

DIVA[®]

Automated aliquoting & packaging solution
for biological samples



State-of-the-art solution based on sealed cryogenic containers

 **Cryo Bio System**
Groupe I.M.V. Technologies

www.cryobiosystem.com

A unique automated CBS™ High Security
solution designed for biorepositories



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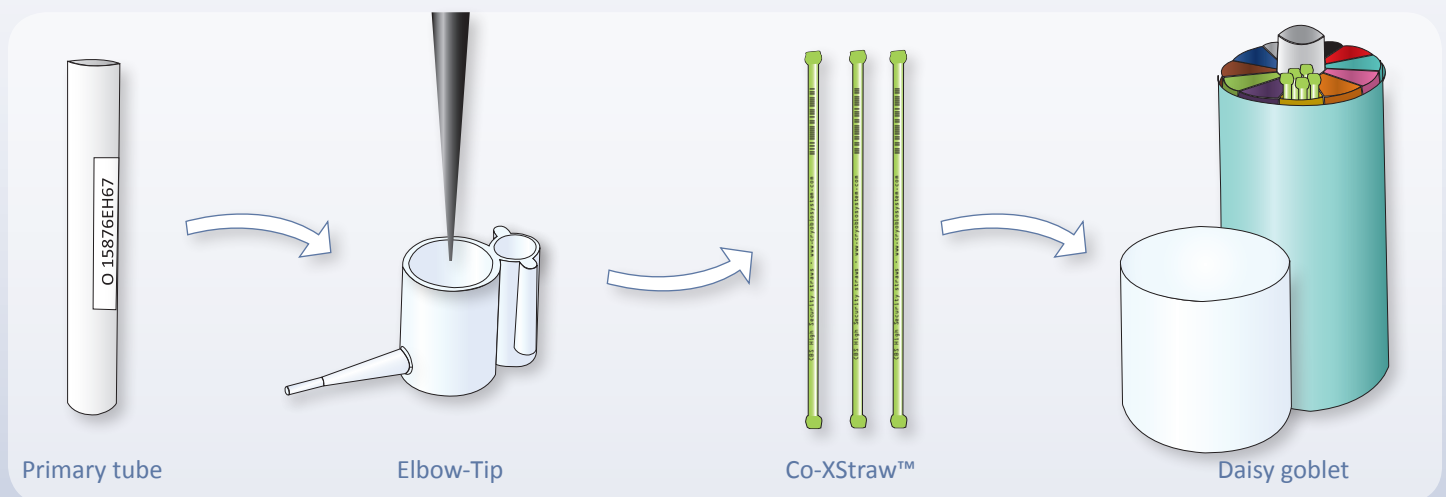
Operating mode: User-friendly flexible customized DIVA®

- Performs the functions of aliquoting each sample into CBS™ High Security, tamper-proof, bar code-identified and airtight sealed 0.5 mL straws.
- Combines color coding, code128 barcoding.
- Sorts straws following user-specific protocols.
- Runs batches of up to 96 primary sample tubes.

DIVA® proactively manages consumables needed for a given aliquoting run with “on-the-go” refill for 100% continuous workflow operation. Minimum autonomy of one hour for a two-straw per primary sample tube protocol and longer for protocols with more straws per primary sample tube. The operator is informed in real time of run progress, estimated time left to run completion and tube or consumable refill.



DIVA® simple four-step process



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Highest quality

- Primary tube positive identification: on board automatic bar code reader
- Capacitive and barometric fluid detection: sample presence and homogeneity control
- Straw filling control: optical detection during filling phase
- Color and bar code validation: done before sample filling
- Password-protected log in with three user authority levels

Full traceability

- Primary tube: bar code reading with key control digit features
- On board inkjet printer
- Work list import from LIMS/LIS/HIS configurations
- Production file export to LIMS/LIS/HIS
- Process operation log file

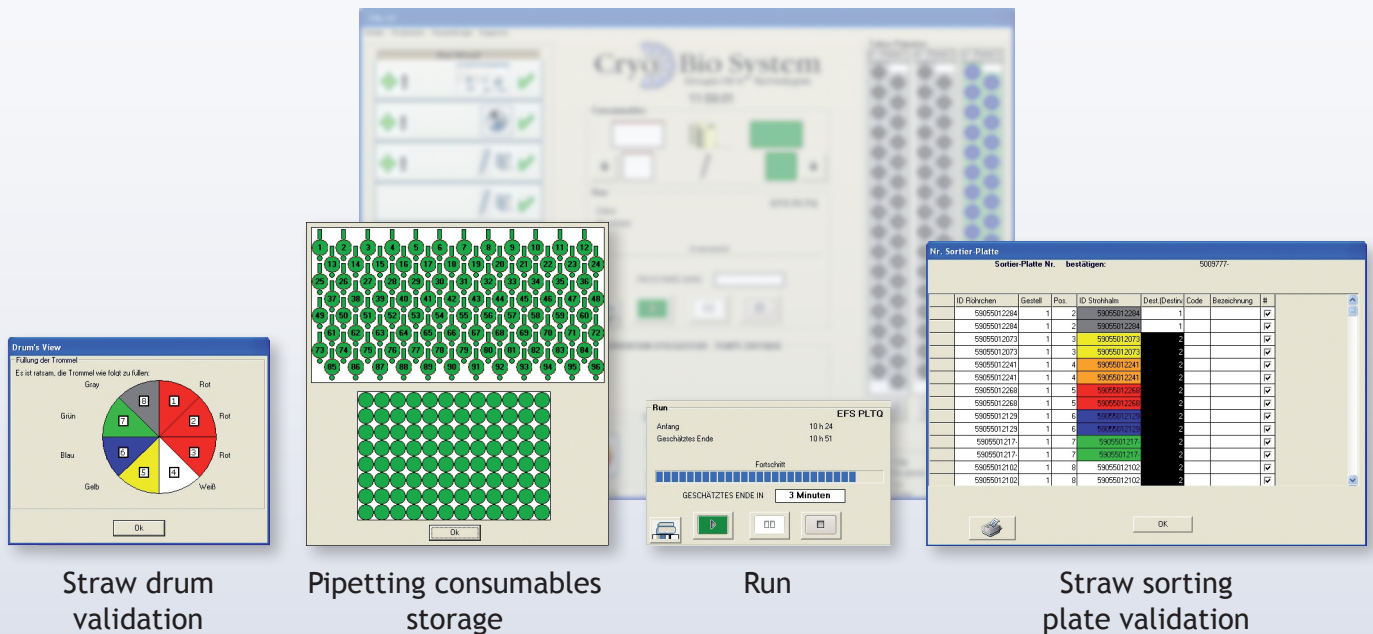
Total security

- **Error management system**
 - Complete process quality control system with electronic detection
 - Autonomous and operator-assisted management of detected errors
 - Traceability of errors and management
 - Secured recovery of primary sample
- **Closed system**
 - Operator security through secured access to liquid handling platform
 - External emergency switch
 - Integration of disposable biohazard container

Complete autonomy

- **Consumable and sample input**
 - 8 compartment straw dispenser drum: 8 x 64 straws (512 straws)
 - 3 racks for primary sample tubes: 3 x 32 positions
 - Double pipette consumable drawers: 2 racks of 96 Elbow-Tips; 2 racks of 96 pipette tips
- **Aliquot output**
 - Double sorting straw system: equivalent to one sorted CBS™ Daisy goblet per plate
 - Throughput dependant on production protocol:
from 168 straws per hour (2 aliquots per primary tube)
up to 264 straws per hour (10 aliquots per primary tube)

DIVA®: Intuitive & flexible user interface



Sample inventory management tool: Straw-IT

To complete and secure the storage concept, Cryo Bio System has developed Straw-IT for storage address management. Straw-IT is the biorepository solution for full traceability from sample packaging production through storage space inventory and sample retrieval.

This software solution is configurable for any type of storage space (liquid nitrogen tank, mechanical freezer, etc...) and can be directly linked to aliquoting equipment for secured data exchange.

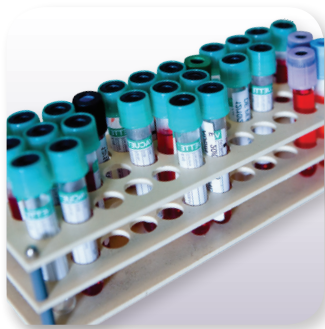
- Specially designed for the CBS™ straw storage concept.
- Covers any type of storage space container definition (cold room, ultra low temperature mechanical freezer, liquid nitrogen vessel) by using color identification (straw, visotube, goblet, canister or drawer) and positive identification on the straw.
- Optional scanner for easy retrieval.



Ultimate state-of-the-art cryopreservation

DIVA®

Technical features



- Dimensions (L x W x H): 121 x 66 x 160 cm (48 x 26 x 63 inches)
- Footprint (L x W): 200 x 140 cm (79 x 55 inches)
- Weight: 100 kg without printer and computer
- Power supply: 110 or 220 V / 60 or 50 Hz
- Electrical consumption: 400 W max
- Working temperature range: from +15 to +32 °C (+59 to +90 °F)
- Maximum elevation: 2000 m
- Relative humidity: 80% at +32 °C (+90 °F)



- 1 touch screen
- 1 straw dispenser drum with maximum capacity of 512 straws split in 8 compartments of 64 straws
- 3 racks for 32 primary 7 mL (100 mm height x OD 12 mm) tubes
- 2 straw sorting plates: each plate containing 12 compartments for maximum 14 straws
- 1 inkjet printer from Domino / Model A400 Free Form
- Network capability allowing data exchange with LIMS

Consumables



- CBS™ High Security straws
- CBS™ Elbow-Tips
- Tecan® tips

Options

- Bar code scanner
- Sample inventory/allotment management software: Straw-IT
- Rack for primary 10 mL (100 mm height x OD 16 mm) tubes
- Rack for primary 5 mL (57 mm height x OD 15 mm) tubes

International standards compliance

- CEM IEC 61326 (02)
- IEC 61010-1 (01)
- FCC part 15 (05)



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