MORPHOLENS 240
the High Throughput Scanner

Fast Scanning with Batch Loading

100 slides in 120 mins
240 slides per load

Robust Hardware & Consistent Quality

Under 0.1 % rescan rate
LIMS integrated

www.morphlelabs.com

Designed for **high volume** labs with aggressive TAT goals

Continuous loading
for the busy Histotech

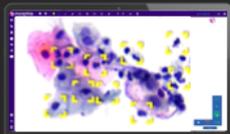> Slide carriers are inserted incrementally as and when the slides are made ready!

~0% scan rejections
Eliminates QC for PAs

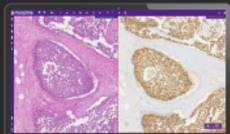> AI-powered adaptive scanning algorithms deliver auto-QCed perfect scans, always!
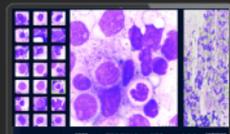
LBC based
Pap smears, CSF, Urine

FFPE based
H&E, IHCs, Special stains

Smear based
BM Aspirates FNACs, Pap

Versatility means High Returns

Technical Specifications

Slide Racks
Lock load & walk away

- 240 slide batch at once
- 40 carriers with 6 slides per carrier
- Supports continuous loading

Slides types
Versatality to the rescue

- Slides with / without coverslips / non-dried
- Slide thickness from 0.8 to 2mm
- Slide shapes 1"x3", 2"x3" & 3"x3"

Time for 15x15mm
Speed, a logical constraint

- 70 secs with flash mode with 3 focus points
- 150 secs with dense focus map & AI repair
- 7.5 mins with 7 Z-Stacks 1 um apart
- 15 secs fast preview with live mode

Optics & Camera
Preserving ground truth

- 0.22 microns / pixel @ 40x with primary camera
- Secondary Preview Camera for macro imaging
- High power flash LED with custom condenser

Barcode support
Traceability is a must

All types supported including
- Linear type, example: CODE 39, CODE 128
- Matrix, example : QR code, PDF417

LIMS Integration
A complete Workflow

Custom development for bi-directional
integration is included as part of installation

Data size
Data is gold & size matters

450 MBs for a WSI of 15x15mm
For Z-stack data size, it gets multiplied by a factor
of the number of stacks

Image Storage
IT is painful. We solved it.

Local : RAID 6 NAS-based chained storage
Cloud : Cold storage on Amazon Web Services @
10 cents per slide per year

Physical Properties
Compact enough

Base : 31 x 28 inches
Height : 30 inches
Weight : 100 Kg (220 lb)

Visit morphlelabs.com for product videos

Data storage & Cost

Cloud Storage	Local Storage
Stored on a replicated HIPAA compliant cloud from tier 1 providers like Amazon Web Services, Google Cloud Storage, etc	Storage on Network attached storage (NAS) drives backed by RAID architecture within the premises
As inexpensive as 4 rupees per slide per year with cold storage mode on AWS	Costs ~30% lower than cloud storage but adds IT maintenance
Cost scales gracefully with every slide in a fully automated manner	Storage scales in steps of 20-100 TBs and needs intervention from IT team
Lag-free uploads with 40 Mbps or nightly upload mechanism works with 12 hour lag but with half the bandwidth	Internal Network transfer from scanner to NAS irrespective of internet availability

Image Access & User Management

Ease of Access

100% web based image viewer.
No need to download any software.

Works well with google chrome on laptops & iPads alike.

User Management

Un-limited user login creations.
Our software is free with no strings.

Role Based Access control with a self-serve interface for scan level permission management.

Internet needs for Access

Lag-free navigation @ 8Mbps.
Works well even with a mobile data

Viewer works in streaming mode consuming under 50MB data during 1 min fast browsing

The Complete Workflow

1

Scanning

Barcoded samples are scanned by the lab technician & auto-ingested into the image management system

2

Auto-QC

Pathology assistant reviews auto-QCed scans & flags slides for pre-analytical defects if any

3

Case Assignment

Lab manager assigns QCed okay cases to pathologists & maintains queue for each pathologist

4

Notifications

Pathologist receives email notification with links to cases to be reported at configurable intervals

5

Diagnosis

Remote Pathologist makes the diagnosis based on scans & integrated patient data from LIMS

6

Reporting

Pathologist edits pre-populated reporting templates & either signs off the cases or requests extra stains

Solving Cytology

High Speed Speciality Scanning

Cytology with Z-Stacking

Move across multiple Z-levels at each field using mouse scroll just like a fine focus knob on the microscope

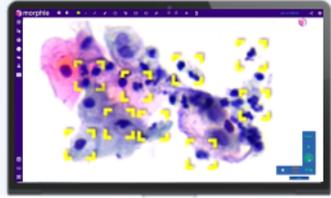Under 8 mins for 7+ layers of Z-Stack

BMA with Cell Locating

5 min from slide insertion to a ready-to-view scan with bucked viable cells

Auto-area selection of viable cell trails around particles at low power
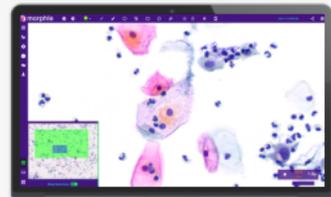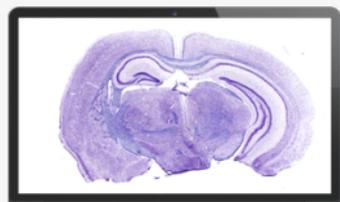
Z-Stack for every field at 40x for thick regions

Screened area tracking

Preview paints the visited region allowing protocol based verification
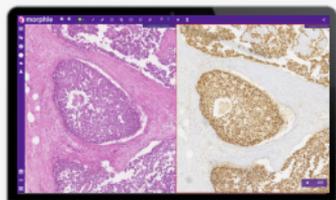
Special Needs

Innovative solutions

2"x3" & beyond Large slide formats

6x8", 4x6", 2x3" slide formats supported with special trays

The standard 240 slide loader can load 80 slides of 2x3" at once

Custom stains can be calibrated

Digital multiplexing

Compare H&E & multiple IHC scans side by side.

Upto 12 scans can be arranged in grid style on larger screens.

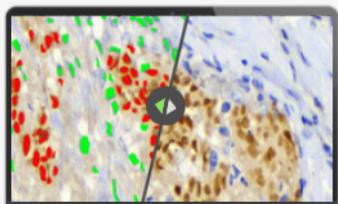Easy adjustment in synchronisation for not-so-serial sections

Frozen section Rapid On Site Eval

Live mode offer WSI Preview in 15 secs + live Z-Stack at 40x

Unlock the advantage

Artificial Intelligence

Auto–demarcated Gleason Scoring

DeepDx® Prostate Pro application analyses Whole Slide Images of H&E stained prostate core needle biopsies and automatically classifies the histological severity of prostate cancer.

Its fully integrated within the image viewer with instantly switchable overlays.
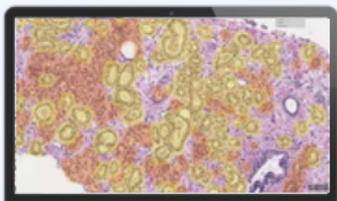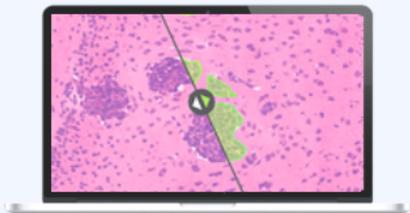

IHC Quantification

Automated cell counting for nuclear stains spits out positivity ratio in few seconds for the demarcated tumour area

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Tumor region selection interface helps avoid the compounding factors

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Research use only

Tools for Research

Automation and Objectivity

Pixel flow tool for Smart annotations

One click area tracing with real time smart image analysis

Allows precise measurement of area & exporting data of boundary as CSV

Hassle–free Morphometric Analysis

Calculate tumor margins. Allows setting up orthogonal references.

Precise to micron measurement for nuclear & cytoplasm boundaries

Customised AI workflows & Software Tools

Every research problem is different and often needs efficient software.

We enjoy building novel research tools in collaboration with promising researchers.

Email us
contact@morphlelabs.com

5 Million+ slides digitised as of today and counting...

SUBURBAN DIAGNOSTICS PRECISE TESTING · HEALTHIER LIVING	kmchospital MANIPAL	St. Johns Research Institute
NIMS	NHS	ANAND DIAGNOSTIC LABORATORY
UF UNIVERSITY of FLORIDA	NIH	AIIMS New Delhi
CLINICAL PATHOLOGY ASSOCIATES Service Quality Integrity	TAPADIA DIAGNOSTIC CENTRE PVT. LTD.	USC University of Southern California

Options for every use-case

Hemolens 6
6 slides at once

Dual Obj
100x Oil & 40x

Meant for digital microscopy for PBS, BMA, CSF, Urine & other applications demanding 100X

Morpholens 240
240 Slide batch

40x / 20x Objective with crisp digital zoom upto 80x

Meant for high volumes labs with Histopath, IHCs & Cytopath. Integrated workflows & image storage

Morpholens 6
6 slide batch

All the goodness of packed with a smaller batch size. Optimum for scanning upto 100 slides a day.

Morpholens 1
Single slide batch

Tiny footprint & surprisingly affordable. Perfect for turnkey projects.

Plug & Play Hardware | 24x7 Support | Risk Free Returns

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