Pharma Plus

Microscopy Based Particle Size Analyser

Pharma i **Plus**

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The microscope has always been the judge in particle characterization. Since it is accepted as the most direct measurement of particle size.

We have automated manual microscopy to replace a tedious, somewhat subjective measurement with a sophisticated technique for quantifying size of a sufficient number of particles to assure statistical confidence with the end result.

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This tool gives the capability to analyse the particles in the range of 0.5 um to 2000 um.
The system provides high resolution, accurate and reproducible results.
It can measure a wide range of particles and can detect small differences in samples.
The new software provides the data you need with only a few clicks.

Pharma i Plus can analyse Dry, Aqueous, Non – Aqueous, Emulsions, Aerosols, Actuators Orifice, Capsule Soft Gelatin, Capsule thickness, Tablet Coating and many more…
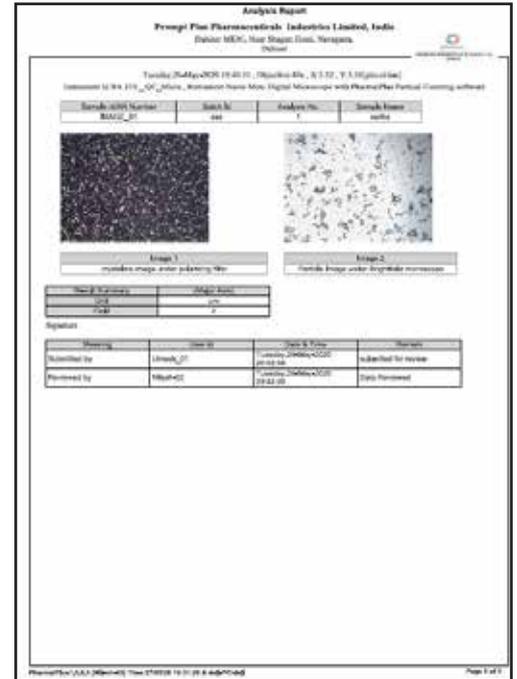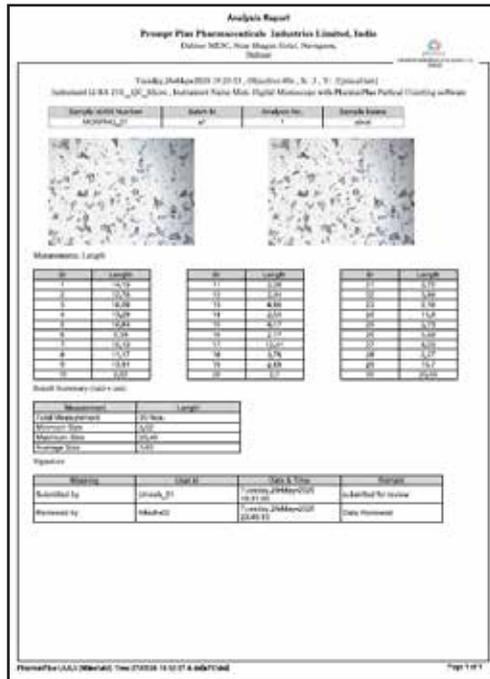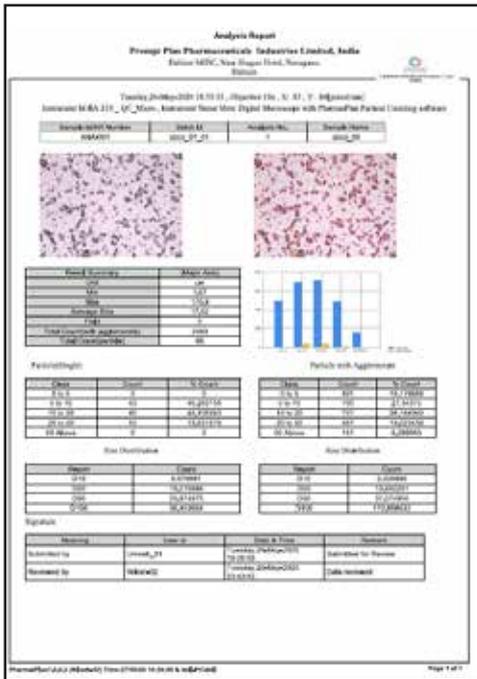
Microscopy Based Particle Size Analyser
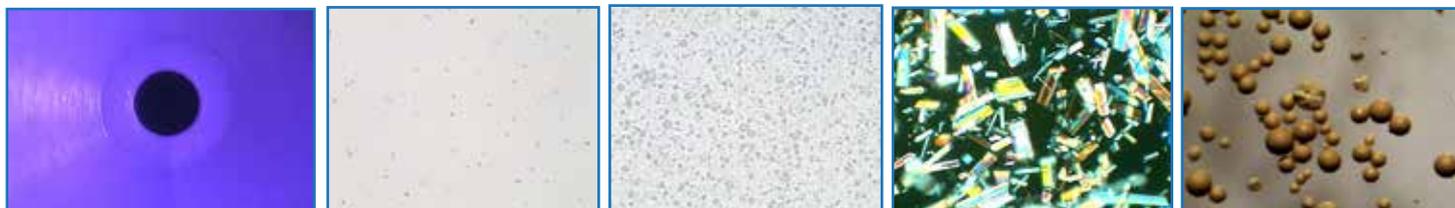
The Systems Features

Three Reporting Options in One software :

i.   Automated Particle size counting
ii.   Morphometry (Manual Measurement Length & Area)
iii.   Image Documentation

Automated Particle size counting

Morphometry

Image Documentation

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Automated Particle Size Counting

- Advanced processing algorithms for detecting different type of particles.
- Standard and user definable method files to handle different sample types. Easy Creation of product wise Macro.
- Classification of particles on the basis of Major Axis.
- Can process a batch of greater than 50 images at a time for automatic multiple field analysis.
- Report generated in the form of PDF file.
- In built report generator for generating custom reports complete with Data tables, histograms and images.
- Each Particle's data can be transferred to PDF.
- All data stamped with date, time, magnification and calibration information.
- Results available in form of D10, D50, D90, D100 formats or customized as per user requirement.
- Percentage wise classification for Particle size distribution
- Particle with or without agglomerate are separately defined in the result table.
- Report with total Particle count, Min. size, Max. size and Average size of particle

Sample Detection :

Simple and easy methods are available on the go to analyse different samples. Pharma i Plus system has an automated technique which refrains the user from venturing into tedious thresholding techniques.

Captured Image
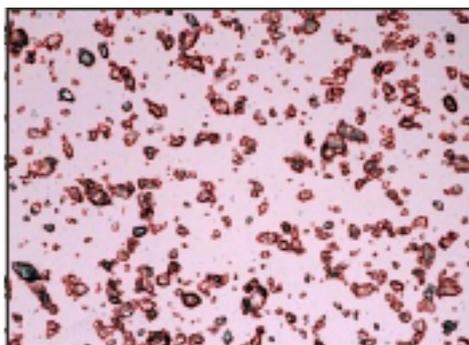
Detected Image

Classification (Single Particle) :

User defined classification can be done below :

Class	Count	%Count
0 to 10	1654	65.582871
10 to 25	668	26.486915
25 to 50	182	7.216495
50 to 100	16	0.634417
100 Above	2	0.079302

Classification (with Agglomorate):

A separate data for agglomerate as below :

Class	Count	%Count
0 to 10	1805	54.980201
10 to 25	1008	30.703625
25 to 50	378	11.513859
50 to 100	85	2.589095
100 Above	7	0.21322

Results :

Available in D10, D50, D90, D100 formats or customized

Report	Count
D10	3.736921
D50	7.473841
D90	22.421524
D100	106.513694

Graphical Data :

The data is also represented in graphical format

Result Summary :

Min. Size, Max. Size and Average Size details Unit, Total Particle Count and Field details

Result Summary	(Major Axis)
Unit	Um
Min	1.67
Max	170.9
Average Size	17.02
Field	2
Total Count (with agglomerate)	2560
Total Count (particle)	95

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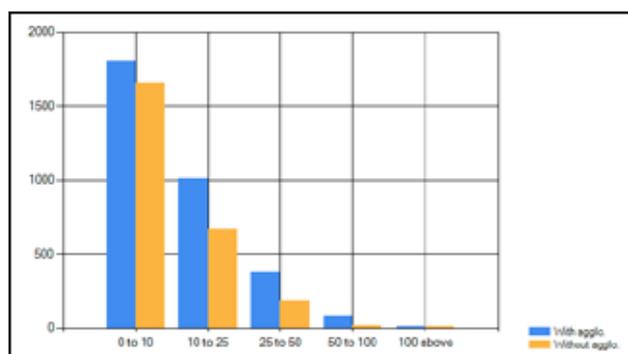
Morphometry

This advanced Software allows you to Measure Particle, Objects Manually & Generate Report. Two Options available in software for Manual measurements.

that is Length & Polygon.
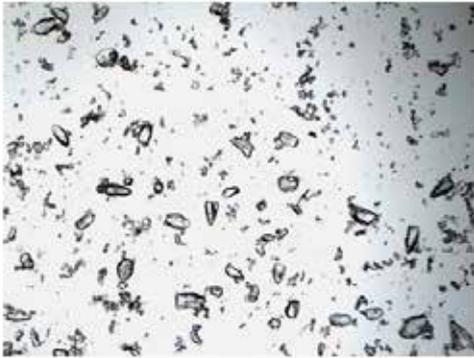
Captured Image

Measured Image

Measurements :
Length Option of Length allows to make measurements of Particles/Objects
by dragging cursor on particles edge.

Result Summary :
Min. Size, Max. Size and Average Size details, Unit, Total Measurements

Measurements : Length

Sr.	Length
1	14.19
2	12.78
3	16.08
4	13.29
5	16.83
6	5.39
7	15.19
8	11.17
9	13.91
10	2.02

Result Summary : (Unit – um)

Measurement	Length
Total Measurement	30 Nos.
Minimum Size	2.02
Maximum Size	20.45
Average Size	7.65

Image Doc

Software allows you to Capture Microscopy Images & Generate Report with individual comments for Image.

Image Doc option useful to capture and record images of Crystaline Sample, Emulsions, Microbiological Slides, Biological Slides, Petri Dish Images.

Captured Image 1

Image 1
crystaline image under polarizing filter

Captured Image 2

Image 2
Particle Image under Brightfield microscope

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Software Technology

- Developed with Current Modern Technology
- Microsoft SQL
- PDF
- Framework 4.5

System Requirements

- Windows 7, 10 OS with 64 bit
- Minimum : RAM 8 GB, Graphics 2GB, Hard Disk 500GB
- Active USB port 2nos.
- Microscope with Built_In camera with USB output

Key Functions

- Sample ID creation & multiple analysis under same sample id
- Three reporting options in one software
  I. Automated particle size counting
  Ii. Morphometry manual measurement
  Iii. Image documentation
- Automated particle size counting in D10, D50, D90& D100 format or as per your requirement
  with classification table, min./max./average size, with agglomerate & without agglomerate, etc
- Automated particle size counting of single and multiple images
- Customized macros
- Manual measurements of length and polygon
- Option to generate report for microbiogical & crystanity images with comments & remarks
- Easy Calibration & alert for calibration expired
- Usage Log with analysis start/end, reviewed by, date & time information

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- User management
- Creation of groups (customized) i.e. Admin, analyst, reviewer, etc
- User creation & group wise rights allocation
- Login policies, Reset password, Change password
- Audit trials with date & time, User details, Sample ID & activities performed with remarks
- Sample ID creation & multiple analysis under same sample ID
- Non-editable report with E-signature & comments of analyst & reviewer
- Printing of reports, Audit trial, List of users, Group wise rights & Usage log with
  stamp of date & time, Printed by, Software name & version
- Facility to set Data path & Restoration of data

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