



**cobas**<sup>®</sup>  
*Life needs answers*

# **cobas s 201 system for NAT Donor Screening**

One Vision. Many Possibilities.



*Imagine* the  
*Possibilities.*

**cobas s 201 system for  
NAT Donor Screening**

One Vision. Many Possibilities.

*Imagine...* an automated real-time PCR platform that brings improved flexibility and productivity to donor screening. Picture a unique scalable design easily adapted to meet the array of variable throughput demands. That vision has become reality. The **cobas s 201** system is the only world-class complete nucleic acid testing (NAT) solution that provides labs with the confidence and efficiency of extensively proven PCR technology, highly reliable and robust modular automation, convenient ready-to-use reagents, and future menu expansion on the same validated system. The **cobas s 201** system is raising the bar in reliability and scalability, opening a world of possibilities to donor screening labs and facilities.

# Introducing the cobas s 201 system.

*An integrated, world-class, scalable NAT donor screening system designed to meet variable throughput demands in an automated, technician-friendly environment.*

## Automated Pooling

Sample Pooling is easy when you rely on the automated Hamilton STAR pipettor and Roche's proprietary Pooling Wizard software.



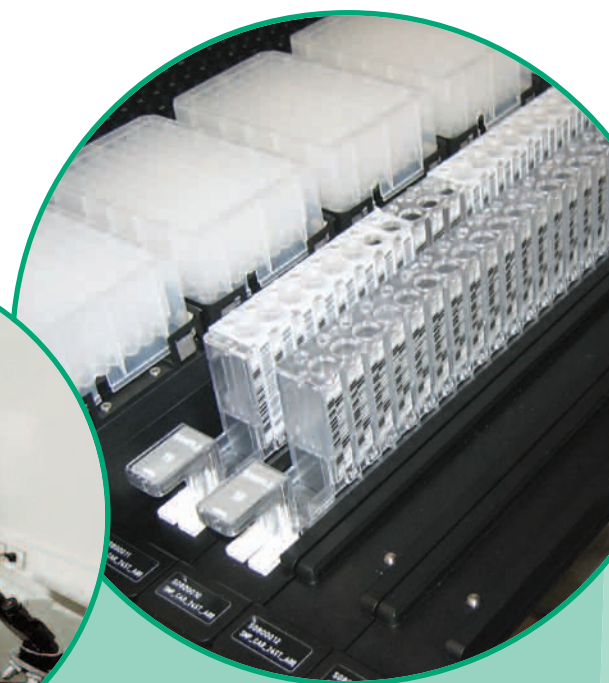
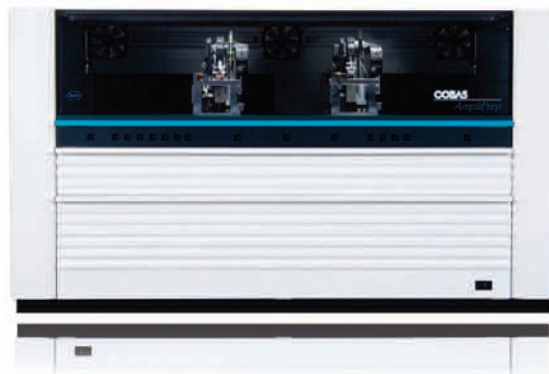
## Pooling and Data Management Server

A single super server can accommodate multiple configurations to meet basic, medium or high-throughput needs.



## Automated Sample Preparation and Real-Time PCR

Easily manage automated nucleic acid extraction and state-of-the-art real-time PCR... and still have time for other essential duties.



# An Innovation in Donor Screening

*The **cobas s 201** system was created from a unified vision... an understanding of the need for improved productivity, scalability and reliability. The **cobas s 201** donor screening system relies on real-time PCR technology supported by technician-friendly automated pooling, sample preparation, system monitoring and final results reporting. Its scalable design allows for expansion as needed with ready-to-use reagents, integrated back-up capabilities and built-in contamination control. The **cobas s 201** system is your customizable solution for flexible, automated, world-class NAT donor screening.*

## Automated Pooling

The automated Hamilton STAR family of pipettors and Roche's proprietary Pooling Wizard software is unsurpassed for ease in pooling.

## Pooling and Data Management Server

The single high-capacity server can accommodate multiple configurations to meet variable throughput needs while providing system safeguards such as data back-up, data recovery, data redundancy and data retrieval capabilities.

## Scalable and Flexible Automation

Powered by a single high-capacity server, the **cobas s 201** system lets you establish and change system configurations to meet your workflow requirements with less labor and provides integrated back-up capabilities. Scale up or scale down. You can implement a world-class system today that can change to meet your needs tomorrow.

## Technology to Support Emerging Pathogens

The **cobas s 201** system supports assays with a platform designed for detection of emerging pathogens. The system is designed to easily accommodate future needs.

## Start-to-Finish Monitoring

The system monitors samples, ready-to-use reagents, disposables and the testing process from start to finish.

## User-Friendly Software and Server

The software and server provide system security, surveillance and reporting capabilities. Roche is raising the bar in laboratory quality by providing maximized flexibility with full system audit and data security.

## Superior Service and Support

The **cobas s 201** system is made and supported by Roche, the industry leader in service. In the last three Washington G-2 Reports, Roche has been rated #1 in service and support.\* Our service engineers and application specialists are unsurpassed in their responsiveness, professionalism and reliability.

## Automated Sample Preparation and Real-Time PCR

Easily manage automated nucleic acid extraction and world-class real-time PCR... *See the possibilities.*

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\*Washington G-2 Reports First National Reagent Vendor Quality Survey Report, 2005.



# One Vision. Many Possibilities.

## *Flexible Configurations That Grow with You*

*Changes in your testing regimen, staffing, workload or workflow are easier to manage with the flexibility of the cobas s 201 system. Its unique modular and scalable design lets you establish the configurations that meet your requirements for workflow and throughput. It's easy. And when your needs change, the system can change with you.*



### **Scalable**

The flexible, mix-and-match scalability of the cobas s 201 system helps your NAT lab work more efficiently.

The system:

- Streamlines processes
- Adjusts to specific workload needs, based on available staff and shift patterns
- Accommodates integrated back-up
- Scales up or down to meet changing laboratory needs

### **Powerful**

The cobas s 201 system gives you powerful automation features in any chosen configuration.

A single high-capacity server with software supports:

- Up to 4 Hamilton STAR pipettors
- Up to 12 COBAS® AmpliPrep instruments
- Up to 8 COBAS® TaqMan® analyzers

### **Productive**

The information provided in the following pages demonstrate the system's flexibility and scalability providing valuable insights to consider how the cobas s 201 donor screening system can help you optimize workflow and increase the productivity of your lab.

### **Other Configurations Available**

Regardless of your throughput needs, the cobas s 201 system gives you powerful automation features in many configuration options. Your Roche Diagnostics representative has tools specially designed to help you determine the optimum configuration for your lab.



## BASIC

### Automated Pooling



Hamilton MICROLAB STAR Pipettor and Pooling Workstation

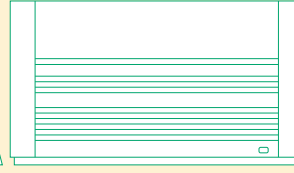
### PDM Server



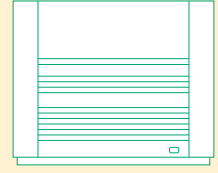
### Automated Sample Preparation and Real-Time PCR



AMPLILINK Software Workstation



COBAS® AmpliPrep Instrument



COBAS® TaqMan® 96 Analyzer

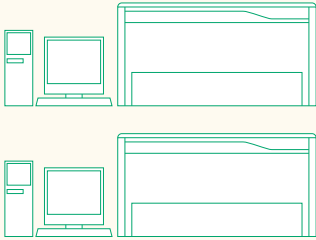
#### Back-up

For lower throughput systems, optional components can be added and used for back-up or to increase throughput during peak periods.

Hamilton STAR Pipettors	AmpliLink Workstations	AmpliPrep Instruments	COBAS® TaqMan® Analyzers
1	2	1	1

## MEDIUM

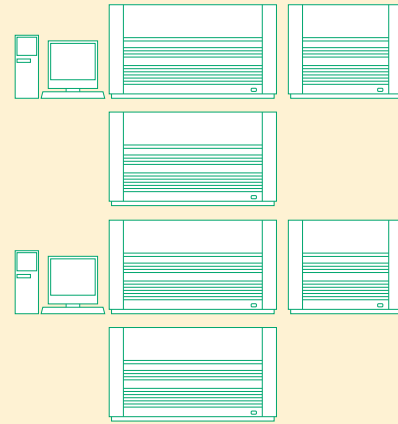
### Automated Pooling



### PDM Server



### Automated Sample Preparation and Real-Time PCR



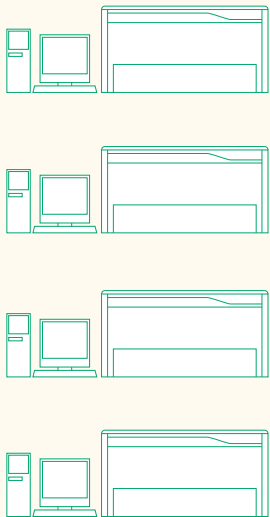
#### Back-up

Integrated into system.

Hamilton STAR Pipettors	AmpliLink Workstations	AmpliPrep Instruments	COBAS® TaqMan® Analyzers
1	2	4	2

## HIGH

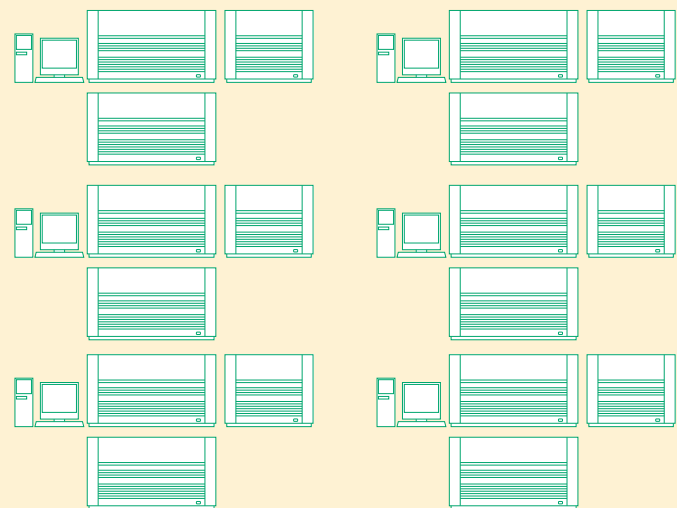
### Automated Pooling



### PDM Server



### Automated Sample Preparation and Real-Time PCR



#### Back-up

Integrated into system.

Hamilton STAR Pipettors	AmpliLink Workstations	AmpliPrep Instruments	COBAS® TaqMan® Analyzers
1	4	12	6

# Automated Pooling

## Fast, Easy and Reliable

The **cobas s 201** system is designed for use with the Hamilton STAR family of pipettors, coupled with Roche's proprietary Pooling Wizard software.

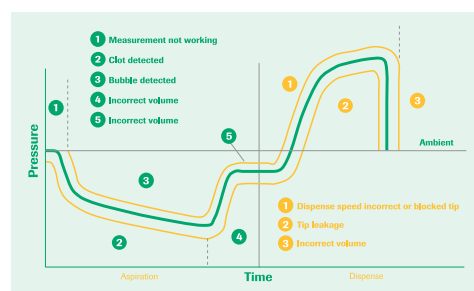
### Hamilton MICROLAB STAR Pipettor

The MICROLAB STAR pipettor delivers world-class high-performance technologies with automation that makes it easy to use.

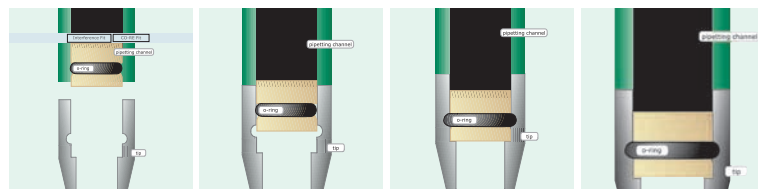
- Novel Compression Induced O-Ring Expansion (CO-RE) tip attachment technology designed to reduce risk of contamination and provide increased safety.
- World-class Total Aspiration and Dispense Monitoring (TADM) to ensure accuracy of pipetting and sample integrity – no need to weigh plates to ensure process control.
- Monitored Air Displacement (MAD) pipetting technology – real-time error detection system. Eliminates uncertainty and allows technicians to correct errors using the software-guided error handling system.
- Capacitive and pressure-based liquid level detection takes the guesswork out of pipetting.
- Dynamic positioning system – independent channel positioning for unlimited channel use and maximum throughput.
- No special air handling or lab setup requirements.

### Roche Pooling Wizard Software

Roche has developed unique, proprietary Pooling Wizard software specifically for use with the Hamilton MICROLAB STAR pipettor. The software is specially designed to help donor centers that test pooled donations simplify their process flow by prompting users through the process.



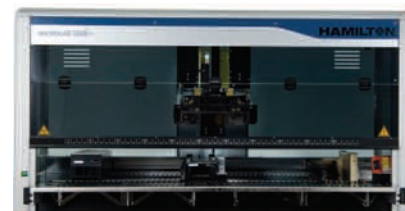
Total Aspiration and Dispense Monitoring (TADM) verifies correct sample pipetting with a traceable digital audit trail.



Compression Induced O-Ring Expansion (CO-RE) eliminates aerosols generated by forced ejection of pipette tips.

### Features

- Easy prompts – the software includes a graphical layout of the pipettor deck and prompts the operator when to load the required consumables.
- Easy training – the system prompts for all steps.
- Easy color-coding – the icon colors on the deck layout indicate the on-board and pipetting status for donor tubes, control tubs, S-tubes and plate wells.
- Easy designation and location – the icon for each carrier on the deck layout includes a carrier code to designate the type of carrier and the location of that carrier on the deck.
- Simplifies workflow – the interactive system checks supplies against workload, prompts batch handling, and reports results.
- Simplifies resolution – for samples that require follow-up testing, the system supplies options and provides prompts for secondary pooling. The configurable capability for library/archive plate provides options for simplified resolution of positive pools.
- Flexible pooling – supports multiple Roche-validated pooling options for flexibility in testing single donor sample or testing pools of six.
- Flexible – features capabilities for pause and resume, abort, and reset the pooling run.
- Easy error resolution – features error handling prompts for resolving errors during pooling.
- Easy maintenance – system supports daily or weekly maintenance procedures.



### Hamilton MICROLAB STAR Pipettor Automated Pooling

<b>Deck Capacity</b>	Primary pools of six donors: 432 donor samples (7 mL tubes) Single donor testing: 162 donor samples (7 mL tubes)
<b>Dimensions</b>	<b>Width</b> 166 cm (66 in)
	<b>Depth</b> 80 cm (31 in) without loading tray (transport size) 101 cm (40 in) with loading tray 120 cm (47 in) with carriers on loading tray
	<b>Height</b> 90 cm (36 in)
<b>Weight</b>	150 kg (331 lb)
<b>Operating Environment</b>	No special environmental conditions required

**Hamilton MICROLAB STAR and Roche Pooling Wizard Software** provide easy automated pooling for donor screening labs.

# Automated Sample Preparation and Real-Time PCR

## Reliable and Simple... Automatically

Now your technicians can easily manage world-class automated sample preparation and real-time PCR testing and still have time for other essential duties. The COBAS® AmpliPrep and COBAS® TaqMan® instruments bring robust, extensively proven real-time PCR technology and automation to the donor screening lab.

### Fully Automated Sample Preparation

The **cobas s 201** system leverages the proven COBAS® AmpliPrep instrument for automated sample preparation. The COBAS® AmpliPrep instrument features:

- Totally automated nucleic acid isolation for any pathogen (RNA and DNA) using silica-coated magnetic particles
- Automated pipetting of extracted samples into amplification master mix for multiplex PCR
- No special air handling or lab setup requirements
- Minimal instrument setup
- Multiple pooling – on-board capacity of up to 72 samples

### Automated Real-Time PCR Amplification and Detection

The **cobas s 201** system leverages the proven COBAS® TaqMan® analyzer for automated real-time PCR amplification and detection.

### Features

- Unsurpassed contamination control with Roche AmpErase enzymes, a robust contamination control reagent that selectively destroys deoxyuridine-containing amplicons, for prevention of carryover and detection of previously amplified products
- Closed reaction tubes – mechanical design helps further reduce risk of sample contamination
- No special air handling or lab setup requirements

### Easy to Use

The **cobas s 201** system is designed to minimize operator error while maximizing throughput.

- Zero hands-on time after initial setup to obtain purified samples

- Ready-to-use reagents and unique cassette design virtually eliminate potential for human error
- Streamlined batch processing and continuous loading enable new samples and disposables to be loaded while the instrument is running; includes the option for overnight operation

### Software for Control and Ease of Use

- Full process internal control – ensures all steps of sample processing, amplification, detections and results are correct for every sample
- Sample checking
- Bar-coded reagent tracking
- System surveillance
- Clot detection
- Host interface software links all systems: tracks and reports results



#### COBAS® AmpliPrep Instrument Automated Sample Preparation

#### COBAS® AmpliPrep Instrument Automated Real-Time PCR

<b>Deck Capacity</b>	Three sample racks, each accommodating 24 samples/pools (fewer controls), result in a maximum on-board capacity of 72 samples/pools (fewer controls)	On-board capacity of 96 samples/pools (fewer controls) in 4 thermal cyclers
<b>Dimensions</b>		
<b>Width</b>	165 cm (65 in)	114 cm (45 in)
<b>Depth</b>	74.5 cm (29 in)	75 cm (30 in)
<b>Height</b>	93.3 cm (37 in)	95 cm (37 in)
<b>Weight</b>	310 kg (683 lb)	237 kg (523 lb)
<b>Operating Environment</b>	No special environmental conditions required	No special environmental conditions required


**COBAS® AmpliPrep Instrument and COBAS® TaqMan® 96 Analyzer**  
Fast, simple, and reliable automation of sample preparation and real-time PCR.

# Integrated Software and High-Capacity Server Created Specifically for Donor Screening

For added reliability and security, every **cobas s 201** system configuration has at its core Pooling and Data Management (PDM) software and a single, dedicated, high-capacity server.

## Features

- Full system sample tracking
  - Host interface software links all system components and tracks results
  - Overall batch handling with multiple search and reporting options
  - Positive ID for accurate association of sample to results
- Support of simultaneous pool creation and handling of multiple assays, small to large pool size testing and resolution, as well as menu expansion
- System surveillance of liquid handling, temperatures, disposables, reagent status, waste and maintenance schedule
- Firewall to protect integrity of results
- LIS interface capability
- Scalable architecture supports multiple Hamilton MICROLAB STAR pipettors, multiple COBAS® AmpliPrep instrument, COBAS® TaqMan® 96 analyzer configurations and multiple data clients

Donor Result Report									
Roche Molecular Systems 4300 Hacienda Drive Pleasanton, CA 94588 USA					Diagnostics 				
Batch ID: BATS10000116		Pooling Type: Primary Pooling		STAR S/N: 1285		s200 PDM SW: Version 1.3.15		BATS10000116	
Test: S200 MPX		Pooling Date: 03/01/2005 04:39 PM		CAP S/N: 391290		User: Admin. System			
Batch Status: Complete, Valid		Reagents Kit Lot ID: SLD10000000		CTM S/N: 391219					
SR24 Pas	S-Tube ID	Type	Target (Raw)	IC (Raw)	Sample Result	Control Kit Lot ID	Control Kit Lot Expiration Date	Accepted Operator	Accepted Date / Time
19	\$89990020	ND	Valid (1)	Valid (31.3)	Valid	FD001	12/2005	R-CLAB-LAB	2004/12/11 15:48:32
20	\$89990021	PC-HSV	Valid (30.0)	Valid (31.3)	Valid	FD001	12/2005	R-CLAB-LAB	2004/12/11 15:48:32
21	\$89990022	PC-HV-1 M	Valid (30.0)	Valid (31.3)	Valid	FD001	12/2005	R-CLAB-LAB	2004/12/11 15:48:32
22	\$89990023	PC-HV-2	Valid (30.0)	Valid (31.3)	Valid	FD001	12/2005	R-CLAB-LAB	2004/12/11 15:48:32
23	\$89990024	PC-HV	Valid (30.0)	Valid (31.3)	Valid	FD001	12/2005	R-CLAB-LAB	2004/12/11 15:48:32
24	\$89990025	PC-HV-1 O	Valid (30.0)	Valid (31.3)	Valid	FD001	12/2005	R-CLAB-LAB	2004/12/11 15:48:32
SR24 Pas	S-Tube ID	Donor Tube ID	Target (Raw)	IC (Raw)	Sample Result	Final Result	Donor Status		
1	\$89990002	999C01	Non-Reactive (-)	Valid (31.3)	Non-Reactive	Non-Reactive	Complete, Non-Reactive		
		999C09						Complete, Non-Reactive	
		999C17						Complete, Non-Reactive	
		999C25						Complete, Non-Reactive	
		999C33						Complete, Non-Reactive	
2	\$89990003	999C04	Non-Reactive (-)	Valid (31.3)	Non-Reactive	Non-Reactive	Complete, Non-Reactive		
		999C02						Complete, Non-Reactive	
		999C10						Complete, Non-Reactive	
		999C18						Complete, Non-Reactive	
		999C26						Complete, Non-Reactive	
3	\$89990004	999C03	Non-Reactive (-)	Valid (31.3)	Non-Reactive	Non-Reactive	Complete, Non-Reactive		
		999C11						Complete, Non-Reactive	
		999C19						Complete, Non-Reactive	
		999C27						Complete, Non-Reactive	
		999C35						Complete, Non-Reactive	

Full system sample tracking links all system components and tracks results.



## Pooling and Data Management Server

<b>Specifications</b>	Rack-mounted server with an Intel® Xeon® processor RAID controller for hot sparing and automatic rebuild
<b>Capacity</b>	Two 146 GB hard drives (operating system - RAID 1) Three 146 GB hard drives (data - RAID 5) One 146 GB hard drive (standby spare) 1024 MB RAM
<b>Accessories</b>	DVD/CD-RW drive Two active and one spare 10/100/1000 network interface cards Lockable HP rack with room for redundant server, UPS and switch 24-port GB switch (redundancy) 3 kVA UPS with line conditioning
<b>Operating System</b>	Microsoft Windows 2003 Server Standard Edition

## Pooling and Data Management Server

A single, dedicated high-capacity server and software created and validated specifically for donor screening.

# A New Vision for Flexibility and Efficiency

*Let the flexibility and proven technology of the Roche Diagnostics **cobas s 201** system help you deliver safe and more efficient donor testing. The **cobas s 201** system can grow to meet your lab's changing needs, helping your lab stay up and running with a robust, long-term, world-class solution.*

## Many Possibilities Now and in the Future

- Automation of the NAT process from pooling, extraction, amplification and detection to final results reporting
- Unique scalable design configurable to meet your specific workflow needs
  - Scales up or down to meet your changing needs
  - Built-in back-up via optional components that can be added for back-up or for increasing throughput during peak periods
  - Comprehensive assays
  - Ready-to-use reagents with proven assay performance
- Comprehensive menu on the same validated system
  - Designed for future menu expansion
  - Platform designed to detect emerging pathogens
- Powerful pooling and data management server
  - Scalable architecture maximizes flexibility
  - Full system audit and data security
  - Software supports various pool sizes or single donation testing, with multiple resolution options
- No special environmental requirements
  - Roche's unsurpassed AmpErase enzymes for contamination control help prevent carryover and detection of previously amplified products
  - Closed reaction tubes – mechanical design helps further reduce risk of sample contamination
- Expert world-class service and strong local support
  - One phone call puts you in touch with the top-rated\* Roche experts, not a third-party service vendor
- Peace of mind in dealing with Roche as your single vendor for automated real-time PCR
  - Roche COBAS® AmpliPrep for sample preparation
  - Roche COBAS® TaqMan® 96 analyzer for amplification and detection
  - Roche reagents
  - Roche integrated software and server
  - No company in the industry dedicates more resources to innovation than Roche

\*Washington G-2 Reports First National Reagent Vendor Quality Survey Report, 2005.



**cobas s 201 system for NAT donor screening**

**One Vision. Many Possibilities.**

## See the possibilities.

For more information on how the new **cobas s** 201 system can help you achieve new levels of efficiency in automation, please contact your local Roche Diagnostics representative.

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