

MICRONAUT

DIAGNOSTICS WITH PASSION



Use the reference method and fill the gap of your fully automated system

MICRONAUT systems for the identification and susceptibility testing of bacteria and yeast

The testing principle of MICRONAUT identification systems (ID) is based on the phenotypical detection of the biochemical characteristics of microorganisms. The anti-microbial susceptibility test (AST) is based on phenotypical resistance detection by the growth of the microorganisms in the presence of the antibiotics / antifungal agents tested.

The microdilution method used here is a standardised one regarded worldwide as the recognised reference system for determining the minimum inhibitory concentration (MIC).

The substrates or antibiotics are present vacuum-dried in the microtitration plates. Thanks to a special vacuum drying procedure, these MICRONAUT plates can be stored at room temperature (15-25 °C).

Starting with a pure culture, the microorganisms are suspended in the corresponding MCN media and transferred to the MICRONAUT plates with an 8-channel pipette. Rehydration of the dried substances occurs by addition of the characterising bacteria or yeast suspension. After an incubation period of 18-24 hours the results can be photometrically measured or read visually.

As the central element in testing the MICRONAUT software combines device management, device communication and data analysis as well communication with the LIMS. The integrated

expert system analyses the photometric test measurements and assumes the clinical validation. As an option, the software can be connected bi-directionally with the laboratory EDP.

 **MERLIN**



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MICRONAUT identification

The test principle of the MICRONAUT identification systems is based on phenotypic detection of the biochemical properties of microorganisms.

Art. No.	Product	Description	Incubation time	Evaluation	Packing
M/E2-880-400	MICRONAUT-GNE	4 tests/plate Identification of <i>Enterobacteriaceae</i> and other gram-negative bacteria.	18 - 24 hrs	photometrically	100 plates
M/E2-710-400	MICRONAUT-IDS	4 tests/plate Identification of the most common clinically relevant <i>Enterobacteriaceae</i> , Non-fermenter, staphylococci, enterococci and streptococci.	5 - 6 hrs	photometrically	100 plates + 2 l NaCl
M/E2-520-120	MICRONAUT-NF	3 tests/plate Identification of non fermenting, gram-negative and some glucose-fermenting bacteria.	24 hrs	photometrically	40 plates
M/E2-730-080	MICRONAUT-RPO	2 tests/plate Identification of staphylococci, streptococci, corynebacteria, <i>Listeria</i> , bacilli and other gram-positive bacteria.	22 - 24 hrs	photometrically	40 plates + 1 l NaCl
M/E2-850-160	MICRONAUT-STAPH	4 tests/plate Identification of clinically relevant staphylococci.	6 hrs or 18 - 24 hrs	photometrically	40 plates + 1 l NaCl
M/E2-870-160	MICRONAUT-STREP	4 tests/plate Identification of clinically relevant streptococci and enterococci.	20 - 24 hrs	photometrically	40 plates + 1 l NaCl
M/E2-740-160	MICRONAUT-Candida	4 tests/plate Identification of clinically relevant yeasts.	24 hrs	photometrically	40 plates
M/E5-005-200	MICRONAUT-UR	2 tests/plate Identification and susceptibility testing for urological diagnostics.	18 - 24 hrs	visually or photometrically	100 plates
M/E5-006-100	MICRONAUT-UR-KH	1 test/plate Identification and susceptibility testing for urine diagnostics, inclusive MRSA and ESBL detection.	18 - 24 hrs	photometrically	100 plates

MICRONAUT antimicrobial susceptibility tests (AST)

The MICRONAUT AST plates are offered in individual customer defined configurations, if an agreed minimum order quantity is being purchased. The customer may choose his preferred standard like EUCAST, or CLSI and compose his own customised antibiogram from more than 200 antibiotics. All AST products listed below are available as standard products. We continuously revise the range of standard AST plates. So please contact us for details on the actual program.

Customer defined plates

Art. No.	Product	Description	Incubation time	Evaluation	Packing
M/E1-xxx-x00	MICRONAUT-S individual	1 test/2 tests/4 tests/plate AST as Breakpoint or MIC method with your choice of antibiotics (minimum order quantity has to be agreed).	18 - 24 hrs	visually or photometrically	100 plates
M/EB-xxx-x00	MICRONAUT-SB individual	1 test/2 tests/4 tests/plate AST as Breakpoint or MIC method with your choice of antibiotics (minimum order quantity has to be agreed).	18 - 24 hrs	visually or photometrically	100 plates

Standard plates for clinical laboratories

Art. No.	Product	Description	Incubation time	Evaluation	Packing
M/EB-352-400	MICRONAUT-SB Standard Urine I (EUCAST)	4 tests/plate AST as Breakpoint method for UTI relevant antibiotics, EUCAST standard.	18 - 24 hrs	visually or photometrically	100 plates
M/EB-380-200	MICRONAUT-SB Varia (ambulant) (EUCAST)	2 tests/plate AST as Breakpoint method for mainly ambulant relevant antibiotics, EUCAST standard.	18 - 24 hrs	visually or photometrically	100 plates

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Standard plates for veterinary laboratories

Art. No.	Product	Description	Incubation time	Evaluation	Packing
M/E1-032-200	MICRONAUT-S Mastitis	2 tests/plate AST as MIC method for mastitis relevant antibiotics.	18 - 24 hrs	visually or photometrically	100 plates
M/E1-113-100	MICRONAUT-S Großtiere	1 test/plate AST as MIC method for antibiotics for therapy of large animals.	18 - 24 hrs	visually or photometrically	100 plates
M/E1-130-100	MICRONAUT-S Kleintier	1 test/plate AST as MIC method for antibiotics for therapy of small animals.	18 - 24 hrs	visually or photometrically	100 plates

Standard plates for antifungal susceptibility testing of yeasts

Art. No.	Product	Description	Incubation time	Evaluation	Packing
M/E1-824-160	MICRONAUT-AM	4 tests/plate AST as Breakpoint + MIC method for antifungal agents.	22 - 48 hrs	visually or photometrically	40 plates
M/E1-831-040	MICRONAUT-AM Anti Fungal Agents MIC	1 test/plate AST as MIC method for antifungal agents (EUCAST).	22 - 48 hrs	visually or photometrically	40 plates
M/E1-832-080	MICRONAUT-AM EUCAST AFST	2 tests/plate AST as MIC method for antifungal agents (EUCAST).	22 - 48 hrs	visually or photometrically	40 plates

NEW

MICRONAUT MIC Strips

Art. No.	Product	Description	Evaluation	Packing
M/EM-006-040	MICRONAUT MIC Strip Colistin	40 tests Susceptibility testing of bacteria by the broth microdilution method to determine the minimum inhibitory concentration (MIC). <u>According to the EUCAST and CLSI recommendations of March 2016 and the study of November 2016.</u>	visually	5 x 8 strips/ tests with 12 wells per strip
M/EM-022-040	MICRONAUT MIC Strip Vancomycin/ Teicoplanin	40 tests Broth microdilution method for detection of glycopeptide resistant bacteria by determination of the minimal inhibitory concentration (MIC) of Teicoplanin and Vancomycin.	visually	5 x 8 strips/ tests with 12 wells per strip

Special plates for clinical laboratories

Art. No.	Product	Description	Incubation time	Evaluation	Packing
M/E1-111-040	MICRONAUT-S Beta Lactamase	1 test/plate Phenotypic detection of ESBL (extended spectrum beta-lactamase), MBL (metallo-beta-lactamase), KPC (Klebsiella pneumoniae carbapenemase), AMP-C (amino-penicillin-deactivating cephalosporinase) and D-carbapenemases (OXA-48) for all relevant gram-negative bacteria in a single system.	18 - 24 hrs	visually or photometrically	40 plates
M/E1-055-040	MICRONAUT-S MRSA / GP	1 test/plate Detection of multidrug-resistant staphylococci (MRSA), enterococci (VRE) and pneumococci, including testing of novel antibiotics (e.g. daptomycin, ceftaroline).	18 - 24 hrs	visually or photometrically	40 plates
M/E1-114-040	MICRONAUT-S MDR MRGN-Screening	1 test/plate Susceptibility testing of multidrug-resistant gram-negative bacteria. Phenotypic detection of AMP-C cephalosporinase and type A-, B- and D-carbapenemases (new: ceftolozane/ tazobactam and ceftazidime/ avibactam).	18 - 24 hrs	visually or photometrically	40 plates
M/E1-085-040	MICRONAUT-S Anaerobier MHK	1 test/plate Susceptibility testing of treatment-relevant antimicrobial agents, such as tigecycline, moxifloxacin or ertapenem.	18 - 24 hrs	visually or photometrically	40 plates
M/E1-973-040	MICRONAUT-S Campylobacter	1 test/plate Determine resistances by measuring MIC for all relevant antimicrobial agents against <i>Campylobacter</i> .	18 - 24 hrs	visually or photometrically	40 plates
M/E1-129-100	MICRONAUT-S Pneumo- cocci & Haemophilus	1 test/plate Determine resistances by measuring MIC for all relevant antimicrobial agents against pneumococci and <i>Haemophilus</i> .	18 - 24 hrs	visually or photometrically	100 plates
M/E1-099-100	MICRONAUT-S MHK Pseudomonas	1 test/plate Determine resistances by measuring MIC for pseudomonas-active antimicrobial agents. (new: ceftolozane/ tazobactam and ceftazidime/ avibactam).	18 - 24 hrs	visually or photometrically	100 plates
M/E1-981-040	MICRONAUT-S CF	1 test/plate Testing of multiple drug resistant non-fermenters from patients with cystic fibrosis.	18 - 24 hrs	visually or photometrically	40 plates

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Special plates for interlaboratory comparison

Art. No.	Product	Description	Incubation time	Evaluation	Packing
M/EB-379-005	MICRONAUT-SB Ringversuch Urologie	1 test/plate AST towards MIC for external laboratory control for urologists.	18 - 24 hrs	visually or photometrically	5 plates
M/E1-028-005	MICRONAUT-S MHK Ringversuch	1 test/plate AST towards MIC for external laboratory control.	18 - 24 hrs	visually or photometrically	5 plates

MICRONAUT reagents

Some identification tests require adding of reagent before measuring.

Art. No.	Product	Associated MCN plate	Tests	Packing
M/E2-301-001	Indol Reagent	MICRONAUT-IDS/UR/NF/GNE	400	100 ml
M/E2-303-001	Nitrate Reagent A	Optional for MICRONAUT ID plates: MICRONAUT-RPO/IDS/UR/NF/GNE		100 ml
M/E2-304-001	Nitrate Reagent B	Optional for MICRONAUT ID plates: MICRONAUT-RPO/IDS/UR/NF/GNE		100 ml
M/E2-308-001	Ninhydrin Reagent	MICRONAUT-STREP		2 x 4 ml
M/E2-305-001	Paraffin Oil	MICRONAUT-IDS/NF/STREP/RPO/GNE/ STAPH/UR	Depending on the product	100 ml
M/E2-310-001	Peptidase Reagent	MICRONAUT-IDS/RPO/UR	Depending on the product	100 ml
M/E2-312-001	NaCl	MICRONAUT identifications	Depending on the product	1 x 1000 ml
M/E2-323-001	AST Reagent Kit	MICRONAUT-AM		2 (4 x 4 ml)

MICRONAUT media

Bacterial suspension is prepared in MCN media.

Art. No.	Product	Associated MCN plate	Tests	Packing
M/E2-306-100	MICRONAUT-NF Susmed	MICRONAUT-NF	100	100 x 6 ml
M/E2-314-100	MICRONAUT-Candida Susmed	MICRONAUT-Candida	100	100 x 6 ml
M/E2-331-020	Mueller Hinton Broth, cation adjusted	MICRONAUT-S	20	20 x 11 ml
M/E2-331-100	Mueller Hinton Broth, cation adjusted	MICRONAUT-S	100	100 x 11 ml
M/E2-311-100	MICRONAUT-H-Medium	MICRONAUT-S, fastidious microorganisms	100	100 x 11 ml
M/E2-330-020	MICRONAUT-Wilkins-Chalgren Broth	MICRONAUT-S Anaerob	20	20 x 11 ml
M/E2-324-020	MICRONAUT-RPMI-1640 Medium + MOPS + Glucose	MICRONAUT-AM	20	20 x 11 ml
M/E2-319-100	MICRONAUT-SB Medium	MICRONAUT-SB	100	100 x 11 ml
M/E2-338-100	MICRONAUT-ID Medium	MICRONAUT-UR	100	100 x 5.5 ml
M/E2-337-100	MICRONAUT-AST Medium	MICRONAUT-UR	100	100 x 5.5 ml
M/E2-318-010	MICRONAUT-SB Medium dehydrated	MICRONAUT-SB	Depending on the product used	10 x for 5 l each

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MICRONAUT software

MICRONAUT software offers after automatized reading, calculation, and interpretation of identification and susceptibility testing by using MICRONAUT systems.

Art. No.	Product	Description	Packing
M/U8-305-001	MICRONAUT Software	Basic module	1 unit
	QS Module	Record of quality control data.	1 unit
	Statistic Module	Statistical record of resistance data.	1 unit

Instruments

Art. No.	Product	Description	Packing
M/BH3-880-001	Pipette	Electronic 8-channel stepper for fast inoculation of 12 x 100 µl.	1 unit
M/LT51119000	Reader	Reader for fast measurement of MCN plates.	1 unit
M/PRE-001-001	Precision™ XS	Pipetting instrument for workflow of MCN AST plates.	1 unit
M/L4Y-100-001	Densitometer	Tube densitometer for adjustment of bacterial suspensions.	1 unit
M/2350	McFarland Standard Set 0.5 / 1.0 / 2.0	McFarland standards are used as a reference to adjust the density of bacterial suspensions.	3 tubes

Consumables

Art. No.	Product	Description	Packing
M/ST3-001-500	Matrix pipette tips	For use with the Matrix pipette.	500 units
M/LH-B791204	Biohit Optifit Tips Flexi-Bulk 1200	For use with the Biohit pipette.	480 units
M/BH3-487-096	Biohit tips rack 96	For use with the Biohit pipette.	1 rack per 96 tips
M/R4-510-050	1-Channel reservoirs, autoclavable	For easy plate inoculation with 1 test/plate.	50 units
M/R4-510-350	1-Channel reservoirs, disposable product	For easy plate inoculation with 1 test/plate.	350 units
M/R4-506-050	2-Channel reservoirs, autoclavable	For easy plate inoculation with 2 tests/plate.	50 units
M/R4-506-350	2-Channel reservoirs, disposable product	For easy plate inoculation with 2 tests/plate.	350 units
M/R4-508-050	4-Channel reservoirs, autoclavable	For easy plate inoculation with 4 tests/plate.	50 units
M/R4-508-350	4-Channel reservoirs, disposable product	For easy plate inoculation with 4 tests/plate.	350 units
B2-003-040	MICRONAUT foil perforated, 40 units	For sealing of MCN identification plates (included in standard packaging).	40 units
B3-002-040	MICRONAUT foil unperforated, 40 units	For sealing of MCN AST plates (included in standard packaging).	40 units

The MICRONAUT system prices are available on request. Please feel free to contact us.