

# OLYMPUS

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## WM-60 MOBILE WORKSTATION

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Further products in a design co-ordinated endoscopy support range.

# Olympus WM-60 Mobile Workstation

## Sophisticated Design

As endoscope technology continues to advance, the conventional trolleys previously used to house the scopes and support equipment are increasingly unable to meet the more sophisticated demands of the modern endoscopy environment. With this background KeyMed's Research & Development department, having over 25 years' experience in ancillary product design, was asked by Olympus to undertake a study to establish design options which would allow use of all the necessary support equipment within a compact footprint.

Many alternatives were considered but it became clear that to give the complex detailing required for the best functionality and visual effect, the workstation had to be made primarily from a moulded material.

Research included the evaluation of plastics used in the automotive and aerospace industries, where strong materials are frequently needed for use in hostile environments. The investigation concluded that an ideal material for the main structural components would be glass reinforced polyester (GRP).

### Component Manufacture

The WM-60 starts life as a raw material composite, which is carefully weighed to ensure exactly the right amount is used for each component. This is placed in a mould which is pre-heated to 150°C. A force of 600 tonnes compresses the material into the required shape and ensures the correct material density is achieved. The combination of pressure, temperature and the characteristics of the composite material creates components with fine detail but high strength.



### Comprehensive Testing

Having selected GRP, the design team had to be completely assured of its suitability, so structural strength, life-cycle durability and even simulated abuse of the trolley were all extensively tested.

For vital structural components such as the monitor platform and shelves, finite element analysis was used to assess the material and predict its behaviour under long-term stress conditions. This resulted in dramatic changes to some of the structural components, to improve strength and durability. For example, the integral web construction of the shelf was designed as a result of the finite element analysis.

With the WM-60 often being used in different departments, stability, both laden and unladen, is critical. The WM-60 passes a 10° tilt test in all four directions, a major factor in ensuring total confidence in the product's ability to withstand day-to-day use in hospitals all over the world.



Exhaustive durability and environmental testing was undertaken by an independent test house, proving that the WM-60 justifiably carries the Olympus name, with all that it implies.



## Features and Benefits



Available optionally for the WM-60 are platforms for 14" or 20" monitors, purpose-designed for both Olympus and Sony versions. The platform has 90° left and right rotation, together with an easy to operate up and down tilt mechanism, enabling the user to select the optimum viewing position. All cables can be channelled through the monitor arm for neatness and safety.



The scope hanger is designed to hold any two Olympus GI or BF flexible scopes and two Endotherapy accessories. The height of the hanger is fully adjustable, to accommodate even full-length colonoscopes and can be sited on either side of the workstation.

The soft autoclavable rubber scope tip protector can be easily removed for cleaning. It is height adjustable to ensure protection for all lengths of instrument.



The keyboard holder can be adjusted to the desired position for data entry and may be mounted on either side frame.

When not in use, it can be stored neatly out of the way at the side of the workstation.



## Features and Benefits



Up to three shelves can be accommodated within the WM-60 in nine different locations, enabling optimum positioning of the required ancillary items. Each shelf incorporates two cable retention straps.

A removable side panel has been incorporated to allow easy access to the light source for lamp replacement.



A central on/off switch gives easy and instant control of the whole workstation. Moulded recesses in the top tray provide convenient storage areas for accessories.

Power sockets are incorporated in the base allowing the endoscopy system to be connected to the mains supply using the minimum number of cables.



A specially developed 1300VA isolation transformer is located at the base of the workstation. This high capacity increases the equipment combination options which can be powered from the WM-60 whilst maintaining compliance with EN IEC 60601-1-1, the international safety standard for medical electrical systems.

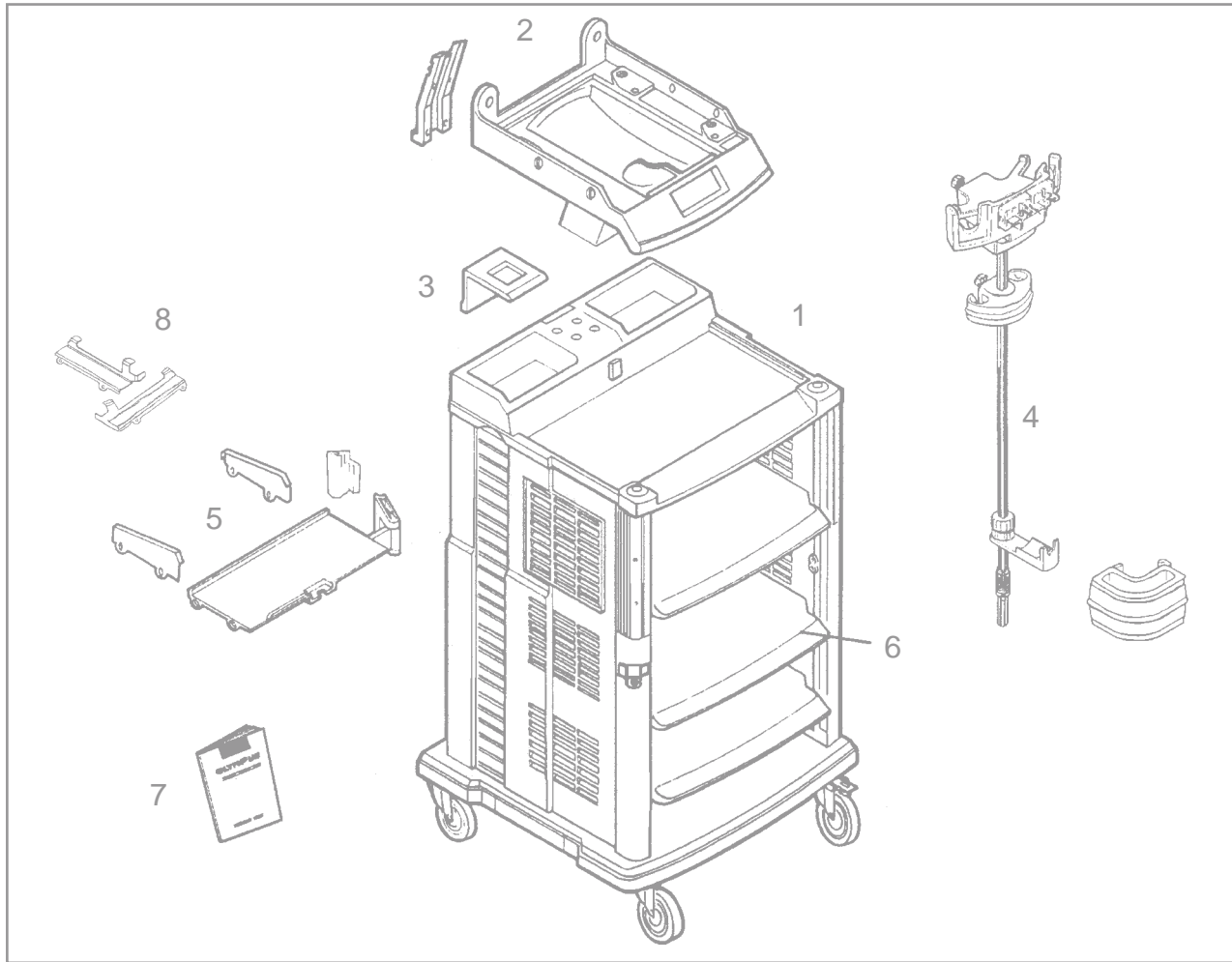
The bumper strip offers all round protection to the workstation during transportation, while four 6" diagonal locking castors enable it to be moved around the unit with ease, and have been positioned to maximise stability.



The Olympus WM-60 represents a significant step forward in the design of an endoscopy workstation, making the complete Video Endoscopy System both practical to use and aesthetically pleasing.



# WM-60 Standard Sets and Accessories

The WM-60 is available in a number of configurations. Please refer to the table below.



Item	Description	Set Ref Socket Style Voltage	Set A Japanese 100V	Set B Japanese 100V	Set C USA 110V- 120V	Set D German 220V- 240V	Set E UK 220V- 240V	Set F** IEC 220V- 240V	Set G*** IEC 220V- 240V
1	WM-30 (New Colour) workstation 100V		1	1					
	WM-60 workstation – 110-120V				1				
	WM-60 workstation – 220-240V					1	1	1	1
	Number of isolated power sockets		8	8	8	5	5	6	6
2	14" monitor platform		1						
3	Monitor arm blanking cover			1	1	1	1	1	1
4*	Scope hanger kit		1	1	1	1		1	1
5	Keyboard platform		1	1	1	1		1	1
6	Shelf		3	3	2	2	2	2	2
7	Instruction manual		1	1	1	1	1	1	1
8	160 series keyboard brackets				1				
*	Item 4 comprises a scope pole, videoscope cable holder, double scope holder, light guide connector and scope tip protector with cup.								
**	European Centres within EU except Germany.								
***	Non - MDD Controlled Countries.								

# Specifications

ITEMS	SPECIFICATIONS				
Product Name	Olympus Mobile Workstation WM-60				
Classification (electromedical equipment)	Standards compliance	Designed in compliance with EN IEC 60601 and UL544 (110-120V model only). When connected to the power supply as instructed, all equipment mounted on the WM-60 may be used in the patient environment, as defined by EN IEC 60601-1-1.			
		 This symbol on the 110-120V version indicates it is listed by Underwriters Laboratories Inc.			
	Electro-magnetic compatibility	Meets the requirements of EN IEC 60601-1-2.			
	Type of protection against electrical shock	Class I (3-conductor AC inlet).			
	Degree of protection against explosion	<b>NONE.</b> The WM-60 should not be used within the zone of risk of flammable gases.			
Power Switch	Marking	I - ON   O - OFF			
Environmental Conditions	Power requirements	Voltage (±10%)	Frequency	Isolation transformer rating	
				Input	Output (max)
		110-120V~ 220-240V~	50/60Hz 50/60Hz	1320VA* 1320VA*	1300VA* 1300VA*
		* WM-60 and maximum equipment load			
	Ambient temperature	Storage: -40°C to 70°C (-40°F to 158°F) Operation: 10°C to 40°C (50°F to 104°F)			
Relative humidity	95% maximum @ 40°C (104°F) non-condensing				
Atmospheric pressure	Storage: 23.5-106 kPa (3.4-15.37lbf/in²) Operation: 70-106 kPa (10.15-15.37lbf/in²)				
Dimensions and Weight	Dimensions	W 685mm (27") D 685mm (27") H 1208mm (47½") to top tray (for reference, H 1890mm (74½") with 20" monitor fitted)			
	Weight (nominal)	75kg (165lb)			
	Load capacity	Top tray: 10kg (22lb) Adjustable shelf: 40kg (88lb) each Base: 40kg (88lb) 14" Monitor platform: 24kg (53lb) 20" Monitor platform: 32kg (70lb) Total load: 140kg (309lb) max.			
Regulatory Status	European Economic Area (EEA)	 CE marked in accordance with Directive 93/42/EEC of 14 June 1993 concerning medical devices as an accessory to a medical device, Class I. Year of manufacture is given in first two digits of serial no.			

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