MICROGRAPH TECHNOLOGIES

Millipore Testing and Particle Analysis Service as per standard ISO 16232/VDA 19/and many more

MICROSCOPE WITH MOTORIZED STAGE

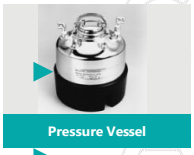
Micrograph Technologies can provide either the equipment or the testing service you require for the determination of the technical cleanliness of your components in accordance with inspection standards ISO16232

Contamination removal from components used in automotive, hydraulics and production systems is becoming increasingly important as suppliers, producers and end users look for better reliability.

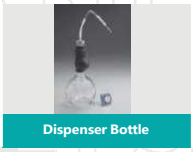
The microscope analysis identifies the type & quantity of particles in different size classes including longest particle and fibres according to the applicable test standards applied.

The microscope system can separate particles into metallic and non-metallic to give a distribution of metallic and non-metallic particles.

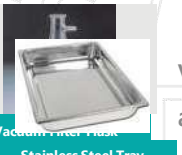
FLUID CONTAMINATION ANALYSIS KIT


Pressure Vessel


Vacuum Pressure Pump


Dispenser Bottle


Petri Dish


Stainless Steel Tray


Dispenser Gun


Hydrosol SS Filter Holder


SS Forceps


Glass Desicator


Vacuum Hose

cuum Pressure Pump, Oil Free, Neoprene Diaphragm coated with Teflon

HYDROSOL, SS Filter Holder, 47mm

Vacuum Hose, Silicone, 4.5" Long

Vacuum Filter Flask, Glass, 1 Ltr

- SS Forceps, Smooth Tip
- Solvent Filter Dispenser Bottle, 25mm
- Pressure Vessel, SS 316, 5 Lir
- Filter Solvent Dispensing Gun, 25mm
- Vacuum Trap Assembly
- Petri dish.

MICROSCOPE

Stereo Zoom Microscope

Magnification: 7x to 45x
Zooming Ratio: 6.4:1
Focussing Stroke: 50mm
Objective: 0.7x to 4
Eyepiece: 10x (Pair)
Illumination: White Ring Light LED

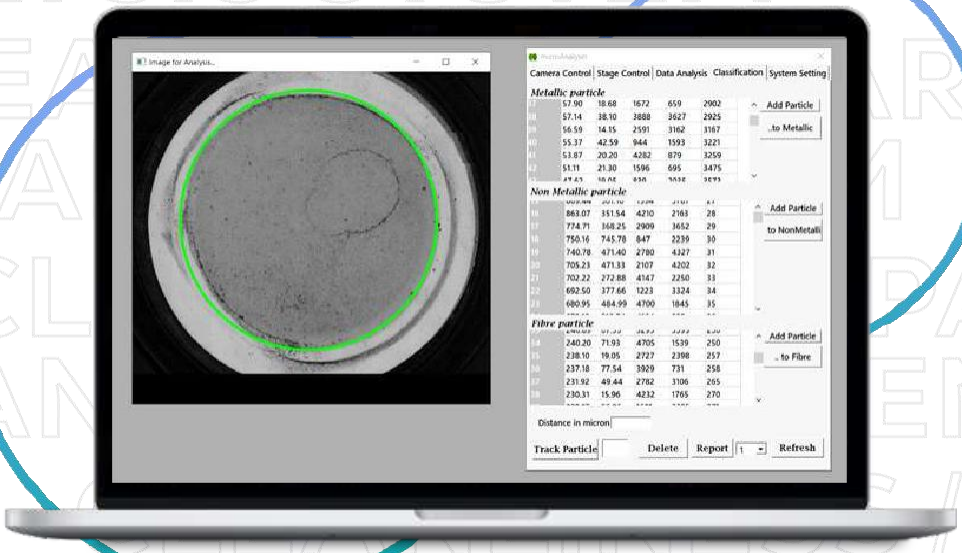
Trinocular Upright Metallurgical Microscope

Magnification: 50x to 1000x
Trinocular Obervation Head Eyepiece (Anti Fungus)
Wide Field 10x (paired) F.O.V. 22mm
Illuminator:
The EPI Illuminator has 6V-20W halogen lamp with variable brightness control

MOTORISED STAGE

Motorized Stage: Stage Size - 150mm X 150mm
XY Movement: 60mm X 60 mm (Motorized)
Resolution: 05 micron or better
Stage Control: Through software.

PARTICLE ANALYSIS SOFTWARE



- Pre-configured for ISO 16232.
- Calculation of Component-Cleanliness-Code (CCC) according to ISO 16232
- Software controlled Stage movements.
- Auto image stitching and analysis.
- Automatic scanning and capturing the entire field of filter paper.
- Software generate a single image of entire filter paper (size 47mm).
- So asto analyse and deliver the results for their true sizes.
- Separation of particles as Metallic, Non-metallic and fibre.
- Measurement of all the particles for their total number, size, perimeter, area.
- Distribution Metallic and Non-metallic particles as per their sizes in user defined size classes.
- Automatic detection of particle types Reflective, Non-Reflective, Reflective- Fibrous and Non-Reflective-Fibrous.
- Analysis of particle parameters for each particle (max particle size, min particle size, length, width, area fibre length, and many more).

PARTICLE ANALYSIS REPORT

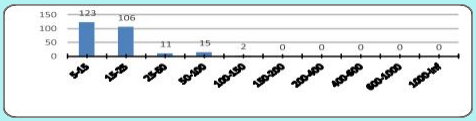
Customer Name:		Date:	11/06/2020
Part Name:	Piston Brake	Drg Rev No:	
Part No:	10123003	Drg Rev Date:	
Ref Insp. Std:		Prod.Batch ID:	
Test Method:	ISO 16232 / ISO 4407	Microscope ID:	
Paper Size :	47 mm dia	Magnification:	50x
Calibration Factor :	2.4 micron / pixel	No of Parts for Test	
No of Fields :	Complete Scan	Digital Weighing ID	
Measurment Unit:	micron		

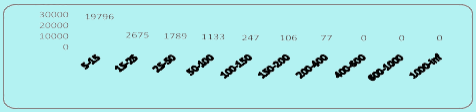
Size class for particle counting (ISO 16232-10)

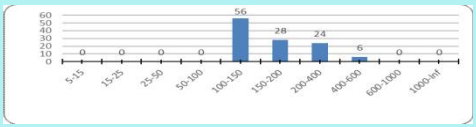
Size X (µm)	Size Class	Metallic	Non-Metallic	Fibers	Total
5-15	B	123	19796	0	
15-25	C	106	2675	0	
25-50	D	11	1789	0	
50-100	E	15	1133	0	
100-150	F	2	247	56	
150-200	G	0	106	28	
200-400	H	0	77	24	
400-600	I	0	0	6	
600-1000	J	0	0	0	
1000-inf	K	0	0	0	
Total Particle count		257	25823	114	26194

Number of particles per 1000cm2 or per 100 cm3 more than	Up to and	Contamination level
0	0	00
0	1	0
1	2	1
2	4	2
4	8	3
8	16	4
16	32	5
32	64	6
64	130	7
130	250	8
250	500	9
500	1x10	10
1x10	2x10	11
2x10	4x10	12
4x10	8x10	13
8x10	16x10	14
16x10	32x10	15
32x10	64x10	16
64x10	130x10	17
130x10	250x10	18
250x10	500x10	19
500x10	1x10	20
1x10	2x10	21
2x10	4x10	22
4x10	8x10	23
8x10	16x10	24

Contamination level	15







Max Metallic	Max Non Metallic	Max Fibre
113.07 (L) X 109.49 (B)	399.30 (L) X 299.81 (B)	511.87 (L) X 50.91 (B)

Analyzed area mm2	1385
Total field area mm2	1711
ISO 16232-7 (n) code	B123/C106/D11/E15/F2/G0/H0/I0/J0/K0 B19796/C2675/D1789/E1133/F247/G106/H77/I0/J0/K0
Result :	

Particle Map

MILLIPORE TEST OBSERVATION

	Specification (mg)	Paper Weight (Before) (mg)	Paper Weight (After) (mg)	Milipore Value (mg)
QA Remark:				

Inspected By: Verified By:

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