

dissoBOT[®]

Automated dissolution system



The world's first fully automated dissolution system with clip-on/off capability. **Advanced dissolution automation** is built around world's leading dissolution system – Agilent 708-DS Dissolution Apparatus and Agilent 850-DS Dissolution Sampling Station and optional filtration module.

Working principle

Advanced automation is performed with the help of the latest technology in collaborative robotics. The clip-on/off capability enables users to extend their working cycles on existing dissolution systems. There is no interference in the dissolution process and the clip-on procedure takes less than a minute. DissoBOT® system takes over the control of the dissolution apparatus and sampling station.

Advanced dissolution automation technology of dissoBOT® performs fully automated sequential cycles of cleaning, media dispensing, and introduction of new dosage forms to the dissolution apparatus.

System components



COLLABORATIVE TABLE-TOP ROBOT

Cleaning tools, baskets and samples are moved by a small collaborative table-top robot, perfect for light tasks and automated workbench scenarios. The robot's safety system is approved and certified by TÜV (The German Technical Inspection Association).

CLIP-ON/OFF PLATFORM

Clip-on/off platform allows users to move the dissoBOT® around the laboratory. Two 47 l containers are installed into dissoBOT platform. One is used to hold the dissolution medium and the other for cleaning solution. External connections are also available for waste, DI water and medium.

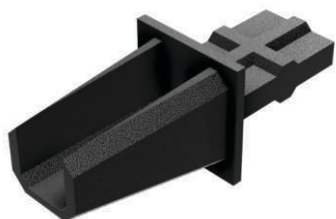
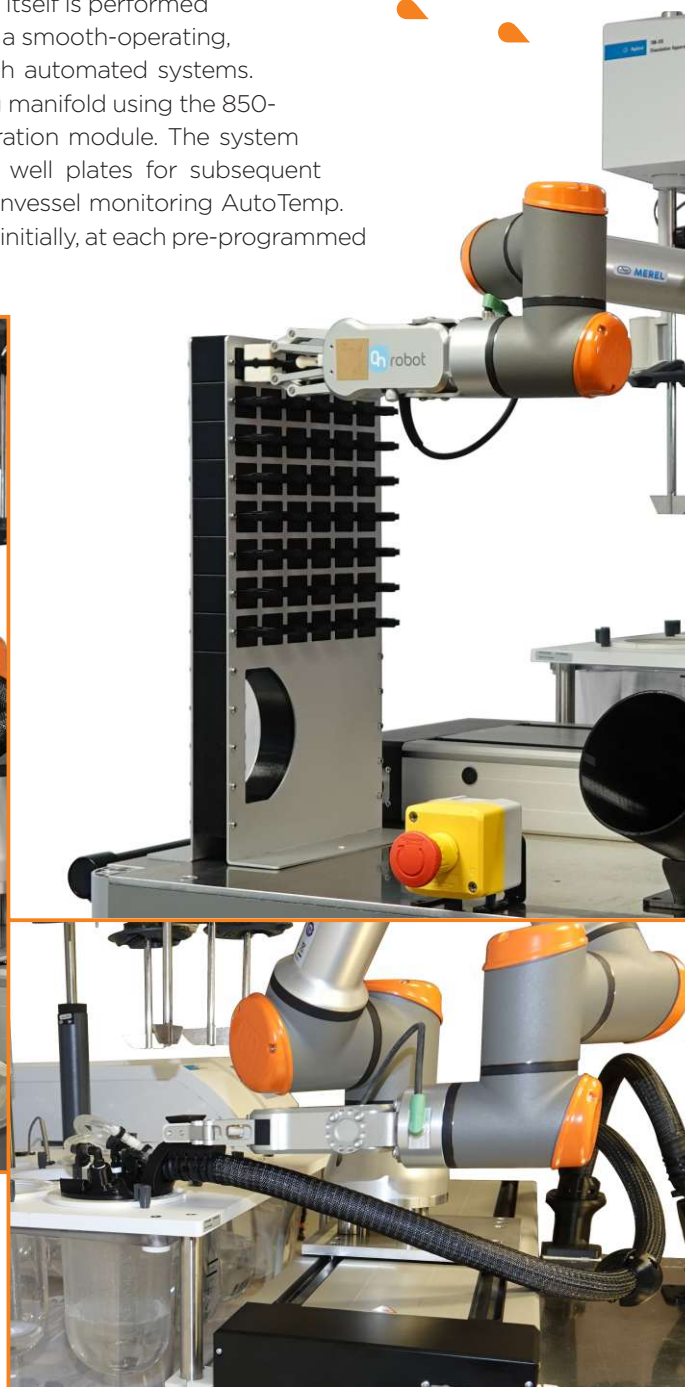


CLEANING PROCEDURE

The cleaning cycle is performed in two sequential steps. The first step is cleaning of paddles/basket shafts, evaporation covers, temperature probes and sampling cannulas with hi-pressure nozzles. The second step of cleaning procedure removes waste and cleans the vessels. Different cleaning cycles can be performed.

The dissolution process

When dissoBOT® takes care of cleaning, media dispensing and dosage forms introduction, it is time for a dissolution process. The Dosage Delivery Module (DDM) is activated automatically. The dissolution itself is performed with standard 708-DS Dissolution Apparatus featuring a smooth-operating, motorized lift for reproducibility and integration with automated systems. Sampling is performed with an automated sampling manifold using the 850-DS Dissolution Sampling Station and optional filtration module. The system collects samples into test tubes, HPLC vials or well plates for subsequent analysis. Temperature is monitored with precise invessel monitoring AutoTemp. The individual vessel values may be documented initially, at each pre-programmed time point, and after the test has concluded.



SAMPLES INTRODUCTION

Samples are introduced with easy to use sample holder. 8 batches of 6 samples are individually stored at exact positions. For Apparatus 2 (paddles) configuration samples (dosage forms) are presented directly on DDM (Dosage Delivery Module) of Dissolution Apparatus 708-DS. For Apparatus 1 (baskets) configuration a single set of baskets is used.

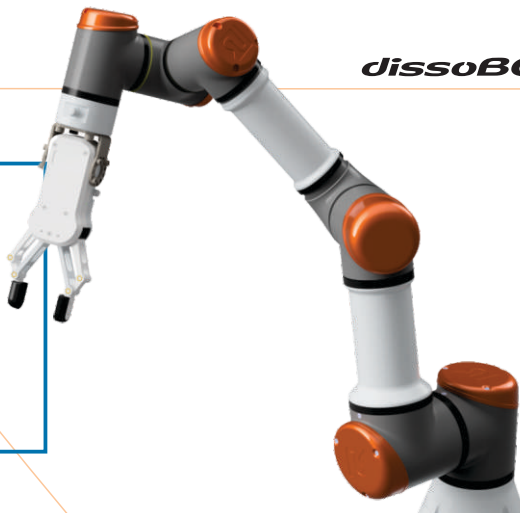
MEDIA DISPENSING

Media dispensing is done with unique dissoDOSE® technology. Fast, reliable and accurate volume dispensing is performed with direct volume measurement. Different speeds of pumping can be set to minimize the influence on foaming and degassed media.



Highlights

- Clip-on/off platform with table-top collaborative robot
- Sequential cleaning, media dispensing and samples introduction
- Standard Agilent 708-DS Dissolution Apparatus and 850-DS Dissolution Sampling Station
- Suitable for Apparatus 2 (paddles) and Apparatus 1 (baskets)
- Internal tanks and external connections



specifications

Suitable for methods	Apparatus 2 (paddles) and Apparatus 1 (baskets)
Media types	Compatible with all typical dissolution media containing surfactants
Number of working positions	Up to 6 vessels
Number of samples	Up to 8 batches of 6 samples
Number of sampling points	Up to 16
Internal rinse container	47 l (12.4 gal)
Internal media container	47 l (12.4 gal)
External waste container	100 l (26.4 gal) – optional
External rinse connection	Optional
External media connection	Optional
Filtration options	Cannula filters: 10, 35, and 70 µm; Filter plates: 0.45 µm
Media replacement	Standard, up to 100% of sample removed
Sampling accuracy	10 mL ±2.5%
Sample volume per vial/tube	0.1-14 mL (up to 28 mL with dual sample)
Sample frequency	Method specific with minimum of 2 minutes
Evaporation	Less than 1% evaporative loss under specific conditions
Water bath temperature range	
Probe accuracy	Ambient +5 to 55 °C ±0.1 °C
Spindle speed range speed	10-250 RPM ±1% over 25 RPM
Accuracy speed selection	± 2% 10-25 RPM
Spindle shaft material	Stainless steel
Dissolution drive unit lift	Motorized drive
Dissolution bath features	Dosage Delivery Module (DDM), Autosampling, AutoTemp
Media dispense principle	Volumetric media dispensing with dissoDOSE® technology
Media dispensing accuracy	< 1% (range from 400 ml to 1000 ml dispense)
Operating environment	5 to 40 °C
Humidity (non-condensing)	Not more than 80% RH

dissoBOT®

Advanced Dissolution Automation Module

Operating height	190 cm
Operating width	135 cm
Operating depth	70 cm
Weight (machine dry)	50 kg

708-DS

Dissolution apparatus

Width	62.2 cm
Operating height	67.95 cm
Clearance height	99.06 cm
Depth	59 cm
Weight (machine dry with vessels and paddles)	54.4 kg

850-DS

Dissolution Sampling Station

Height	40 cm
Height with filter module	60 cm
Width	39 cm
Width with filter waste bin	48 cm
Depth	60 cm
Weight	27 kg