{C}</math>; Gradient spread 1-30°C;</p>	1	Unit	Lab Fismatel FMIPA UGM



NO ITEM	KODE BARANG	NAMA BARANG	SPESIFIKASI	Volume	Satuan	TUJUAN PENGIRIMAN
			Accuracy $\leq \pm 0.1^\circ\text{C}$ ; Hot Lid Temperature 30-115 $^\circ\text{C}$ ; Hot Lid Height Adjustable Step-less Adjustable; Pause Function Yes; Number of Programs 10000+(USB FLASH); Auto Data Protection Yes; Max. No.of step 30; Hold at 4 $^\circ\text{C}$ Forever; Max. No.of cycle 200; Touchdown Function Yes; Time Increment/Decrement 1Sec-600 Sec; Long PCR Function Yes; Temp.Increment/Decrement 0.1-10 $^\circ\text{C}$ ; Language English; Computer Software Yes; Dimensions(L $\times$ W $\times$ H) 390mm $\times$ 270mm $\times$ 255mm; Mobile phone APP Android; Weight 9 Kg; LCD 8 inch, 800 $\times$ 600 pels,TFT; Electricity 100-240VAC , 50/60Hz , 600W; Communication USB2.0,LAN,WIFI.			
15	WGHA 57	Microplate Reader	Infitek MPR-H200BC Elisa machine Microplate Reader with 96/48 -well plate Microplate types 96/ 48 -well plate; Photodetector Silicon Photodiode; Light source 8v/50w Controlled tungsten halogen lamp; Wavelength range 400nm~800nm; Standard filters 405,450,492,630nm & 4 optional; Reading range 0.000~4.000A; Resolution 0.001A; Accuracy $\pm 0.008\text{A}$ ; Reproducibility $\leq 0.2\%$ ; Stability $\pm 0.003\text{A}$ ; Reading Speed Single Wavelength $\leq 3\text{s}$ ; Double Wavelength $\leq 6\text{s}$ ; Shaking Linear Shaking , 3 speeds; Printer Built-in Thermal Printer, optional external printer; Interface connections 2 $\times$ USB-A, 1 $\times$ USB-B, 1 $\times$ RS-232, 1 $\times$ Printer; Power supply 100~240V, 50~60Hz; Dimensions 475(L) $\times$ 350(W) $\times$ 210(H)mm; Net weight 8kg	1	Unit	Lab Fismatel FMIPA UGM
16	WGHA 58	Elisa Washer, single washing fluid chanel	Infitek Mpw-H310 / Mpw-H320 Elisa Microplate Washer with LCD Display Model MPW-H310 - MPW-H320; Input 8 key membrane keyboard; Display High brightness LCD display screen; Manifold 8 pins and 12 pins; Wash Mode Strip mode and plate mode; Wash strips 1~12 adjustable; Applicable well Flat, V-bottom or U-bottom; Washing times 0~99 times adjustable; Dipping time 0~3600s adjustable; Shaking time 0~600s adjustable; Residual volume $\leq 1\mu\text{L/well}$ ; Liquid volume 50~3000ul/well; Sipping time 0.1~9.9s; Storage Capacity More than 100 user defined wash board procedures; Power supply 198~242V, 49~51Hz; Dimensions 448(L) $\times$ 382(W) $\times$ 163(H)mm; Net weight 8 kg; Washing fluid channel 1 1(Optional: 2-4 Channels).; Large LCD display, menu designed for convenient use; Whole plate washing or single strip washing;	1	Unit	LPPT UGM

NO ITEM	KODE BARANG	NAMA BARANG	SPESIFIKASI	Volume	Satuan	TUJUAN PENGIRIMAN
			12-way and 8-way manifold included; Low residual volume by two pipettes; Complete bottom washing; Shaking and dipping function; Automatic monitoring of vacuum and pressure ,automatic rinse cycle; Flat, V-bottom or U-bottom plate and strips washing; Large memory to store up to 48 user programmed wash protocols; Emergency stop available and liquid warning			
17	WGHA 59	FlexA-200 Microplate Reader//UV/Vis Microplate spectrophotometer	<p>FlexA-200 Microplate reader for 96 and 384 well plate</p> <p>Display : 10-inch high-resolution capacitive touch screen</p> <p>Light source: Xenon flash lamp/number of flashes&gt;10<sup>9</sup></p> <p>Wavelength range: 200 - 1000 nm</p> <p>Wavelength accuracy : 2 nm</p> <p>Wavelength repeatability: 0.2 nm</p> <p>Optical system: Monochromator 1 nm step</p> <p>Reading range: 0 - 4.0 OD</p> <p>Bandwidth: &lt;2.5 nm</p> <p>Detection System: 2 silicon photodetectors one for measurement one for references</p> <p>Linear @450 nm: R<sup>2</sup> ≥0.999, [0.0 - 3.0 Abs]</p> <p>Absorbance accuracy @450 nm: ± (1.0 % + 0.003 Abs), (0 ~2.0 Abs); ± 2.0 %, (2.0 ~ 2.5 Abs]</p> <p>Absorbance repeatability @450 nm : CV &lt;0.5 % or SD &lt;0.003 accurate mode; CV &lt;1.0 % fast mode</p> <p>Measuring speed: 96-well plate: fast mode &lt;8 s, accurate mode &lt;28 s (end point method)</p> <p>Shaking: Linear, 3 speeds adjustable</p> <p>Temperature range &amp; uniformity: RT. +4 °C to 45 °C; ±0.5 °C @37 °C</p> <p>User interface : Built-in software, independent use</p> <p>Analysis software: ReaderIt-II software</p> <p>Operation display: Touch screen input, Android system, 10-inch LCD display full board information, can be connected with keyboard and mouse</p> <p>Internal storage : 16 G storage, can store more than 20,000 data files</p>	1	Unit	Lab Fismatel FMIPA UGM

NO ITEM	KODE BARANG	NAMA BARANG	SPESIFIKASI	Volume	Satuan	TUJUAN PENGIRIMAN
			Port: 1 type B USB interface, 2 type A USB interfaces, 1 network port Robotic arm compatible: Temporarily incompatible Power supply DC 24 V 6.67 A			
18	WGHA 60	LightCycler 480 System (for real-time PCR)	Roche Diagnostic Power consumption: 200–240 Vac (50/60 Hz, 1500 VA). Reaction volumes: 5 µL–20 µL (384-well), 10 µL–100 µL (96-well). Heating rate: 96-well block: 4.4°C/s; 384-well block: 4.8°C/s. Cooling rate: 96-well block: 2.2°C/s; 384-well block: 2.5°C/s. Excitation LightCycler® 480 LED Lamp (430-630 nm). Detector Cooled monochrome CCD camera. Filters Excitation (nm): 440, 465, 498, 533, 618 Detection (nm): 488, 510, 580, 610, 640, 660 Computer Pentium PC with Windows 7.	1	Unit	Laboratorium Riset Terpadu lantai 2, FK-KMK UGM
19	WGHA 63	Combined Refrigerator & Freezer	Meling china, catalog number YCD-FL289 YCD-FL289 2~8/-10~-40°C Combined Refrigerator and Freezer  High-precision Temperature Control ·High-precision microcomputer temperature control system; ·Multiple alarm sensors for High and low temperature, ambient temperature and evaporator temperature ensuring the safe and stable running. ·High brightness digital temperature display with 0.1°Cdisplay precision; Refrigeration System ·Equipped with high-efficiency compressor and international brand fan for energy save and silent running. ·2 separate cooling systems (2 compressors): one ensuring temperature from 2°C~8°C for the upper chamber, the other one keeping the temperature from -10°C to	1	Unit	Laboratorium Riset Terpadu lantai 2, FK-KMK UGM

NO ITEM	KODE BARANG	NAMA BARANG	SPESIFIKASI	Volume	Satuan	TUJUAN PENGIRIMAN
			<p>-40°C settable for the down chamber. If one compressor damaged, the other one could still work normally.</p> <p>Security System</p> <ul style="list-style-type: none"> <li>·Audible and visual alarm system: High and low temperature alarm, high ambient alarm, sensor failure alarm, door opening alarm, power failure alarm, low battery alarm, data-logger failure alarm.</li> <li>·External door handle and padlock to prevent unauthorized opening.</li> <li>· 72 hours back-up battery for display and alarms system during power failure.</li> </ul> <p>Human-oriented Design</p> <ul style="list-style-type: none"> <li>·Drawers for convenient sample storage;</li> <li>·Shelves with divided sections;</li> <li>·Door gasket surrounded with hot gas pipe for better defrosting.</li> <li>·With built-in USB data-logger for temperature data storage more than 600 days.</li> </ul> <p>Model                    YCD-FL289</p> <p>Capacity(L)        289L, R:189,F:100</p> <p>Internal Size(W*D*H)mm    R:600*510*670, F:500*460*505</p> <p>External Size(W*D*H)mm    745*650*1845</p> <p>Package Size(W*D*H)mm    812*747*2004</p> <p>NW/GW(Kgs)                143/165</p> <p>Performance</p> <p>Temperature Range        R:2~8, F:-10~-40</p> <p>Ambient Temperature      16-32°C</p> <p>Cooling Performance      R:4, F:-40</p> <p>Climate Class            N</p> <p>Controller                Microprocessor</p> <p>Display                    Digital display</p> <p>Refrigeration</p> <p>Compressor                2pcs</p> <p>Cooling Method          R: Forced air cooling , F:Direct cooling</p> <p>Defrost Mode              R:Automatic, F:Manual</p>			

NO ITEM	KODE BARANG	NAMA BARANG	SPESIFIKASI	Volume	Satuan	TUJUAN PENGIRIMAN
			Refrigerant R:R134a,F:R290 Insulation Thickness(mm) R : 50, F : 100 Construction External Material Carbon steel spraying Inner Material 304 Stainless steel Shelves R:3+1(Stainless steel),F:3(ABS) External Lock Yes Lighting LED Access Port 2pcs. Ø 25 mm Casters 4 (2 caster with brake) + (2 leveling feet) Data Logging/Interval/Recording Time USB/Record every 10 minute / 2 years ( Printer/Record every 20 minute / 7 days) Door with Heater Yes Standard Accessory RS485, Remote alarm contact,Backup battery Alarm Temperature High/Low temperature,High ambient temperature Electrical Power failure, Low battery System Sensor error,Door ajar,USB datalog failure, Communication failure , Remote alarm Electrical Power Supply(V/HZ) 230±10%/50 Rated Current(A) 3,07 Options Accessory System RS232			
20	WGHA 64	Capillary Western Blot	Abby A Simple Western is an automated Western no gels, no transfer devices, no blots, no film and no manual analysis. Simple Westerns take place in a capillary that automates all steps of the process	1	Unit	Instrument Room, APSLC 622

NO ITEM	KODE BARANG	NAMA BARANG	SPESIFIKASI	Volume	Satuan	TUJUAN PENGIRIMAN
			<p>including sample loading, protein separation, immunoprobng or labeling washing, detection and data analysis.  Come back to fully analyzed and quantitated results in just 3 hours.  Sample required : 0.3-1.2 ug (Total Protein Specification), 0.6-1.2 ug (Chemiluminescence Specification)  Volume Required : 3 µL/well  Size range : Molecular weight (MW) ladder ranges from 2-440 kDa  Sizing CV : &lt;10%  Intra-assay CV : &lt;15% (Total Protein Specification, Chemiluminescence, and Fluorescence Specification), &lt;20% (Protein Normalization Specification)  Inter-assay CV : &lt;20%* (Total Protein Specification, Chemiluminescence, and Fluorescence Specification), &lt;20%** (Protein Normalization Specification)  Resolution (± percent difference in MW) : ± 15-20% for MW &lt;20 kDa, ± 10% for MW &gt;20 kDa  Quantitation CV : &lt;20% (Total protein, Chemiluminescence and Fluorescence Specification)  Dynamic range : 2-3 logs (Total Protein Specification), 3-4 logs (Chemiluminescence Specification)  Sensitivity : ng (Total Protein Specification), Low pg (Chemiluminescence Specification)  Capillary : 5 cm, 100 µm, 400 nL  Runtime : &lt;3 hours (Total protein and Chemiluminescence Specification)  Samples per run : 13 or 25  Power : Europe 240 AC, 50 Hz, 2.1 amps  Operating temperature : 18-24 °C  Operating humidity : 20-60% relative, non-condensing  Components include : installation and application training, Training kit, Software and control analysis, PC and UPS, Anti-Rabbit Detection Module Catalog Number: DM-001, Anti-Mouse Detection Module Catalog Number: DM-002, RePlex™ Module. Catalog # RP-001, 12-230 kDa Jess or Wes Separation Module, 8 x 25 capillary cartridges. SM-W004., Total protein detection Catalog # DM-TP01</p>			

NO ITEM	KODE BARANG	NAMA BARANG	SPESIFIKASI	Volume	Satuan	TUJUAN PENGIRIMAN
21	WGHA 67	Inkubator	<p>Memmert IN110</p> <p>Set temperature range in °C min. 5°C above ambient up to +80°C</p> <p>Setting accuracy temperature 0.1 °C</p> <p>Temperature 1 Pt100 sensor DIN class A in 4-wire-circuit</p> <p>Door inner glass door</p> <p>Stainless steel interior</p> <p>Interior easy-to-clean interior, made of stainless steel, reinforced by deep drawn ribbing with integrated and protected large-area heating on four sides</p> <p>Volume 108 l</p> <p>Dimensions w(A) x h(B) x d(C): 560 x 480 x 400 mm</p> <p>Max. number of internals 5</p> <p>Max. loading of chamber 175 kg</p> <p>Max. loading per internal 20 kg</p> <p>Voltage Electrical load 230 V, 50/60 Hz approx. 1400 W</p> <p>Voltage Electrical load 115 V, 50/60 Hz approx. 900 W</p>	1	Unit	APSLC Farmasi UGM, Lantai 6, Ruang 607, Mold Inoculation Room
22	WGHA 68	Oven	<p>Memmert UN55</p> <p>Working temperature range: at least 5 (UN/UNplus/UNm/UNmplus) or 10 (UF/UFplus/UFm/UFmplus) above ambient temperature to +300 °C</p> <p>Setting accuracy temperature: up to 99.9 °C: 0.1 / from 100 °C: 0.5</p> <p>Setting temperature range : +20 to +300°C</p> <p>Temperature sensor : 1 Pt100 sensor DIN class A in 4-wire-circuit</p>	1	Unit	APSLC Farmasi UGM, Lantai 6, Ruang 623, Washing Room
23	WGHA 71	Waterbath sonicator	<p>Elmasonic Select 300 (Includes Basket and Cover)</p> <p>- 37 kHz ultrasonic frequency (control range -2,5/+5,5 kHz)</p> <p>- 5 ultrasonic modes for need-based sound field distribution in the ultrasonic bath</p>	1	Unit	APSLC Farmasi UGM, Lantai 6

NO ITEM	KODE BARANG	NAMA BARANG	SPESIFIKASI	Volume	Satuan	TUJUAN PENGIRIMAN
			<ul style="list-style-type: none"> <li>- eco-mode: Gentle cleaning with quieter operation by running the sweep-mode at a slightly lower intensity</li> <li>- sweep-mode: Even cleaning through even sound field distribution in the ultrasonic bath-Q pulse-mode: Removal of even stubborn contamination through pulsating sound field distribution</li> <li>- dynamic-mode: Combination of the ultrasonic modes sweep and pulse in order to increase the cleaning performance</li> <li>- degas-mode: Quick degassing of the cleaning liquid and for special applications in the laboratory</li> <li>- 4 memory locations for cleaning programs, available via quick selection</li> <li>- Autostart function for temperature-controlled start of cleaning</li> <li>- Adjustable limit temperature from 40-60 °C (can be switched to °F)</li> <li>- Digital control unit with wipeable membrane keyboard and easy-to-read display for displaying all operating states</li> <li>- Optical and acoustic feedback, e.g. at the end of cleaning or when the limit temperature is reached</li> <li>- Pre-selection of cleaning time: cleaning time adjustable between 1 minute and 6 hours</li> <li>- Electronic temperature control adjustable in steps of 5 °C from 25-80 °C (can be switched to °F; temperature tolerance -5/+8 °C)</li> <li>- Setup menu for individual adjustment of the device functions</li> <li>- Dry run protection (except for Elmasonic Select 500 and 900)</li> <li>- Automatic safety shutdown after 8 hours</li> <li>- Splash-proof case and cleaning tank made of stainless steel</li> <li>- Shut-off valve on the side for emptying the cleaning tank via the outlet on the rear of the device (only for Elmasonic Select</li> </ul> <p>Total capacity V (l) 27,5  Recom. operating capacity Va (l) 22  Drain hose - ID (mm) 12  Basket int. dimensions W4/D4/H4 (mm) 455/250/110</p>			



NO ITEM	KODE BARANG	NAMA BARANG	SPESIFIKASI	Volume	Satuan	TUJUAN PENGIRIMAN
			Total basket loading (kg) 10 Mains voltage (V~) 220-240 Mains frequency (Hz) 50/60 Power consumption total (W) 1500 Ultrasonic power effective $\pm 10\%$ (W) 300 Ultrasonic peak power max.** (W) 1200 Heating power (W) 1200 Temperature ( $^{\circ}\text{C}$ ) 25-80 Protection class IP20 Sound pressure level (LpAU)*** < 80 dB Ultrasonic sound level (LpZ)*** <110			
24	WGHA 72	LC-MS/MS	Sciex x500R QTOF LC/MSMS SYSTEM - Sensitivity Pos TOF/MS : Using the twin Sprayer probe in TOF-MS Mode - Reserpine 1 pg on column S/N > 750:1 RMS Sensitivity Pos MS/MS Quant : Using twin Sprayer probe in MS/MS mode - Reserpine 1 pg on column S/N >1750 :1 RMS - Scan Speed,MS : Up to 25Hz (25 Spectra per second) - Scan Speed, MS/MS : Up to 100Hz (100MS/MS Spectra per second) - Mass Range (m/z) : Up to 40 kDa - Percursor ion Selection: 5-2250 m/z - Mass Acuracy, Internal : $\leq 0,4$ ppm absolute error as demonstrated on m/z 813 fragmen ion of glu-Fibrinopeptide B - Resolution, MS : $\geq 42,000$ (FWHM) Measured on the (M+6H)+6 charge isotope cluster for bovine insulin at m/z 956 - Flow rate : 5 $\mu\text{L}/\text{min}$ to 3ml/min - Polarity Swiching : Yes (Computer Controlled) - Linear Dynamic Range : Equal to or Greater than 4 Orders of Maghitude - Standard Ionization Source : Turbo V Ion Source with Twin Sprayer ESI Probe and Twin Sprayer APCI Probe for X500R QTOF System Only	1	Unit	APSLC Farmasi UGM, Lantai 6, Ruang 620, Preparation Cold Room

NO ITEM	KODE BARANG	NAMA BARANG	SPESIFIKASI	Volume	Satuan	TUJUAN PENGIRIMAN
			<p>Calibration Solution for X500R Series</p> <ul style="list-style-type: none"> <li>- ESI POSITIVE CALIBRATION SOLUTION X500 Calibration solution for the SCIEX X500 system. This solution intended for use in ESI positive ion mode Pack of 5</li> <li>- ESI NEGATIVE CALIBRATION SOLUTION X500 Calibration solution for the SCIEX X500 system. This solution is intended for use in ESI negative ion mode.pack of 5</li> </ul> <p>Include :</p> <ol style="list-style-type: none"> <li>1. SCIEX All-in-one with NIST 2017</li> <li>2. ChemSpider License - 1 Year Subscription</li> <li>3. Turbo VTM source housing with TurbolonSpray® Probe or APCI Probe (max temp: 750oC)</li> </ol> <p>Flow rate compatibility: 5 µL/min to 3 mL/min</p> <ol style="list-style-type: none"> <li>4. Software elicense for use with X500B and X500R bundles only.</li> <li>5. SCIEX OS - Software perpetual e-License for acquisition and quantitative and qualitative processing on the acquisition PC. SCIEX OS is a leap forward in data acquisition and processing analytics. The all new interface is much easier to use and learn while incorporating the power of a quantitative and qualitative evaluation of data in one step. Does not include DVD. Software can be downloaded or DVD can be purchased separately.</li> <li>6. One standard Roughing Pump</li> <li>7. Data Acquisition Workstation PC with Win10 64-bit OS</li> <li>8. Standard Monitor</li> <li>9. Ms. Office</li> </ol>			
25	WGHA 77	Refrigerated Microcentrifuge Type : 1848R with fixed angle rotor for	<p>Gyrozen 1848R</p> <p>Max. RPM/RCF (Fixed angle) : 18,000 rpm / 30,356 xg</p> <p>Max. RPM/RCF (Swing-out) : 13,000 rpm / 16,343 xg, 5,750/ 3,050 x g</p> <p>Max. capacity (Fixed angle) : 8 x c50 mL, 48 x 1.5/2.0 mL</p>	1	Unit	Laboratorium Terpadu FKH; Gedung

NO ITEM	KODE BARANG	NAMA BARANG	SPESIFIKASI	Volume	Satuan	TUJUAN PENGIRIMAN
		24 x 2.0/1.5 mL Type : tubes, fixed angle rotor for 15/50 mL tubes, Type : and swing-out rotor for microplates.	<p>Max. capacity (Swing-out) : 24 x 2.0 mL, 4MTPs  Temperature range : - 12°C to 40°C  FAST cool button : Yes  Time control : Pulse, timed &lt; 10 hr or continuous  Time counting range : Selectable, at set speed or from starting  Noise level (dependent on rotor) : &lt;60 dB  ACC/DEC : 9/10 steps  Display : White FND  Program memory : 100  Parameters on display window : RPM (RCF), Time, Temp, ACC, DEC  Automatic rotor identification : Yes  Motorized lid open &amp; close : Yes  Imbalance cut-off : Yes  Lid drop protection : Yes  Safety lid lock : Yes  Power requirement : 2.0 kVA  Power Supply : 230 V, 50 Hz (AC 220-230 V, 50/60 Hz; 110 V optional)</p> <p>include:</p> <ol style="list-style-type: none"> <li>1. Fixed angle rotor for 8 x 50 mL conical tubes with Max. RPM / RCF : 8,500 / 8,893</li> <li>2. Adapter for 15 mL conical tube</li> <li>3. Fixed angle, Easy-Lock, Bio-Safe Rotor for 24 x 2.0/1.5 mL tubes with Max. RPM / RCF : 18,000 / 30,536</li> <li>4. Adapter for 0.2 mL tube</li> <li>5. Swing-out, Windshield Rotor for 2 x Microplates with Max. RPM / RCF : 5,750 / 3,050</li> <li>6. 15 mL conical tube (1 box)</li> <li>7. 50 mL conical tube (1 box)</li> <li>8. 1.5 mL microcentrifuge tube (1 box)</li> <li>9. One year factory warranty (parts and labour)</li> <li>10. On site installation and training</li> </ol>			Diagnostik Lantai 3

NO ITEM	KODE BARANG	NAMA BARANG	SPESIFIKASI	Volume	Satuan	TUJUAN PENGIRIMAN
26	WGHA 80	3D Motion shaker	<p>Hanil 3D Motion Shaker, AD-SD AD-SD is optimized for multi-color dyeing and cleansing such as gel dyeing and blotting. Smooth 3D movement to provide more effective result than conventional shakers. Cat. No. AD-SD Speed: 0~140 rpm Shaking angle: 0~15° Display: Digital LED Max.load: 3.0 kg Time control: 99H: 59M, continous Platform area, mm: 295W x 295D Dimensions (mm): 360W x 360D x 257H Net weight: 8.2 kg Power requirement: 30W</p>	1	Unit	Laboratorium Terpadu FKH; Gedung Diagnostik Lantai 3
27	WGHA 81	Real time pCR (qPCR)	<p>type : QuantStudio® 5 Real-Time PCR System with 96-well (0.1 mL) Block and Desktop Merk : Applied Biosystems</p> <p>A real-time PCR with innovative technology that allows user to access data anywhere and anytime with Cloud and monitor instrument runs in real time from mobile devices through the Instrument Connect mobile app.</p> <p>Dimension : (H x D x W) : 40 cm x 50 cm x 27 cm Weight : 26 kg (57 lb)</p> <p>Specification :</p>	1	Unit	Laboratorium Terpadu FKH; Gedung Diagnostik Lantai 3

NO ITEM	KODE BARANG	NAMA BARANG	SPESIFIKASI	Volume	Satuan	TUJUAN PENGIRIMAN
			<p>Sampel capacity : 96 wells (0.1 mL)            Reaction volume : 10-30 ul            Excitation source : Bright white LED            Optical detection : 6 decoupled filters            Excitation/detection range : 450-680 nm/500-730 nm            Multiplexing : up to 6 targets with 21 filter combinations            Heating/cooling method : Peltier            Temperature zone function : VeriFlex 6 zones            Max. block ramp rate : 9°C/sec            Average sample ramp rate : 3.66°C/sec            Temperature uniformity : 0.4°C            Temperature accuracy : 0.25°C            Run time : &lt;30 minutes runs.            Can run fast and standard mode.            Compatible dyes : FAM/SYBR Green, VIC/JOE/HEX/TET,            ABY/NED/TAMRA/Cy3, JUN, ROX/Texas Red, Mustang            Purple™, Cy@5/LIZ™, Cy@ 5.5            Security, auditing, and e-signature (SAE) features with no            additional fees.            Number of copies : 1 copy            Sensitivity : Detect differences as small as 1.5-fold in            target quantities in singleplex reaction. The system is flexible to use 96-well plates,            individual PCR            tubes, and PCR tube strips.            Interactive touchscreen interface.            System configuration : Stand-alone (without connect to            PC), PC-connected, or direct connection to cloud-based            Connect via LAN or Wi-Fi.            Web browser-based system configuration with PC or Mac            computers, no software to install, no additional fees and</p>			

NO ITEM	KODE BARANG	NAMA BARANG	SPESIFIKASI	Volume	Satuan	TUJUAN PENGIRIMAN
			<p>no versions to update, enables secure access of your data when and where you want it.            Innovative cloud-based data analysis applications.            Enable to monitor instrument runs in real time from mobile devices through the Instrument Connect mobile app.            Wi-Fi enabled connectivity.            Includes:            1) DELL desktop computer with latest configuration and operating system compatible with the dedicated software.            2) UPS APC 1.5 kVA            3) Epson color printer            4) MicroAmp™ Splash-Free 96-Well Base (1 ea)            5) MicroAmp Adhesive Film Applicator (1 ea)            6) High-Power USB Wi-Fi Module (1 module)            7) MicroAmp™ Fast Optical 96-Well Reaction Plate 0.1mL (1 box of 10 plates)            8) MicroAmp™ Optical Adhesive Film (1 box of 25 pcs)            9) Primer Express™ Software v3.0.1 License (1 user), software for designing primers and probes            10) One year factory warranty (parts and labour)            11) On site installation and training</p>			
28	WGHA 86	ATune Flowcytometri	<p>Thermo Scientific (Invitrogen)            Optics: Fluorescence detection :            Laser excitation : Optimized excitation for minimized stray laser-line noise and losses to reflection            Laser profile : 10 x 50 µm flat-top laser providing robust alignment            Emission filters : Up to 14 color channels with wavelength-tuned photomultiplier tubes (PMTs); user-changeable, keyed filters            Laser separation : 100 µm</p>	1	Unit	LPPT UGM

NO ITEM	KODE BARANG	NAMA BARANG	SPESIFIKASI	Volume	Satuan	TUJUAN PENGIRIMAN
			<p>Optical alignment : Fixed alignment with prealigned welded fiber; no user maintenance required</p> <p>Onboard thermoelectric cooler : No warm-up delay; fiber isn't affected by "on/off"</p> <p>Simmer mode : Instant "on/off" reduces usage and/or aging by 10x; only turns on when acquiring samples; reports hours of usage</p> <p>Flat-top laser specified at the flow cell : Coefficient of variation (CV) &lt;3% over the width of the flat-top laser</p> <p>Upgradable : Convenient field changes</p> <p>Optics: Imaging</p> <p>Laser excitation : 405 nm</p> <p>Pulse width : &lt; 50 nanoseconds</p> <p>Fluidics</p> <p>Flow cell Quartz cuvette gel coupled to 1.2 numerical aperture (NA) collection lens, 200 x 200 <math>\mu</math>m</p> <p>Sample analysis volume : 20 <math>\mu</math>L–4 mL</p> <p>Custom sample flow rates : 12.5–1,000 <math>\mu</math>L/min</p> <p>Sample delivery : Positive-displacement syringe pump for volumetric analysis</p> <p>Sample tubes : Accommodates tubes from 17 x 100 mm to 8.5 x 45 mm</p> <p>Fluid-level sensing : Active</p> <p>Standard fluid reservoirs : 1.8 L focusing fluid tank, 1.8 L waste tank, 175 mL shutdown solution tank, and 175 mL wash solution tank</p> <p>Fluid storage : All fluids stored within instrument</p> <p>Extended fluidics option : Configuration for 10 L fluid</p> <p>Nominal fluid consumption : 1.8 L/day</p> <p>Automated maintenance cycles : <math>\leq</math>15 min start-up and shutdown—deep clean, sanitize, and debubble modes</p> <p>Performance: Fluorescence detection</p> <p>Fluorescence sensitivity : <math>\leq</math>80 molecules of equivalent soluble fluorochrome (MESF) for FITC, <math>\leq</math>30 MESF for PE, <math>\leq</math>70 MESF for APC</p>			

NO ITEM	KODE BARANG	NAMA BARANG	SPESIFIKASI	Volume	Satuan	TUJUAN PENGIRIMAN
			<p>Fluorescence resolution : CV &lt;3% for the singlet peak of propidium iodide–stained chicken erythrocyte nuclei (CEN)</p> <p>Data acquisition rate : Up to 35,000 events/sec, 34 parameters, based on a 10% coincidence rate per Poisson statistics</p> <p>Maximum electronic speed : 65,000 events/sec with all parameters</p> <p>Carryover : Single-tube format: &lt;1%</p> <p>Forward and side scatter sensitivity : Able to discriminate platelets from noise</p> <p>Forward and side scatter resolution : Optimized to resolve lymphocytes, monocytes, and granulocytes in lysed whole blood</p> <p>Forward scatter : Photodiode detector with 488/10 nm bandpass filter</p> <p>Side scatter : PMT with default 488/10 nm bandpass filter; optional 405/10+OD2 nm bandpass filter</p> <p>Fluorescence detectors : 14 individual detectors</p> <p>Electronic pulse : Measured area, height and width pulse for all detectors</p> <p>Violet side scatter resolution : Can be configured for violet side scatter to better resolve particles from noise</p> <p>Minimum particle size : 0.2 µm on side scatter using submicron bead calibration kit from Bangs Laboratories—0.1 µm on side scatter under following conditions: Using an Attune NxT Flow Cytometer with standard 0.5 mm blocking configuration, an Invitrogen Attune NxT 488/10 Filter (Cat. No. 100083194), and Attune Focusing Fluid (Cat. No. 4488621, 4449791, or A24904) that has been passed through a 0.025 µm filter</p> <p>Performance: Imaging</p> <p>Pixel Resolu+C91:C98tion : 0.3 microns/pixel</p> <p>Objective Magnification : 20x</p> <p>Objective Numerical Aperture (NA) : 00:45</p> <p>Theoretical Resolution : 0.6 micron</p> <p>Detection Limit : Visually detect 800 nanometer particles</p> <p>Image Capture Rate : Up to 6,000 images/second depending on image size and event rate</p> <p>Image Size : 96 x 96 pixels–248 x 248 pixels</p>			



NO ITEM	KODE BARANG	NAMA BARANG	SPESIFIKASI	Volume	Satuan	TUJUAN PENGIRIMAN
			<p>Field of View : 29 x 29 um–74 x 74 μm</p> <p>Software</p> <p>Compensation : Full matrix—automated and manual modes, on-plot compensation tools for fine adjustment; use of tubes and wells</p> <p>Flow rate : Precise flow rate control via software; no hardware adjustments</p> <p>Live streaming : Live update of statistics during acquisition of events up to 35,000 events/sec</p> <p>Overlays : Comparative analysis between samples; 3D view</p> <p>Sample recovery : System able to return unused samples</p> <p>Concentration : Direct concentration measurement without use of counting beads</p> <p>Software layout : Fully customizable for each user account</p> <p>Bubble detection technology : Stops automated run to preserve sample integrity</p> <p>Maximum single-event file : 20 million with option to append</p> <p>Heat map : Set up for definition of plate layout; screening view for analysis for tubes and plates</p> <p>Threshold : Up to 4 individual thresholds with user option to apply Boolean logic</p> <p>Gating : Hierarchical gating with the ability to derive gates</p> <p>Voltage : User adjustable</p> <p>Window extensions : User adjustable</p> <p>Area scaling factor (ASF) : User adjustable</p> <p>Acquisition settings : Documented in FCS files and maintained upon import</p> <p>Templates : Create from existing experiments—instrument settings, workspaces, run protocols, heat map settings, and compensation settings optimized and defined previously</p> <p>Tube-to-plate conversion : One-click transition from tubes to plates and vice versa; no disassembly, no additional QC, no reboot required for conversion between plates and tubes</p> <p>Graphics resolution : Publication-quality data plots: support for TIF, PNG, BMP, JPG, GIF, and EMF; quickly copy and paste data plots to any external application (e.g., Microsoft™ PowerPoint™ software)</p>			

NO ITEM	KODE BARANG	NAMA BARANG	SPESIFIKASI	Volume	Satuan	TUJUAN PENGIRIMAN
			<p>User account administration : Administrative creation of individual user accounts with designated roles, advanced setting permissions, management of individual accounts, user time tracking, and sample count</p> <p>Imaging software : Image Capture settings Set total number of recorded images, image frequency, image capture gate, image size and position, focus, and illumination for control over experiment design and data footprint</p> <p>Image view : Image view option allows overview of the gallery of images combined with Cell image option to view individual images on the workspace for any cell population</p> <p>Image backgating : Correlate images to flow cytometry data by backgating either all or selected images onto supported workspace plots</p> <p>Image Measurement tool : Elliptical tool to measure the area of events in images in <math>\mu\text{m}^2</math></p> <p>Image Export options : Export images as 8-bit TIF, PNG, GIF, BMP, JPG, or EMF</p> <p>Quality and regulatory :</p> <p>Instrument tracking : Automated daily baseline and performance test with Levey-Jennings plots</p> <p>Warranty : 1 year</p> <p>Production verification testing : Each instrument is tested and verified for assembly integrity and performance to specifications</p> <p>Quality management system : Manufacturing standards comply with the requirements of ISO 13485:2003</p> <p>Robust installation specifications : Units installed by engineer; preplanning checklist, delivery, and installation; and performance validation compliance with standardized procedure</p> <p>Regulatory status : For Research Use Only</p> <p>Computer</p> <p>Software requirements : Invitrogen Attune Cytometric Software</p> <p>Monitor : 27 in. flat panel (1,920 x 1,080 resolution); dual-monitor capability</p> <p>Computer : Minitower desktop</p> <p>Operating system : Microsoft™ Windows™ 10 64-bit</p>			

NO ITEM	KODE BARANG	NAMA BARANG	SPESIFIKASI	Volume	Satuan	TUJUAN PENGIRIMAN
			FCS format : FCS 3.1, 3.0 Processor : Intel™ Core™ i7 processor RAM : 64 GB Hard drives : 2 x 8 TB SSD, 560 MB/sec; controller RAID1, integrated GPU : NVIDIA Quadro P2200 Installation requirements Electrical requirements : "100–240 VAC, 50/60 Hz, <150 W Thermo Fisher Scientific certifies that the Attune Flow Cytometers conform to relevant directives to bear the CE mark. The instrument also conforms to the UL and CAN/CSA general requirements (61010.1). The Attune Flow Cytometers are Class I laser products per Center for Devices and Radiological Health (CDRH) regulations and EN/IEC 60825" Heat dissipation : <150 W Temperature operating ranges : 15–30°C (59–86°F) Operating humidity : 10–80%, noncondensing Audible noise : <65 dBA at 1.0 m			
29	WGHA 87	Autoclave	Hirayama  Outer dimensions ( mm) : 667W×652D×1191H45 to 80 1 to 250 minute Chamber size (Volume) : 420 ×795H (123.7 liter) Effective capacity : 110 liter Power source : AC220V / 230V / 240V, 50 / 60Hz, (specify voltage when ordering) Power consumption : 4.0kW Chamber material : Stainless Steel (SUS304) Sterilization temperatue range : 105 oC to 135 oC Maximum allowable pressure (Gauge pressure) : 0.255MPa Temperature display range : 5 to 137 oC Warming temperature range : 45 to 80 oC Sterilization timer : 1 to 250 minute	2	Unit	LPPT UGM

NO ITEM	KODE BARANG	NAMA BARANG	SPESIFIKASI	Volume	Satuan	TUJUAN PENGIRIMAN
			Pressure gauge : 0 to 0.4MPa Supplied accessories : Stainless steel wire baskets, Heater cover, Drain hose, Exhaust hose, Drain bottle, Caster stoppers Optional accessories : Stainless steel wire baskets, Perforated stainless steel buckets. Air cooling fan			
30	WGHA 88	Immunoassays at a Glance	Millipore - Luminex 200™ System with Belysa® Software  General Specifications : System is a compact analyzer that performs up to 100 immunoassays simultaneously using a single drop of fluid, therefore requiring very small samples when compared with other testing technologies.  Physical dimensions: 43 cm (17 inches) W x 50.5 cm (20 inches) D x 24.5 cm (9.5 inches) H Weight: maximum of 25 kg (60 lbs.)  Optics Hardware : Lasers/APDs/PMT Technology : xMAP Flow-based Dynamic Range** : ≥3.5 logs (RP1) Read Time : 96-well in ~45 min Applications : Protein/nucleic acid Automation-Compatible Hardware : Front eject only Reporter Laser : 532 nm (green) IQ/OQ : Yes 21 CFR Compliance : Yes Automation : Yes Data Analysis : xPONENT® basic and Belysa® software Plate Format : 96-well	1	Unit	LPPT UGM

NO ITEM	KODE BARANG	NAMA BARANG	SPESIFIKASI	Volume	Satuan	TUJUAN PENGIRIMAN
			<p>System Components must include the supporting instrument in the package : Luminex® 200™ Analyzer with xPONENT and Belysa Software, LSE™ digital microplate shakers, Handheld Magnetic Separator Block, Ultrasonic Cleaners, Luminex 200 Calibration Kit, Luminex 200 Performance Verification Kit, Sheath Fluid Plus, Greiner high and medium binding 96 well plates, BRAND® reagent reservoir, SealPlate® film</p> <p>Belysa® software allows the user to analyse the data within a .CSV output file from Luminex® (RUO Magpix, LX200, FM3D &amp; INTELLIFLEX) multiplex immunoassay readers, the SMCxPRO® and ELISA platforms. Beginning with the application and fitting of different curve models (4PL, 5PL, Linear etc.) This software is used to evaluate the data from a run of 96 or 384 well immunoassay, obtained from a Luminex®, ELISA or SMCxPRO® platform, for method consistency. Software functionality includes; Plate Map creation, Curve Fitting, %CV, % Recovery, result calculation and standard curve comparison.</p> <p>Include :</p> <p>Belysa Immunoassay Software  Corning® LSE™ digital microplate shakers  Branson CPX series ultrasonic bath with digital timer bath volume 2.8 L  Handheld Magnetic Separator Block for 96 Well Flat Bottom Plates or 96 Well Conical Well Plates  Luminex 200 Calibration Kit (25 doses)</p>			
31	WGHA 89A	Millicell DCI Digital Cell Imager	<p>Milipore Merck</p> <p>Material : ABS plastic housing, Aluminum stage  Integrated Display with Touchscreen, Anti-glare coating 7 inches  Display Resolution 1024 x 600 pixels  Z-focus Range +/- 5 mm (0.20 in.)  System Compatibility</p>	1	Unit	LPPT UGM

NO ITEM	KODE BARANG	NAMA BARANG	SPESIFIKASI	Volume	Satuan	TUJUAN PENGIRIMAN
			<p>WiFi® Network Yes, via EDIMAX External USB WiFi® Adapter  Ethernet Yes, 10-100 Mb/s  Memory Storage 32 GB  Chemical Compatibility  Wiping with alcohol Compatible with 70% ethanol  by wiping  Recommended Cell Culture ware  Compatible with most transparent culture ware  with focal planes 0-8.75 mm above the bottom  surface of the object.  Maximum vessel height ≤ 2.19 in. (55.6 mm)</p> <p>Brand: Merck  Type: MDCI10000</p> <p>The Scepter™ 3.0 cell counter</p> <p>Millicell Digital Cell Imager ( adherent cell )  Assess your cell cultures with ease. Our Millicell® DCI instrument enables more efficient  execution of the repetitive daily techniques associated with cell passaging. Quickly and  objectively assess confluency, morphology, and growth trends for more consistent cell  cultures.  Remove subjectivity by using accurate confluency measurements!  WiFi compatible with included EDIMAX external USB, Ethernet compatible</p> <p>Features and Benefits  Faster analysis  Reduced user bias  Confluency, cell count, and morphology  Hemocytometer or in-vessel measurement</p>			

NO ITEM	KODE BARANG	NAMA BARANG	SPESIFIKASI	Volume	Satuan	TUJUAN PENGIRIMAN
			<p>Two-click image capture  Convenient, web-based cloud service for data storage and archiving  Components</p> <p>Included • Millicell® DCI device • EdiMax Wireless USB adapter • Millicell® DCI power cord</p> <p>Instrument Body  Material ABS plastic housing,  Aluminum stage  Height 15.24 cm (6 in)  Width 27.94 cm (11 in.)  Depth 30.48 cm (12 in.)  Weight &lt; 6 lbs</p> <p>Integrated Display  with Touchscreen,  Anti-glare coating  7 inches</p> <p>Display Resolution 1024 x 600 pixels  Z-focus Range +/- 5 mm (0.20 in.)</p> <p>System Compatibility  WiFi® Network Yes, via EDIMAX External USB  WiFi® Adapter  Ethernet Yes, 10-100 Mb/s  Memory Storage 32 GB  Chemical Compatibility  Wiping with alcohol Compatible with 70% ethanol by wiping</p>			

NO ITEM	KODE BARANG	NAMA BARANG	SPESIFIKASI	Volume	Satuan	TUJUAN PENGIRIMAN
32	WGHA 89B	SCEPTER 3.0 HANDHELD CELL COUNTER	<p>Milipore Merck</p> <p><b>Ukuran/Dimensi 40 µm and 60 µm sensors</b></p> <p>The Scepter 3.0 handheld automated cell counter provides a fast and convenient method for counting cells and particles compatible with both the 40 and 60uM sensor.</p> <p>Features &amp; Benefits:</p> <ul style="list-style-type: none"> <li>- The system employs the Coulter principle in a miniaturized and handheld.</li> <li>- Format enabling rapid cell counting what used to take 10 minutes now takes less than 30 seconds.</li> <li>- On screen instructions guide you through the sampling process.</li> <li>- Data output: cell concentration, average diameter, average volume and a histogram displaying population information on your culture.</li> <li>- The device stores up to 999 counts which can be downloaded to your computer and uploaded to Excel for further manipulation.</li> </ul> <p>Included:</p> <ol style="list-style-type: none"> <li>1. Pack of 40 µM and 60 µM sensors</li> <li>2. Testing bead calibration</li> <li>3. Charging station</li> <li>4. Wall mounting kit</li> </ol> <p>Brand: Merck Type: PHCC360KIT</p> <p>The Scepter™ 3.0 cell counter Compatibility with More Cell Types Smart, Automated Data Transfer Transfer results wirelessly, or via USB for reliable recording and archiving Gate and capture up to 999 cell size or volume histograms Create and save gating settings</p>	1	Unit	LPPT UGM



NO ITEM	KODE BARANG	NAMA BARANG	SPESIFIKASI	Volume	Satuan	TUJUAN PENGIRIMAN
			<p>Easily export data for in-depth analysis measures volume using the Coulter principle Its on screen instructions guide you through the sampling process and in less than 40 seconds reveal data on cell concentration, average diameter, average volume and a histogram displaying population information on your culture</p> <p>Application Rapid counting cell population Rapid counting cell live and death Rapid counting Peripheral Blood Mononuclear Cells Rapid Counting of Somatic Cells in Dairy Milk</p> <p>Body Material Acrylonitrile butadiene styrene (ABS) body, polycarbonate digital screen, silicone control buttons Height 28.321 cm (11.15 in.) Width 6.350 cm (2.5 in.) Depth 10.922 cm (4.3 in.) Weight (approximate) 229.5 g (0.5 lb)</p> <p>Wireless (Wi-Fi®, WLAN) Network: IEEE 802.11 b/g/n, 1MByte/s, up to 25m line-of-sight 2.4 Ghz Bluetooth® Network: IEEE 802.15.1, support FTP, OPP and Bluetooth® 2.4 Ghz Low Energy</p> <p>Handheld Instrument: Internal rechargeable 3.7 V lithium ion battery Charging Station to Recharge Battery: Input 100–240 V~ (50/60 Hz), 0.2 A Output 5 Vdc, 1 A"</p>			

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			<p>sensor  Material Polycarbonate with mylar polyester film  Height 8.6 cm (3.4 in.)  Width 1.6 cm (0.6 in.)  Weight 2.3 g (0.1 oz)  Aspiration Volume 50 µL  Sensor Orifice/Aperture 40 µm or 60 µm</p> <p>include  Scepter 3.0 Cell Counter Sensors, 60um  Scepter 3.0 Test Bead Vial  Scepter 3.0 Charger Station  Scepter 3.0 Charger Mounting Kit  Scepter 3.0 Cell Counter Sensors, 40um</p>			
33	WGHA 90	USG for animal	<p>VEVO F2  SYSTEM SPECIFICATION  Computer Specifications  Hard Drive 2 TB SSD with SATA 6 Gb/s interface  RAM 16 GB DDR4 2133 MHz  CPU Intel Core™ i7-6820EQ  OS Windows 10 Enterprise LTSC  Display 1680 x 1050 IPS monitor w/ stereo speakers  Standard Ports HDMI, 3.5 mm stereo headphone jack,  USB 3.0 x2, USB 2.0 x3, Ethernet, 3D Motor,  Physiological Data, Tx Trig, Trig In, Trig Out  Touchscreen 10" LCD panel</p> <p>System Electronics  Multiple Dynamic Receive Focus</p>	1	Unit	LPPT UGM

NO ITEM	KODE BARANG	NAMA BARANG	SPESIFIKASI	Volume	Satuan	TUJUAN PENGIRIMAN
			<p>Adjustable Transmit Focus            Sampling Rates 48 / 96 / 192 MHz            ADC Resolution 10 - 12 bits            Analog Frequency Range 71 - 1 MHz            Transmit Channels 128            Receive Channels 64            Max Frame Rate &gt; 50,000 frames per second (refer to Plane Wave Frame Buffer Size)            Time Delay Resolution (Transmit) 2.6 ns            Time Delay Resolution (Receive) 0.65 ns            System Weight and Dimensions            Weight 95 kg (209 lbs)            Height (with monitor folded) 122 cm (48 in)            Width 53.8 cm (31.2 in)            Depth 67.1 cm (26.4 in)</p> <p>Electrical Specifications            Electrical Service AC line voltages of 120 V (5 A), 240 V (2.5 A), 100 V (6 A)            AC line voltages rated for 50/60 Hz</p> <p>Environmental Specifications            Temperature 10 - 40 °C (50 - 104 °F)            Relative Humidity 15 - 80% non-condensing            Noise Output 51.6 dB(A) at operator's normal position</p> <p>Live Imaging Modes            B-Mode            3D Mode            4D Mode            EKV™ Mode            M-Mode / Anatomical M-Mode</p>			

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			<p>PW Doppler Mode / PW Tissue Doppler Mode  Color (Velocity) Doppler Mode / Power Doppler Mode  Color / Power Doppler EKV Mode  Color / Power Doppler 4D Mode  Digital RF Mode  Nonlinear Contrast Mode</p> <p>Additional Features  ECG-Trigerring (All modes except PA-Mode and VADA)  Respiration Gating  Study browser and thumbnail view  Image review, capture and display  Advanced measurements, annotations, and reports  Data Export (DICOM*2 , tiff, bmp, gif, csv, mp4)  Research-focused data management  Small animal-based measurements and calculations  Integrated physiological data: temperature, heart rate, ECG, respiration  and blood pressure  Vevo HD technology for superior image quality  (includes Speckle Reduction and Spatial Compounding)</p> <p>Vevo Advanced Data Acquisition (VADA) Mode  Graphical User Interface to configure:  a. Transmit Delays plane wave, focused, custom, beam steering <math>\pm 30</math>  b. Waveforms sinusoidal, chirp, pulse, inversion, custom  c. Pulse Sequences walking aperture, plane,wave (single or multi-angle),  voltages, laser,3D motor, triggers, and more  Max Memory 7.5 GB (refer to Plane Wave Frame Buffer Size)</p>			

NO ITEM	KODE BARANG	NAMA BARANG	SPESIFIKASI	Volume	Satuan	TUJUAN PENGIRIMAN
			<p>Hardware</p> <ul style="list-style-type: none"> <li>Rolling portable ultrasound unit</li> <li>Touchscreen control panel</li> <li>UHFx Series ultra high resolution transducers</li> <li>SonoSite® low frequency transducers</li> <li>3 operational transducer ports</li> <li>High Definition IPS LCD monitor</li> </ul> <p>Certifications</p> <p>The Vevo F2 has undergone testing to comply with:</p> <ul style="list-style-type: none"> <li>a. UL 61010-1 (3rd Edition)</li> <li>b. CAN/CSA C22.2 No. 61010-1-12</li> <li>c. EN 61010-1:2010 (3rd Edition)</li> </ul>			
34	WGHA 94	Animal changing station NU620	<p>Nu Air NU620</p> <ul style="list-style-type: none"> <li>- Air Cleanliness : ISO 14644 ISO-Class-5</li> <li>- Construction : Painted Steel Main Cabinet, Stainless Steel; Plenum &amp; Work Surface, Polycarbonate View Screen</li> <li>- Control System : AeroMax</li> <li>- Diffuser : Metal</li> <li>- Downflow fpm (m/s) : 60 (0.30)</li> <li>- Electrical Configuration : 230V, 50/60 Hz</li> <li>- Exhaust Filter : 3-inch (76mm) 99.99% Efficiency on 0.3 microns</li> <li>- Exhaust Prefilter : Below Work Surface</li> <li>HEPA Filter seal Type : Neoprene, Spring-loaded</li> <li>- Inflow fpm (m/s) : 25 (0.13)</li> </ul> <p>Exterior Width Inches (mm) : 42 (1067) without sidebars</p> <p>Electrical Configuration : 230, 50/60 HZ</p>	1	Unit	LPPT UGM