

Dissolution Offline System

Semi-automated Dissolution System USP Apparatus 1, 2, 5 and 6

The offline system is the combination of instruments for automatic dissolution sampling and fraction collection. The ERWEKA offline system are 100 % USP compliant. The basic configuration consists of a dissolution tester DT 828 (i-Version) with installed automatic sampling station, a peristaltic pump IPC 8 and a fraction collector FRL 824.

The system is also available as a dilution system for high dosage testing with a syringe pump SP 840 and 10/25 ml glass tubes which allow automated dilution of the sample

in 1:1, 1:2, 1:5 or 1:10 relations or, in its high-end configuration, with the piston pump for almost maintenance free usage and filtration down to 0.22 µm for flat membrane filters.

For Testing of higher volumes, ERWEKA offers the system combination DT 161x, IPC 16 and FRL 624-2 / 724-2. Up to 14 samples can be withdrawn in parallel.



Highlights

Dissolution Highlights

- Fully automated sampling
- Integrated intelligence of DT 82x series for controlling the of-line system without PC (i-version)
- Optional measuring of temperature in each vessel
- 100% USP compliant offline system
- Easy to program
- Automated tablet drop
- Different permissions for each user possible
- Sampling station with automatic USP height adjustment
- Pre-heating function, programmable for each weekday
- Cleaning of the complete system guided by the cleaning menu of the DT 820 dissolution tester
- Easy access to sample tubes
- Easy to clean
- Up to 26 rows for extended release formulation testing
- Integrated cleaning procedure
- Needles available in stainless steel or titanium for sensitive APIs, HPLC vials and glass tubes
- Special procedure for foaming medias handling
- Automated flush routine between sampling intervals
- Gentle and precise spindle drive of the sample collector FRL
- Movable trays provide easy exchange of different racks
- Different racks available for glass tubes or HPLC vials

Pump Highlights

- IPC pump – reasonable price and easy to handle, inert material, 8 channel and 16 channels possible
- SP syringe pump – high precision syringe pump for automated dilution of the sample in ratio up to 1:10
- PVP piston pump – for double filtration down to 0.22 µm for flat membrane filters, high precision, inert keramik material pump heads, almost maintenance free

Sample Collector FRL Highlights

FRL sample collector can be equipped with different racks for different glass tubes or HPLC vials.



Recommended Configurations

Standard Offline System with IPC Pump



Standard configuration offline sample collector system with peristaltic pump, 6 to 8 channels depending on DT configuration. Media replacement only when no double filtration. Double filtration (option) possible when first filtration with Poroplast filters.

Dissolution Tester	Automatic Sampling Station	Peristaltic Pump	Sample Collector
DT 826 i-Version	ASS-8	IPC 8	FRL 624
DT 827 i-Version	ASS-8	IPC 8	FRL 724
DT 828 i-Version	ASS-8	IPC 8	FRL 824

Offline Diluting System with SP Syringe Pump



Configuration for dilution and high dosage accuracy, for 6 or 8 channels only. Media replacement possible. No double filtration possible.

Dissolution Tester	Automatic Sampling Station	Syringe Pump	Sample Collector
DT 826 i-Version	ASS-8	SP 640	FRL 620
DT 828 i-Version	ASS-8	SP 840	FRL 820

High-End Offline System with PVP Piston Pump

Configuration with piston pump is nearly maintenance free and allows filtration down to 0.22 µm for flat membrane filters, 6, 7 or 8 channels possible. Media replacement only when (option) possible. Double filtration (option) possible.



Dissolution Tester	Automatic Sampling Station	Piston Pump	Sample Collector
DT 826 i-Version	ASS-8	PVP 620	FRL 624
DT 827 i-Version	ASS-8	PVP 720	FRL 724
DT 828 i-Version	ASS-8	PVP 820	FRL 824

Recommended configurations DT 161x



Dissolution Tester	Automatic Sampling Station	Pump	Sample Collector
DT 1612 i-Version	ASS-14	IPC 16	FRL 624-2
DT 1614 i-Version	ASS-14	IPC 16	FRL 724-2

Technical Specifications

Sample Collector FRL 624 / 724 / 824

Auto sample collector with 6 to 8 channels for sampling up to 26 intervals; 1 driven dosing arm with 8 stainless steel (optional Titanium) dosing tubes, RS 232 interface for external control by the ERWEKA dissolution tester (DT 82x i-version series)

Sampling tubes and HPLC vials

26x 8 glass tubes of 12 ml capacity
 18x 8 glass tubes of 25 ml capacity
 26x 8 HPLC vials of 1.5 ml capacity
 26x 8 HPLC vials of 4.0 ml capacity

System Control

DT 82x i-version dissolution testers are an upgraded version of the standard 82x series to control a complete off-line system including ERWEKA sample transfer pump and sample collector FRL.

Dilution

Possible with syringe pump SP 640/840, ratios of 1:1, 1:2, 1:6'5, 1:10 (only with sample collector FRL 620/820).



Pump type	Peristaltic pump	Piston pump	Syringe pump
Pump	IPC 8 / 16	PVP 620 / 720 / 820	SP 640 / 840 25ml
Channels	8 or 16	6, 7 or 8	6 or 8
Valves	-	-	✓
Accuracy	+/- 0.5ml	+/- 0,5 ml	+/- 0,2 ml
Dilution	-	-	✓ (1:1, 1:2, 1:5, 1:10)
Media replacement	standard	standard	standard
Double filtration (option)	✓ but only when first filtration with Poroplast filters. No media replacement possible when double filtration.	✓ No media replacement possible when double filtration	not possible
Required type of sample collector	FRL 624 / 724 / 824	FRL 624 / 724 / 824	FRL 620 / 820
Advantage	<ul style="list-style-type: none"> Basic pump possible with DT 14x/16x 	<ul style="list-style-type: none"> Filtration down to 0.22 µm for flat membrane filters Low maintenance even at high throughput Best choice for fully automated dissolution systems 	<ul style="list-style-type: none"> Dilution possible High dosage accuracy