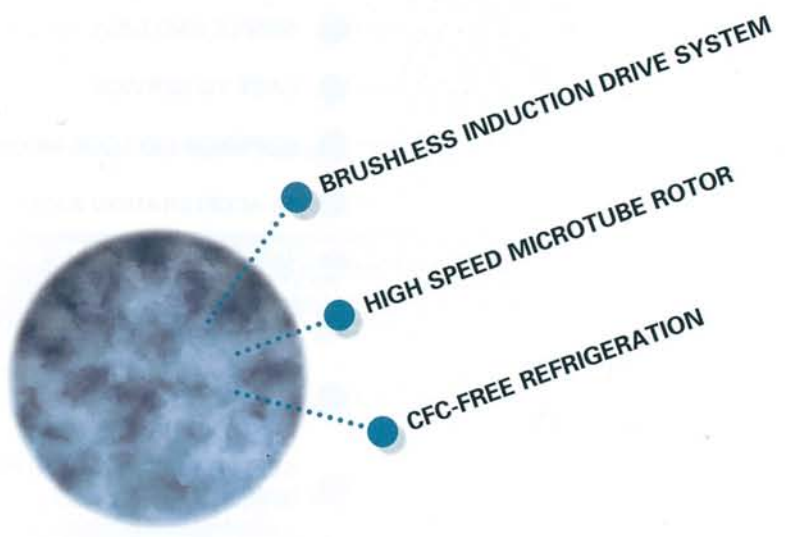




HARRIER 18/80

Refrigerated





- Harrier
15/80
18/80R**
- INTELLIGENT MICROPROCESSOR CONTROL
 - INVERTER CONTROLLED BRUSHLESS MOTOR
 - AUTOMATIC ROTOR IDENTIFICATION SYSTEM
 - SET AND RUN IN RCF OR RPM
 - KEY LOCK FACILITY
 - INSTANT RCF READING
 - LAST RUN MEMORY
 - GREEN LED DISPLAY
 - OVERSPEED PROTECTION SYSTEM
 - FULL LID INTERLOCK
 - IMBALANCE DETECTION SYSTEM
 - SELF DIAGNOSTICS
 - STATUS INDICATOR
 - REMOVABLE STAINLESS STEEL INNER BOWL (HARRIER 15/80)
 - CFC - FREE REFRIGERANT GAS (HARRIER 18/80R)
 - FAST EFFICIENT COOLING (HARRIER 18/80R)
 - SELECTABLE TEMPERATURE RANGE -9° TO +40°C (HARRIER 18/80R)
 - PRECOOL FACILITY (HARRIER 18/80R)
 - CFC-FREE INSULATION (HARRIER 18/80R)
 - SIMPLE AND EASY TO USE
 - EASY TO SERVICE
 - SUPERIOR LID LOCK MECHANISM
 - 10 ACCELERATION RATES
 - 10 BRAKE RATES
 - WIDE RANGE OF ACCESSORIES
 - ALL ACCESSORIES FULLY AUTOCLAVABLE
 - SEALED BUCKETS WITH PORTON DOWN APPROVAL
 - SEALED 24 PLACE MICROTUBE ROTOR AVAILABLE
 - DESIGNED TO COMPLY WITH BS EN 61010-2-020: 1995
 - LANGUAGE OPTIONS AVAILABLE



MSE have always had an enviable reputation for their bench top centrifuges and the HARRIER range continues this tradition. In addition to the existing HARRIER 15/80, the HARRIER 18/80 REFRIGERATED is designed for routine laboratory use and has the additional facility of being able to centrifuge samples at sub-ambient temperatures. Both centrifuges represent excellent value for money in terms of performance, ease of use, safety and reliability.



Automatic rotor identification system

The HARRIER range incorporates an automatic rotor identification system. This important feature ensures that the centrifuge recognises the rotor in use and prevents it from being used beyond its safe maximum speed. As the centrifuge identifies the rotor in use, it can also work out the 'g' force at any set speed. This means the centrifuge can convert rpm to 'g' and vice versa once in use.

Microprocessor controlled induction drive

The HARRIER range utilises an induction motor for maintenance free long life operation. This motor has no carbon brushes so not only is there no need for routine maintenance but there is no build-up of carbon dust inside the centrifuge. This makes it suitable for use in clean environments. Microprocessor control combined with the frequency driven motor ensure accurate operation for run to run reproducibility.

Refrigerated version available

The HARRIER 18/80 REFRIGERATED combines all the capabilities of the proven HARRIER 15/80 in a refrigerated format. The selectable temperature range is from -9°C to +40°C and uses CFC-free R134a refrigerant gas. This means that in refrigerant terms, the HARRIER 18/80 REFRIGERATED complies with all the regulations pertaining to the Montreal Protocol.

A precool facility allows the bowl to be cooled to the required temperature prior to use.

High speed microtube rotor

The use of the induction motor provides another benefit in that higher rotational speeds can be achieved. This allows the HARRIER range to have a maximum speed in excess of 15,000 rpm with the 24 place microtube rotor.

The addition of refrigeration in the HARRIER 18/80 REFRIGERATED unit allows the microtube rotor an increase in speed to 18,000 rpm giving a maximum 'g' force of 28,980 'g'. See rotor table for details.



Wide range of accessories available

For routine bench top work, the 4 x 200ml swing out rotor and 200ml sealed buckets are available on the HARRIER 15/80. A recent addition on the HARRIER 18/80R is the 4 x 200ml windshielded rotor. This uses the same 200ml buckets as used on the HARRIER 15/80 but with an increased speed capability of 6,000 rpm giving a maximum 'g' force of 6,466 'g'. These, combined with a wide range of adaptors, can accommodate most manufacturers' tubes. As well as the swing out rotor, other angle rotors and specialist rotors are available. *Please see tables for details.*



HARRIER 15/80 – 18/80R Specification

	15/80	18/80R
Max. speed swing-out rotor	4500 rpm	6000 rpm
Max. RCF swing-out rotor	3637 g	6466 g
Max. speed angle rotor	6500 rpm	6500 rpm
Max. RCF angle rotor	5574 g	5574 g
Max. speed microtube rotor	15000 rpm	18000 rpm
Max. RCF microtube rotor	20125 g	28980 g
Max. bottle size	200ml	200ml
Max. capacity	800ml	800ml
Speed control range	1 - 15000 rpm	1 - 18000 rpm
Speed control accuracy	1 rpm	1 rpm
Speed display	± 10 rpm	± 10 rpm
Temperature range		- 9°C to +40°C
Temperature control		± 2°C
Time set range (both)	0 - 59 mins 59 secs	
	0 - 99 hrs 59 mins	
	time hold	
Time accuracy	0.1 secs	0.1 secs



DIMENSIONS

	15/80	18/80R
Height	355mm	355mm
Width	470mm	670mm
Depth	580mm	580mm
Weight	41kg	65kg

CATALOGUE NUMBERS

220/230V 50/60Hz	MSB080.CX1.5	
120V 50/60Hz	MSB080.CX1.1	
220/230V 50Hz		MSB080.CR1.K
120V 60Hz		MSB080.CR1.H



MSE have always had an enviable reputation for their bench top centrifuges and the HARRIER range continues this tradition. In addition to the existing HARRIER 15/80, the HARRIER 18/80 REFRIGERATED is designed for routine laboratory use and has the additional facility of being able to centrifuge samples at sub-ambient temperatures. Both centrifuges represent excellent value for money in terms of performance, ease of use, safety and reliability.



Automatic rotor identification system

The HARRIER range incorporates an automatic rotor identification system. This important feature ensures that the centrifuge recognises the rotor in use and prevents it from being used beyond its safe maximum speed. As the centrifuge identifies the rotor in use, it can also work out the 'g' force at any set speed. This means the centrifuge can convert rpm to 'g' and vice versa once in use.

Microprocessor controlled induction drive

The HARRIER range utilises an induction motor for maintenance free long life operation. This motor has no carbon brushes so not only is there no need for routine maintenance but there is no build-up of carbon dust inside the centrifuge. This makes it suitable for use in clean environments. Microprocessor control combined with the frequency driven motor ensure accurate operation for run to run reproducibility.

Refrigerated version available

The HARRIER 18/80 REFRIGERATED combines all the capabilities of the proven HARRIER 15/80 in a refrigerated format. The selectable temperature range is from -9°C to +40°C and uses CFC-free R134a refrigerant gas. This means that in refrigerant terms, the HARRIER 18/80 REFRIGERATED complies with all the regulations pertaining to the Montreal Protocol.

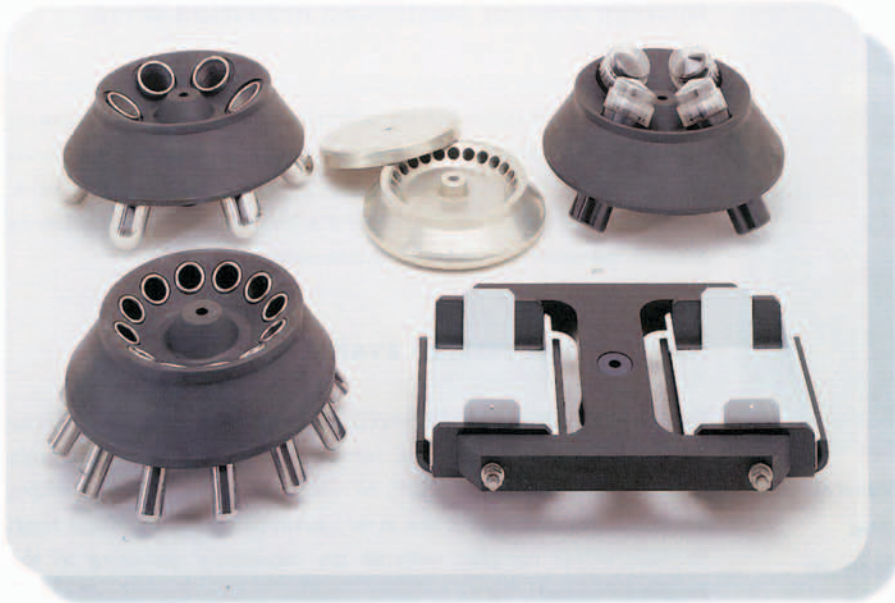
A precool facility allows the bowl to be cooled to the required temperature prior to use.

High speed microtube rotor

The use of the induction motor provides another benefit in that higher rotational speeds can be achieved. This allows the HARRIER range to have a maximum speed in excess of 15,000 rpm with the 24 place microtube rotor.

The addition of refrigeration in the HARRIER 18/80 REFRIGERATED unit allows the microtube rotor an increase in speed to 18,000 rpm giving a maximum 'g' force of 28,980 'g'. See rotor table for details.





**Microtitration Rotor (43121-117) for use on
HARRIER 15/80 and HARRIER 18/80 REFRIGERATED.
Max. speed 2,600 rpm**

MID TRAY		CORNER TRAY		NO. OF PLATES
RADIUS (mm)	RCF (g)	RADIUS (mm)	RCF (g)	2 per carrier (total 4)
113	854	130	982	

**Angle rotors for HARRIER 15/80 and
HARRIER 18/80 REFRIGERATED.
(See price list for details of cushions and adaptors)**

ROTOR	CAPACITY	BUCKET	ADAPTOR	MAX. SPEED	MAX. RCF
43117 - 608	6 x 50ml	43156 - 602	-	6500 rpm	5574 g
43117 - 607	12 x 15ml	43156 - 601	-	6500 rpm	5290 g
43117 - 609	4 x 50ml sealed	43156 - 603 sealed bucket	34142 - 110 50 ml Falcon	6500 rpm	4812 g

**High speed angle rotor for HARRIER 15/80 and
HARRIER 18/80 REFRIGERATED
Optional sealed lid 43117-613**

ROTOR	CAPACITY	MAX. SPEED HARRIER 15/80	MAX. RCF HARRIER 15/80	MAX. SPEED HARRIER 18/80R	MAX. RCF HARRIER 18/80R
43117 - 612	24 x 2.0ml	15,000rpm	20,125g	18,000rpm	28,980g



The information contained in this brochure is correct at the time of printing, but is subject to change without notice. All orders are accepted subject to our current Conditions of Sale, copies of which are available on request.



MSE (UK) Ltd

Tel: 0870 609 4097

Fax: 0208 650 8408

E-Mail: sales@mseuk.co.uk

Web: www.mseuk.co.uk