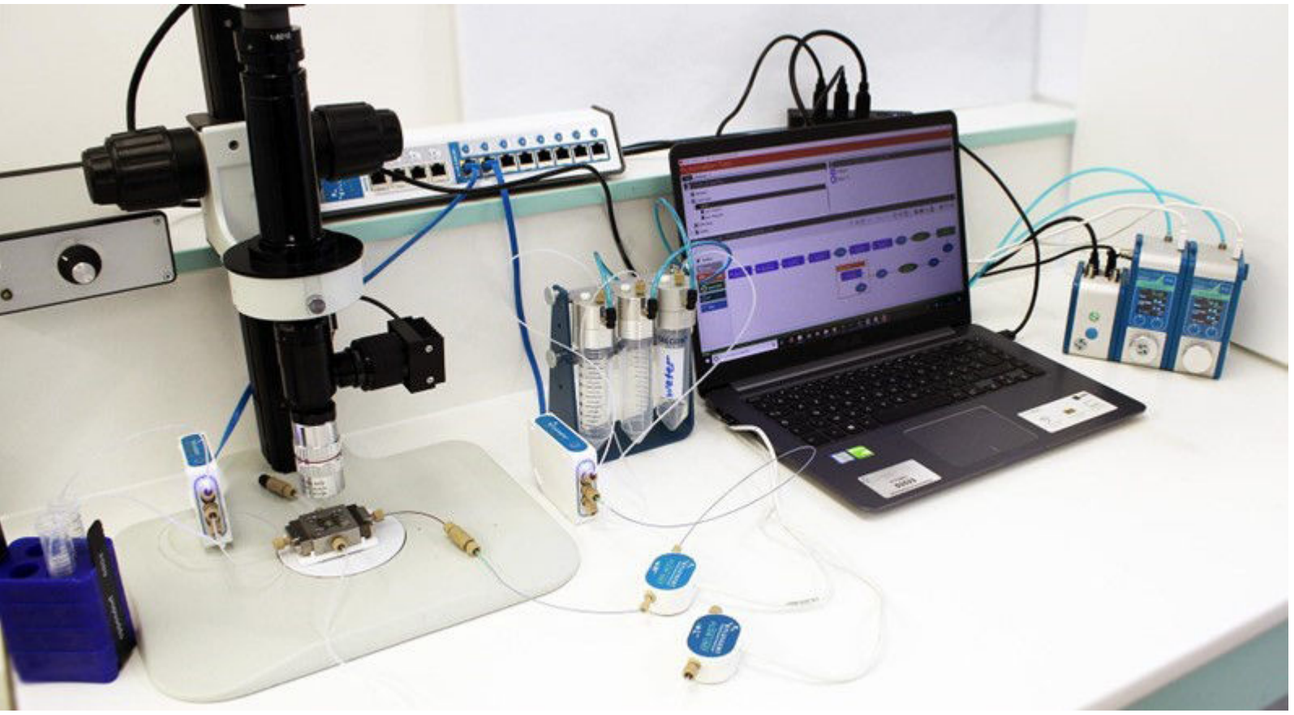
DATASHEET

FLUIGENT
SMART MICROFLUIDICS™

PRODUCT DATASHEET

PLGA MICROPARTICLE PRODUCTION STATION

Standard pack, P/N: 1DPPL01
Automation pack, P/N: O-SE-PLGAAP-PCK



Version Dec. 23

The Fluigent PLGA particle station is a robust and a high-quality system for produ-cing outstanding monodispersed PLGA particles with flexibility in changing particle sizes production in hundreds of milliseconds without interrupting the production. Its perfor-mance is coming from the combination of Fluigent's LineUP microfluidic pumps and the RayDrop device, a breakthrough technology for high-quality particle production.

DESCRIPTION

When PLGA are used as API (active pharmaceutical ingredient) carrier, the size of the particle is critical because it affects drug release characteristics. It is critical to produce highly monodispersed particle for drug release reproducibility.

The most common production process of PLGA particles is solvent based and can involve hazardous solutions. Ethyl acetate has been elected as a less ha-zardous solvent than other conventional ones (Dichloro methane for instance).
Specifically designed for **ethyl acetate solvent-based** particle formation, it shows highly reproducible results in term of **particle size distribution (CV <2%)**. This station is particularly suitable for researchers who want to test different **API encapsulation conditions** with **highly reproducible results.**

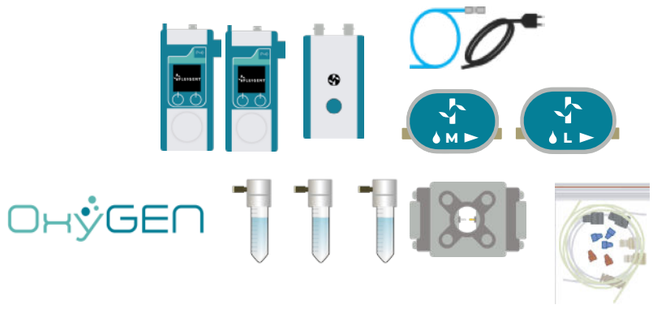
STATION OPTIONS

	Starndard pack	Automation pack	Full pack
Flow EZTM: High precision pump	V	V	V
Flow UNIT: High pre-cision flow sensors	V	V	V
RayDrop device	V	V	V
OxyGEN Software	V	V	V
P CAP reservoirs	V	V	V
Tubing, connector and fitting kits	V	V	V
2 SWITCHTM valves		V	V
Automated device priming		V	V
Highspeed digital microscope			V

DETAILED CONTENT

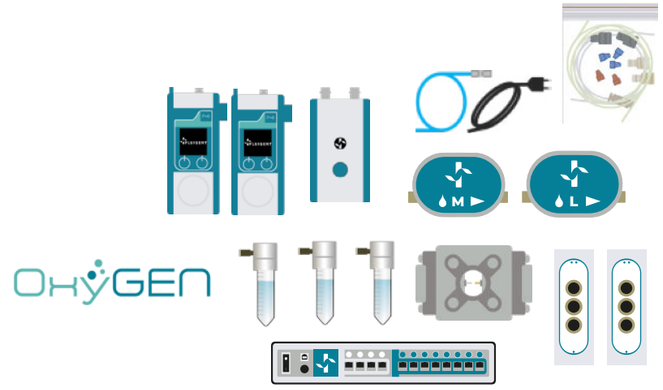
Standard pack
Reference: 1DPPL01

Content
2 * Flow EZTM (2000mbar)
1 * Link
2 * FLOW UNIT (M and L)
3 * P-CAP (2 * 15mL and 1 * 50mL
1 * RayDrop
1 * Support RayDrop
Inline filters (x2) and fittings (x4)
OxyGEN Software
Standard connector and tubing kit
Flow EZTM supply kit

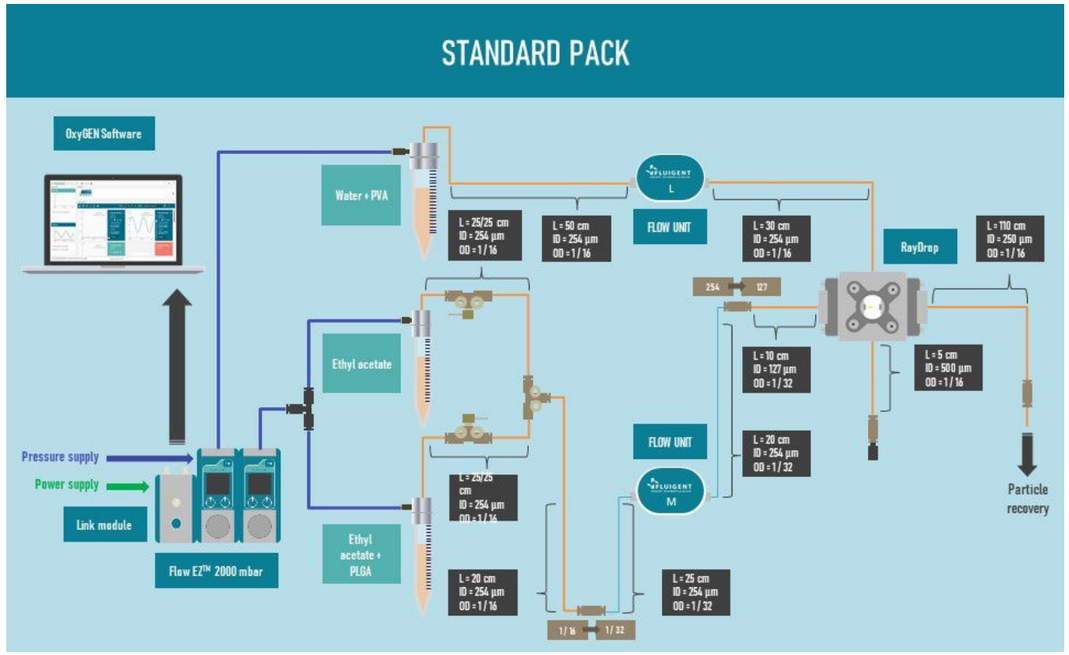


Automation pack
Reference: 1DPPL02

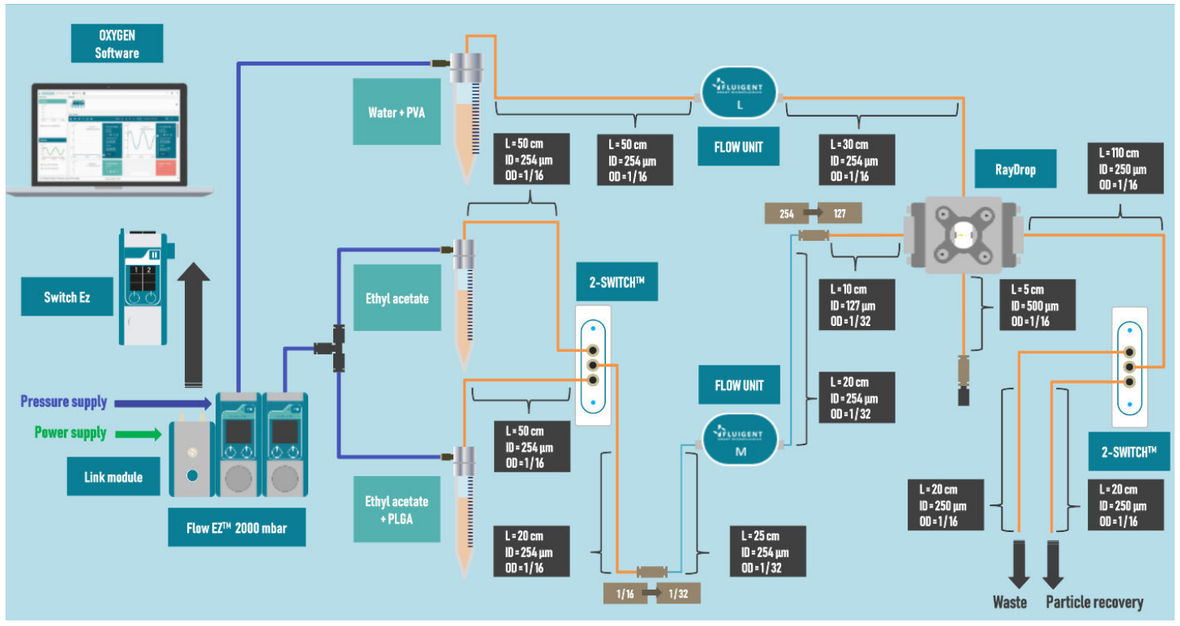
Content
2 * Flow EZTM (2000mbar)
1 * Link
2 * FLOW UNIT (M and L)
3 * P-CAP (2 * 15mL and 1 * 50mL
2 * 2-SWITCHTM
1 * Switchboard
1 * RayDrop
1 * Support RayDrop
Inline filters (x2) and fittings (x4)
OxyGEN Software
Automation connector and tubing kit Flow EZTM supply kit



Set-up overview



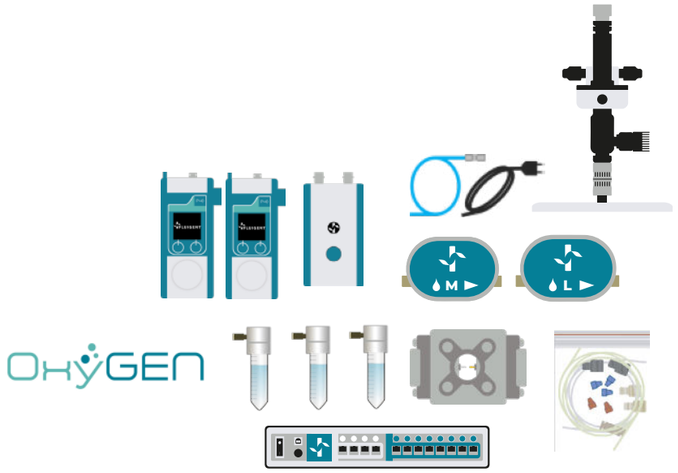
Set-up overview



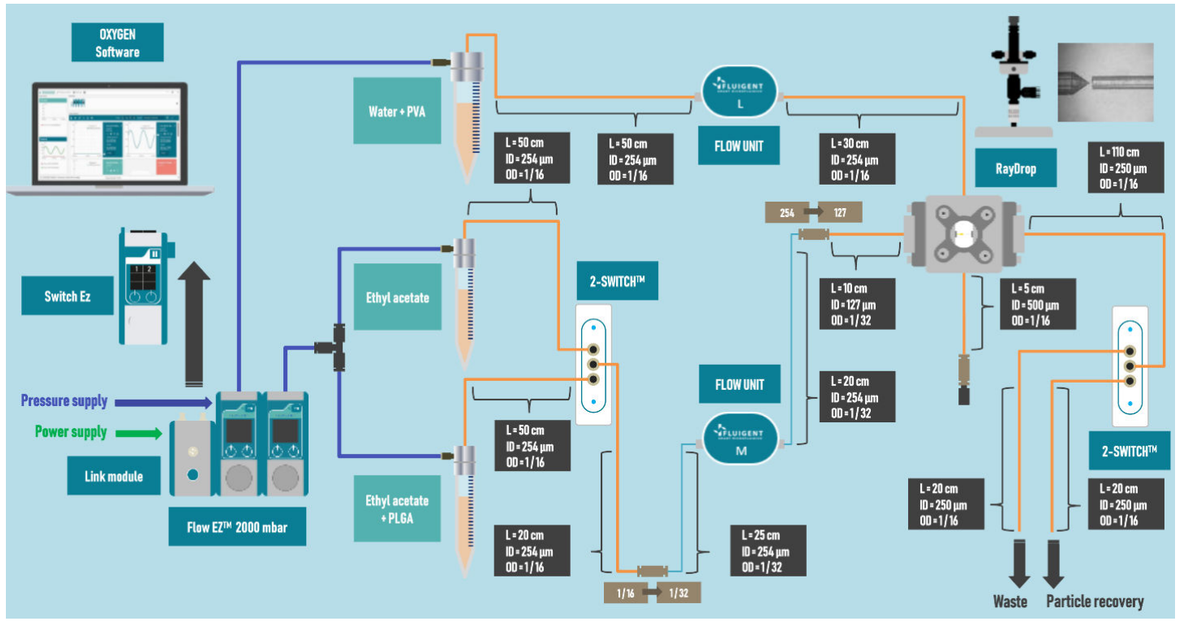
PRODUCT DATASHEET

Full pack
Reference: 1DPPL03

Content
2 * Flow EZTM (2000mbar)
1 * Link
2 * FLOW UNIT (M and L)
3 * P-CAP (2 * 15mL and 1 * 50mL
2 * 2-SWITCHTM
1 * Switchboard
1 * RayDrop
1 * Support RayDrop
1 * Digital high-speed microscope
Inline filters (x2) and fittings (x4)
OxyGEN Software
Full connector and tubing kit
Flow EZTM supply kit



Set-up overview



SETTING-UP THE STATION

Please refer to the **Good Practise Guide**

TECHNICAL SPECIFICATIONS

Particle production	
Dispersed phase	PLGA lactide:glycolide (75:25), mol wt 66,000-107,000
PLGA concentration used	2%, 5% and 10%
Continuous phase	Ethyl acetate
Droplet size range	60µm to 120µm
Particle size range*	20µm to 50µm
Production rate*	Up to 60mg/h
Production frequency	Up to 1000Hz
Monodispersity	2%

Flow control	
Pumps**	Fluigent Flow EZTM (2000mbar)
Flow sensors**	Fluigent FLOW UNIT (M and L)
Automated valves**	Fluigent 2-SWITCHTM

Imaging	
Microscope	Fluigent Digital high-speed microscope

Software	
Live & Automated control	OxyGEN Software
Imaging	Pixelink Capture Software

*Depending on PLGA concentration (download **PLGA application note**)
For detailed specification: download **LineUP User Manuel, **ESS User Manuel**