

# HistoCore PERMA S

## Slide Printer

Instructions for Use - English

Order No.: 14 0606 80101 – Revision A

Always keep this manual with the instrument.

Read carefully before working with the instrument.



Manufactured by:  
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Distributed by:  
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### **Printing History**

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**FCC Compliance Statement:** This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**For Users in the United States:** This product is intended to be supplied by a UL listed Direct Plug-In Power Supply marked "Class 2" or a UL listed ITE Power Supply marked "LPS" with output rated 12VDC, 4.5A or higher. This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. In a domestic environment this product may cause radio interference, in which case the user may be required to take adequate measures. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help. Use of shielded cables is required to comply with the Class A limits of Part 15 of the FCC Rules. You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate and/or obtain warranty service for this equipment.

**For Users in Canada:** This digital apparatus does not exceed the Class A limits for radio noise for digital apparatus set out on the Radio Interference Regulations of the Canadian Department of Communications. Le present appareil numerique n'emet pas de bruits radio electriques dépassant les limites applicables aux appareils numeriques de la class A prescrites dans le Reglement sur le brouillage radioelectrique edicte par le ministere des Communications du Canada.

### **CAUTION!**

**TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THE UNIT TO RAIN OR MOISTURE. TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE EXTERIOR PANELS. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL. OPERATE THE UNIT WITH ONLY THE PROPER ELECTRICAL SPECIFICATIONS AS LABELED ON THE PRINTER AND AC ADAPTER.**

### **CAUTION!**

**USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION.**

### **CAUTION!**

**THE USER NEEDS TO VISUALLY CHECK EACH PRINTED SLIDE FOR LEGIBILITY AFTER THE PRINTING PROCESS.**

### **CAUTION!**

**ALL LABORATORIES MUST PERFORM THEIR OWN TESTS TO ENSURE THAT THE INK IS RESISTANT AGAINST THE VARIOUS REAGENTS THE SLIDES WILL SUBSEQUENTLY BE EXPOSED TO A WIDE RANGE OF FACTORS BEYOND LEICA'S CONTROL CAN HAVE NEGATIVE EFFECTS ON THE RESULTS. THE LABORATORY OPERATING THE UNIT SHALL BEAR FULL RESPONSIBILITY FOR THE LEGIBILITY OF THE IMPRINT AFTER PROCESSING WITH REAGENTS.**

#### **Czech: Upozornění!**

Aby se předešlo riziku vzniku požáru nebo úrazu elektrickým proudem, nevystavujte jednotku dešti nebo vlhkosti. Pro snížení rizika úrazu elektrickým proudem neodstraňujte vnější panely. Jednotka neobsahuje žádné díly, na nichž by údržbu mohl provádět uživatel. Údržbu přenechejte kvalifikovaným servisním pracovníkům. Jednotku používejte pouze v elektrické síti s odpovídajícími parametry, které jsou uvedeny na tiskárně a napájecím adaptéru.

#### **Upozornění!**

Použití ovládacích prvků, provádění úprav nebo úkonů jiných, než jsou zde výslovně uvedeny, může způsobit nebezpečné záření.

#### **Upozornění!**

Uživatel musí po vytištění vizuálně zkontrolovat ostrost každého potištěného sklíčka.

#### **Upozornění!**

Všechny laboratoře musejí provádět své vlastní testy, aby zajistily, že použitá tiskařská barva bude odolná vůči různým činidlům, jejichž působení budou sklíčka následně vystavena. Výsledky může negativně ovlivnit široká škála faktorů, na které nemá společnost Leica vliv. Za ostrost tisku po jeho zpracování pomocí činidel plně zodpovídá laboratoř, která tuto jednotku provozuje.

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#### **German: Vorsicht!**

Das Gerät vor Feuchtigkeit und Regen schützen, um Brand- und Stromschlaggefahr zu vermeiden. Um Stromschläge zu vermeiden, darf die Außenverkleidung nicht abgenommen werden. Enthält keine vom Benutzer wartbaren Teile. Die Wartung ist von qualifiziertem Wartungspersonal auszuführen. Das Gerät darf ausschließlich mit den auf dem Drucker und Netzgerät angegebenen elektrischen Daten betrieben werden.

#### **Vorsicht!**

Wenn Verfahren, Regelungen oder Einstellungen vorgenommen werden, die nicht in diesem Handbuch beschrieben sind, kann gesundheitsschädliche Strahlung abgegeben werden.

#### **Vorsicht!**

Der Benutzer muss jeden Objektträger nach dem Bedrucken visuell auf seine Lesbarkeit prüfen.

#### **Vorsicht!**

Jedes Labor muss seine eigenen Tests durchführen, um sicherzustellen, dass die verwendete Tinte allen Reagenzien standhält, denen die Objektträger ausgesetzt werden. Viele verschiedene Faktoren, die außerhalb der Kontrolle von Leica liegen, können die Ergebnisse negativ beeinflussen. Das Labor, welches das Gerät betreibt, trägt die volle Verantwortung für die Lesbarkeit des Aufdrucks nach der Verarbeitung mit Reagenzien.

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#### **Spanish: ¡Precaución!**

Para evitar el riesgo de incendio o descarga eléctrica, no exponga la unidad a la lluvia ni a la humedad. Para reducir el riesgo de descarga eléctrica, no quite los paneles exteriores. No hay piezas reparables por el usuario en el interior. Para cualquier reparación, contacte únicamente con personal de servicio cualificado. Utilice la unidad solamente bajo las especificaciones eléctricas adecuadas, indicadas en la etiqueta de la impresora y en el adaptador de corriente alterna.

#### **¡Precaución!**

El uso de controles o ajustes o la realización de procedimientos distintos a los aquí especificados puede provocar radiación peligrosa.

#### **¡Precaución!**

El usuario debe revisar visualmente cada portaobjetos impreso para verificar la legibilidad tras el proceso de impresión.

#### **¡Precaución!**

Todos los laboratorios deben realizar sus propias pruebas para asegurarse de que la tinta sea resistente a los distintos reactivos a los cuales los portaobjetos serán posteriormente expuestos. Existe una amplia gama de factores fuera del control de Leica que pueden tener efectos negativos en los resultados. El laboratorio que opere la unidad asumirá la plena responsabilidad en cuanto a la legibilidad de la impresión tras el procesamiento con reactivos.

Japanese: 注意!

火災または感電の危険を避けるために、装置を雨や湿気にさらさないでください。感電の危険性を低減するために、外部パネルを取り外さないでください。ユーザーが修理可能なパーツは内蔵されていません。修理は、資格のある担当者に依頼してください。プリンターとACアダプターにラベル表示されている適切な電気的仕様でのみ装置を操作してください。

注意!

規定されている以外の制御、調整、手順を行うと、危険な放射能にさらされる可能性があります。

注意!

ユーザーは、印刷処理後に、印刷されたスライドの視認性を目視で確認する必要があります。

注意!

すべての検査室は、その後スライドに使用されるさまざまな試薬に対してインクが耐性を示すことを確認するために、自らテストを行ってください。ライカがチェックできていない範囲にある要因が、結果に良くない影響を与える場合があります。装置を操作する検査室は、試薬処理後の印刷の視認性に関して全面的な責任を負うものとします。

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Portuguese: Precaução!

Para evitar o risco de incêndios ou choques elétricos, não exponha o aparelho à chuva ou à humidade. Para reduzir o risco de choques elétricos, não remova os painéis exteriores. Não existe qualquer peça interna que possa ser reparada pelo utilizador. Se precisar de assistência, contacte pessoal qualificado. Utilize o aparelho apenas com as especificações elétricas apropriadas, conforme indicado na impressora e no transformador de AC.

Precaução!

A utilização de controlos e regulações ou a realização de procedimentos não descritos aqui poderá causar a emissão de radiações perigosas.

Precaução!

Após a impressão, o utilizador precisa de verificar visualmente a legibilidade de cada lâmina impressa.

Precaução!

Todos os laboratórios têm de realizar testes independentes, de forma a assegurar que a tinta é resistente aos vários reagentes aos quais as lâminas serão subsequentemente expostas. Existe uma vasta gama de fatores fora do controlo da Leica, que poderão afetar negativamente os resultados. O laboratório que operar o aparelho, após o processamento com os reagentes, assumirá toda a responsabilidade pela legibilidade da impressão.

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Slovak: Pozor!

Aby ste predišli nebezpečenstvu požiaru alebo zásahu elektrickým prúdom, nevystavujte zariadenie dažďu ani vlhkosti. Aby ste znížili riziko zásahu elektrickým prúdom, neodstraňujte vonkajšie panely. Vnútri nie sú žiadne časti, ktoré môže opraviť používateľ. Servis zverte kvalifikovanému servisnému personálu. Zariadenie používajte iba so správnymi elektrickými parametrami uvedenými na štítku na tlačiarňu a AC adaptéri.

Pozor!

Používanie ovládačov alebo nastavení alebo vykonávanie postupov, ktoré nie sú uvedené v tomto dokumente, môže spôsobiť nebezpečné vyžarovanie.

Pozor!

Po vytlačení musí používateľ vizuálne skontrolovať čitateľnosť každého mikroskopického sklíčka.

Pozor!

Všetky laboratória musia vykonať svoje vlastné testy, aby sa ubezpečili, že atrament je odolný voči rôznym reakčným činidlám, ktorým budú mikroskopické sklíčka následne vystavené. Široký rozsah faktorov mimo pôsobnosti spoločnosti Leica môže mať negatívny vplyv na výsledky. Laboratóriam prevádzkujúce zariadenie bude niesť plnú zodpovednosť za čitateľnosť výtlačku po spracovaní reakčnými činidlami.

**French: Mise en garde!**

Pour éviter un incendie ou une décharge électrique, ne pas exposer l'appareil à la pluie ou à l'humidité. Pour réduire le risque de décharge électrique, ne pas retirer les panneaux extérieurs. Aucune pièce interne ne peut être réparée par l'utilisateur Pour tout entretien ou réparation, se reporter à un personnel qualifié. Respecter les spécifications électriques indiquées sur l'imprimante et l'adaptateur secteur pour faire fonctionner l'appareil.

**Mise en garde!**

L'utilisation de commandes ou de réglages ou de procédures autres que celles spécifiées dans la présente risque provoquer des radiations dangereuses.

**Mise en garde!**

L'utilisateur doit inspecter visuellement chaque lame pour vérifier la lisibilité après impression.

**Mise en garde!**

Tous les laboratoires doivent effectuer leurs propres tests pour s'assurer que l'encre est résistante aux divers réactifs auxquelles les lames seront ensuite exposées. De nombreux facteurs hors du contrôle de Leica peuvent avoir des effets négatifs sur les résultats. L'entière responsabilité de la lisibilité de l'empreinte suite au traitement avec des réactifs incombe au laboratoire chargé du fonctionnement de l'appareil.

**Chinese: 注意!**

为防止火灾或触电事故发生，请勿让设备遭受雨淋或受潮。为降低触电事故发生风险，请勿拆卸外面板。设备内部没有用户自己能维修的部件。请让合格的维修人员提供维修服务。使用设备只能连接符合打印机和交流电源适配器上所标识的正确电气规格的电源。

**注意!**

未按照本说明书的要求使用控制器，调节装置或操作流程进行设备操作，可能会导致激光照射的危险。

**注意!**

打印完成后，用户需要目视检查每张打印好的玻片上的打印内容是否清晰易读。

**注意!**

所有实验室都必须自己通过实验来确保所用墨水能够耐受玻片后续将要接触的各种试剂。非徕卡所能控制的诸多因素可能会对结果产生负面影响。打印后的玻片经试剂处理后，打印内容的易读性应由使用本设备的实验室承担全部责任。

产品中有毒物质的名称及含量  
Names and Contents of the Hazardous Substances

部件名称 Part Name	有害物质 Hazardous Substances					
	铅(Pb)	汞(Hg)	镉(Cd)	六价铬(Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
印刷电路板 Printed circuit boards	○	○	○	○	○	○
电子元件 Electronic components	○	○	○	○	○	○
机械部件 Mechanical parts	○	○	○	○	○	○
电缆 Cables	○	○	○	○	○	○
Other part?						
Other part?						
?						
本表格依据 SJ/T 11364 的规定编制。 This table is prepared in accordance with the provisions of SJ/T 11364.						
○: 表示该有害物质在该部件所有均质材料中的含量均在 GB/T 26572 规定的限量要求以下。 Indicates that said hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement of GB/T 26572.						
×: 表示该有害物质至少在该部件的某一均质材料中的含量超出 GB/T 26572 规定的限量要求。 Indicates that said hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement of GB/T 26572.						



**Polish: Uwaga!**

Aby zapobiec pożarowi lub porażeniom prądem, chronić urządzenie przed deszczem i wilgocią. Aby zmniejszyć niebezpieczeństwo porażenia prądem elektrycznym, NIE należy zdejmować zewnętrznych paneli. Wewnątrz urządzenia nie znajdują się żadne części przeznaczone do samodzielnej naprawy przez użytkownika. Naprawę urządzenia należy powierzyć wykwalifikowanym pracownikom serwisu. Urządzenie należy obsługiwać jedynie zgodnie z właściwymi parametrami elektrycznymi podanymi na drukarce i zasilaczu AC.

**Uwaga!**

Użycie elementów sterujących, ustawień lub zastosowanie procedur innych niż określone w niniejszej instrukcji może spowodować narażenie na niebezpieczne promieniowanie.

**Uwaga!**

Po zakończeniu procesu drukowania użytkownik powinien dokonać wzrokowej kontroli każdego pokrytego drukiem szkielka pod kątem czytelności.

**Uwaga!**

Wszystkie laboratoria muszą przeprowadzić własne testy w celu sprawdzenia, czy atrament jest odporny na różne odczynniki, których działaniu zostaną następnie poddane szkielka. Na wyniki może negatywnie wpłynąć cały szereg czynników będących poza kontrolą firmy Leica. Laboratorium obsługujące urządzenie ponosi pełną odpowiedzialność za czytelność nadruków po poddaniu szkielek działaniu odczynników.

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**Croatian: Oprez!**

Kako biste spriječili opasnost od požara ili udara, ne izlažite jedinicu kiši ili vlazi. Kako biste smanjili opasnost od električnog udara, ne uklanjajte vanjske ploče. U unutrašnjosti se ne nalaze dijelovi koje korisnik sam može servisirati. Povjerite servis kvalificiranom servisnom osoblju. Jedinicu rabite samo s propisnim električnim specifikacijama, kao što je naznačeno na pisaču i AC adapteru.

**Oprez!**

Uporaba kontrola, prilagođavanja ili primjena postupaka, osim ovdje specificiranih, može rezultirati opasnim zračenjem.

**Oprez!**

Korisnik mora vizualno provjeriti čitljivost svakog ispisanog stakalca nakon postupka ispisivanja.

**Oprez!**

Svi laboratoriji moraju provesti vlastita ispitivanja kako bi se uvjerili da je tinta otporna na razne reagense kojima će stakalca naknadno biti izložena. Na rezultate mogu negativno utjecati raznorazni čimbenici koje tvrtka Leica ne može predvidjeti. Laboratorij u kojem se jedinica rabi u potpunosti odgovara za čitljivost ispisa nakon obrade reagensima.

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**Hungarian: Vigyázat!**

A tűz vagy az áramütés veszélyének a megelőzése érdekében az egységet ne tegye ki esőnek vagy nedvességnek. Az áramütés kockázatának elkerülése érdekében, ne távolítsa el a külső védőborítást. Belül nem található felhasznált által javítható alkatrészek. A javítást bízva képzett karbantartó személyzetre. Az egységet csak a nyomtatón és az váltakozó áramú adapter címkein megtalálható jellemzőknek megfelelő elektromos hálózatról üzemeltesse.

**Vigyázat!**

Amennyiben a jelen leírásban nem található vezérlőket, beállításokat vagy teljesítményt befolyásoló eljárásokat alkalmaz, fennáll a káros sugárzás veszélye.

**Vigyázat!**

A nyomtatási folyamatot követően a felhasználó ellenőrizze minden egyes nyomtatott dia olvashatóságát.

**Vigyázat!**

Az összes laboratórium saját teszteléssel ellenőrizze, hogy a tinta ellenáll azoknak a reagenseknek, amelyeknek a jövőben a diák ki lesznek téve. A Leica hatáskörén kívül álló számos egyéb tényező is negatívan befolyásolhatja az eredményeket. A reagensekkel kezelt lenyomatok olvashatóságáért teljes mértékben az egységet üzemeltető laboratórium vállalja a felelősséget.

**Dutch: Let op!**

Stel het apparaat niet bloot aan regen of vocht, om het risico op brand of elektrocutie te voorkomen. Voorkom het risico op elektrocutie: verwijder geen buitenpanelen. Dit apparaat bevat geen onderdelen die door de gebruiker gerepareerd of onderhouden kunnen worden. Laat reparaties en onderhoud door bevoegd onderhoudspersoneel uitvoeren. Gebruik het apparaat uitsluitend volgens de juiste elektrische specificaties zoals aangegeven op de printer en de netspanningsadapter.

**Let op!**

Gebruik van bedieningselementen of het verrichten van afstellingen of procedures op andere wijze dan hier voorgeschreven kan resulteren in schadelijke straling.

**Let op!**

De gebruiker dient elk bedrukt glaasje na het bedrukken op leesbaarheid te controleren.

**Let op!**

Laboratoria dienen hun eigen tests te verrichten om te controleren of de inkt bestand is tegen de diverse reagentia waaraan de glaasjes blootgesteld zullen worden. Er zijn vele factoren die van negatieve invloed zijn op de uitkomsten, en die buiten de macht van Leica vallen. Het laboratorium waar het apparaat wordt gebruikt is als enige verantwoordelijk voor de leesbaarheid van de afdruk na bewerking met reagentia.

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**Turkish: Dikkat!**

Yangın veya elektrik çarpması riskini önlemek için, üniteyi yağmur veya neme maruz bırakmayın. Elektrik çarpması riskini azaltmak için dış panelleri çıkarmayın. İçinde kullanıcı tarafından bakımı yapılamaz parçalar vardır. Yetkili servis personeline başvurun. Üniteyi sadece, Yazıcı ve AC adaptörü üzerinde etikette belirtilen şekilde, uygun elektriksel şartlara göre çalıştırın.

**Dikkat!**

Burada belirtilenleri haricinde kontrollerin, ayarların ya da yordamların kullanılması tehlikeli radyasyona neden olabilir.

**Dikkat!**

Kullanıcı baskı işleminden sonra bastırılan her lamı okunabilirlik açısından görsel kontrol etmelidir.

**Dikkat!**

Tüm laboratuvarlar, mürekkebin lamların maruz kalacağı çeşitli reaktif maddelere dayanıklı olduğundan emin olmak için kendi testlerini yapmalıdır. Leica'nın kontrolü dışındaki çok çeşitli faktörlerin sonuçlar üzerinde olumsuz etkileri olabilir. Üniteyi çalıştıran laboratuvar reaktif maddelerle işleminden sonra baskının okunabilirlik için tüm sorumluluğu üstlenmelidir.

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**Danish: Forsigtig!**

Enheden må ikke udsættes for regn eller fugt for at forebygge risikoen for brand eller stød. Fjern ikke de udvendige paneler for at formindske risikoen for elektrisk stød. Ingen bruger-anvendelige dele indeni. Henvis servicering til kvalificeret servicepersonale. Betjen kun enheden med de behørigte elektriske specifikationer som mærket på printeren og vekselstrømsadapteren.

**Forsigtig!**

Brug af kontrolfunktioner eller justeringer af eller udførelse af procedurer bortset fra det, som er specificeret heri, kan medføre farlig stråling.

**Forsigtig!**

Brugeren skal efterse hvert trykt objektglas for læselighed efter trykningen.

**Forsigtig!**

Alle laboratorier skal foretage deres egne prøver for at sikre, at blækket er resistent mod de forskellige reagenser, som objektglassene efterfølgende bliver udsat for. En række forhold, som er uden for Leicas kontrol, kan påvirke resultaterne negativt. Laboratoriet, som anvender enheden, har eneansvaret for aftrykkets læselighed efter behandling med reagenser.



**Italian: Attenzione!**

Non esporre l'unità a pioggia o umidità per prevenire il rischio di incendi o scosse elettriche. Non rimuovere i pannelli esterni per ridurre il rischio di scosse elettriche. All'interno non sono presenti parti riparabili dall'utente. Far eseguire le riparazioni esclusivamente a personale qualificato. Far funzionare l'unità in conformità alle specifiche elettriche indicate sulla stampante e l'adattatore c.a.

**Attenzione!**

L'uso dei comandi o l'esecuzione di regolazioni o procedure diversi da quelli specificati può causare radiazioni pericolose.

**Attenzione!**

È necessario che l'utente controlli visivamente ogni vetrino stampato dopo il processo di stampa.

**Attenzione!**

Ogni laboratorio deve eseguire i propri test per assicurarsi che l'inchiostro sia resistente ai vari reagenti a cui i vetrini saranno esposti. Esiste un gran numero di fattori al di fuori del controllo di Leica che possono influire negativamente sui risultati. La responsabilità della leggibilità della stampa dopo l'esposizione ai reagenti è esclusivamente del laboratorio che opera l'unità.

---

**Swedish: Varning!**

För att förhindra brand- eller stötrisker fr enheten inte utsttas för regn eller fukt. För att minska risken för elektriska stötar fr ytterpanelerna inte avgsnas. Det finns inga delar inuti enheten som användaren kan underhålla. Allt underhåll ska utföras av kvalificerad underhållspersonal. Använd rätt elektriska specifikationer enligt etiketten på skrivaren och växelströmsadaptern.

**Varning!**

Användning av andra reglage, justeringar eller procedurerna som specificeras i detta dokument kan leda till farlig störlning.

**Varning!**

Efter varje tryckning måste användaren visuellt kontrollera att det tryckta glaseträbbat.

**Varning!**

Alla laboratorier måste utföra sina egna test för att kontrollera att blicketräbbat mot de olika reagenter som glasen senare kommer att utsttas för. Det finns många faktorer som Leica inte har kontroll över som kan påverka resultatet negativt. Det laboratorium som använder enheten är ensamt ansvarigt för tryckets läsbarhet efter behandling med reagenter.

---

**Norwegian: Forsiktig!**

For unngå fare for brann eller støt bør du ikke utsette apparatet for regn eller fuktighet. For redusere faren for elektrisk støt bør du ikke fjerne ytterpanelene. Det er ingen deler inni som kan repareres av bruker. Reparasjoner skal utføres av fagpersoner. Enheten skal kun fungere i samsvar med de elektriske spesifikasjonene som er angitt på skriveren og AC-adapteren.

**Forsiktig!**

Bruk av andre betjeningsanordninger, innstillinger eller instruksjoner enn de som er angitt her kan føre til farlig störlning.

**Forsiktig!**

Brukeren sjekke visuelt at hvert utskrevet objektglass er leselig etter trykkeprosessen.

**Forsiktig!**

Alle laboratorier bør utføre deres egne tester for sikre at blekket er bestandig mot de forskjellige reagensene som objektglassene senere vil eksponeres for. En lang rekke faktorer utenfor Leicas kontroll kan ha negativ innvirkning på resultatene. Laboratoriet som bruker enheten, har det fulle ansvar for at avtrykket er leselig etter behandling med reagenser.

**Korean: 주의!**

화재나 감전 위험을 예방하려면 빗물이나 습기에 기기를 노출하지 마십시오. 감전 위험을 줄이려면 외부 패널을 제거하지 마십시오. 내부에는 사용자가 수리할 수 있는 부품이 없습니다. 자격이 있는 서비스 담당자에게 서비스를 요청하십시오. 프린터 및 AC어댑터 레이블에 기재된 적절한 전기 규격에 따라 장비를 작동하십시오.

**주의!**

여기에 명시되지 않은 절차를 제어, 조정 또는 수행할 경우 위험한 방사선이 방출될 수 있습니다.

**주의!**

인쇄 작업 후에는 사용자가 각각의 인쇄된 슬라이드가 얼마나 뚜렷한지를 눈으로 직접 확인해야 합니다.

**주의!**

모든 실험실은 슬라이드가 노출될 다양한 시약에 대해 잉크가 저항력이 있는지의 여부를 직접 테스트하여 확인해야 합니다.

라이카가 통제하지 못하는 다양한 요인으로 인하여 결과에 부정적인 영향이 미칠 수 있습니다. 시약을 사용하여 처리한 이후 인쇄물의 가독성에 대한 책임은 전적으로 장비를 작동하는 실험실에 있습니다.

---

**Russian: Внимание!**

В целях предотвращения возгорания или поражения электрическим током запрещается подвергать данное устройство воздействию дождя или влаги. Чтобы снизить опасность поражения электрическим током, не снимайте внешние панели. Внутри отсутствуют детали, требующие пользовательского обслуживания.

Обслуживание устройства должно выполняться квалифицированным специалистом. Использование оборудования допускается только в условиях соответствия электрическим характеристикам, указанным на принтере и адаптере переменного тока.

**Внимание!**

Использование средств управления, регулировка или выполнение процедур, помимо указанных в данном документе, может привести к воздействию опасного излучения.

**Внимание!**

По завершении процесса печати пользователю необходимо визуально проверить читаемость каждого отпечатанного стекла.

**Внимание!**

Все лаборатории обязаны самостоятельно выполнять тесты по устойчивости чернил различным реагентам, воздействию которых будут подвергаться стекла.

Негативное воздействие на конечный результат может оказывать широкий спектр факторов, не зависящих от Leica. Лаборатория, выполняющая работу, несет полную ответственность за читаемость отпечатка после взаимодействия с реагентами.

**تحذير!**

لمنع مخاطر نشوب الحريق، لا تعرض الوحدة إلى المطر أو الرطوبة. لتقليل مخاطر الصدمة الكهربائية لا ترفع الألواح الخارجية من مكانها. لا توجد قطع قابلة للخدمة من قبل المستعمل. اطلب من أفراد الخدمة المؤهلين للقيام بالخدمة. قم بتشغيل الوحدة فقط باستعمال المواصفات الكهربائية الملائمة كما هي مبيّنة في بطاقة التعريف الملصقة على الطابعة ومهايئ التيار المتناوب AC.

**تحذير!**

إن استخدام ضوابط أو تعديلات أو القيام بإجراءات غير الإجراءات المحددة في هذا المستند سيؤدي إلى انبعاث إشعاعات خطيرة.

**تحذير!**

يتوجب على المستعمل فحص كل شريحة مجهرية مطبوعة بصريًا للتأكد من وضوحها بعد عملية الطبع.

**تحذير!**

على كافة المعامل إداء اختباراتها الخاصة للتأكد من أن الحبر مقاوم للكواشف المتعددة التي تتعرض لها الشرائح المجهرية لاحقًا. سيكون لمجموعة كاملة من العوامل خارج سيطرة لايبكا تأثيرات سلبية على النتائج. يتحمل المعمل الذي يشغل الوحدة المسؤولية الكاملة لوضوح الطبعة بعد المعالجة بالكواشف.

**Greek: Προσοχή!**

Για να αποφευχθεί ο κίνδυνος πυρκαγιάς ή ηλεκτροπληξίας, μην εκθέτετε τη συσκευή στη βροχή ή σε υγρασία. Για να μειωθεί ο κίνδυνος ηλεκτροπληξίας, μην αφαιρείτε τα εξωτερικά πάνελ. Τα εσωτερικά εξαρτήματα δεν είναι επισκευάσιμα από το χρήστη. Για την επισκευή, απευθυνθείτε σε εξειδικευμένο προσωπικό σέρβις. Θέστε σε λειτουργία τη μονάδα μόνο εάν πληρούνται οι απαιτήσεις για τις ηλεκτρικές εγκαταστάσεις που αναφέρονται στον εκτυπωτή και στον μετασχηματιστή εναλλασσόμενου ρεύματος (AC).

**Προσοχή!**

Η χρήση χειριστηρίων ή προσαρμογών ή η εκτέλεση διαδικασιών, διαφορετικών από αυτές που ορίζονται στο παρόν, ενδέχεται να προκαλέσουν έκθεση σε επικίνδυνη ακτινοβολία.

**Προσοχή!**

Αφού ολοκληρωθεί η διαδικασία εκτύπωσης, ο χρήστης πρέπει να ελέγξει οπτικά κάθε ένα εκτυπωμένο πλακίδιο.

**Προσοχή!**

Όλα τα εργαστήρια πρέπει να εκτελούν τις δικές τους δοκιμές ώστε να διασφαλίσουν ότι το μελάνι είναι ανθεκτικό στα διάφορα αντιδραστήρια στα οποία εκτίθενται ακολούθως τα πλακίδια. Υπάρχουν πολλοί παράγοντες τους οποίους δεν μπορεί να ελέγξει η Leica και οι οποίοι μπορούν να έχουν αρνητική επίδραση στα αποτελέσματα. Την ευθύνη για την αναγνωσιμότητα του αποτυπώματος μετά την επεξεργασία με αντιδραστήρια, φέρει το εργαστήριο στο οποίο λειτουργεί η μονάδα.

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# Section 1: Getting Started

---

## THANK YOU...

...for purchasing a HistoCore PERMA S Slide Printer. The HistoCore PERMA S Slide Printer can significantly increase the efficiency of your lab while helping to reduce the risk of misidentification of specimens. It prints directly onto slides, eliminating handwriting or expensive, difficult to apply xylene-resistant labels. With impressive 300 dpi print resolution, you can print text, graphics and logos along with high-resolution linear and 2D bar codes on every slide you process.

To begin using your device, please read this manual carefully. This instructions for use is a guide to the HistoCore PERMA S Slide Printer only. There are other accessories and software that work with the HistoCore PERMA S Slide Printers. Those items are purchased separately and include their own instructions for use.

### **NOTE ON TERMS AND CONVENTIONS**

From this point forward, the following terms and conventions will apply:

The HistoCore PERMA S Slide Printer will be referred to simply as the Printer.

---

## A. CHOOSING A GOOD LOCATION

- Place the Printer in a location with adequate air circulation to prevent internal heat build-up. You will need at least 41cm of overhead space to allow the top cover to open freely.
- Do not place the Printer near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.

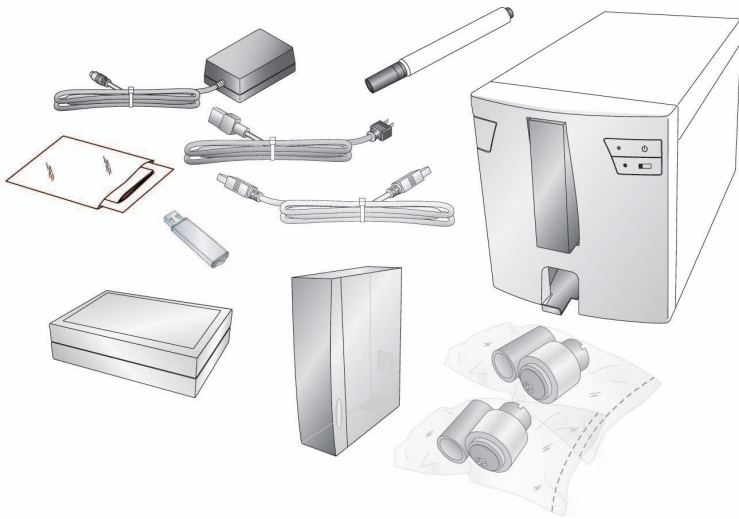
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## B. UNPACKING AND INSPECTION

While unpacking your Printer, inspect the carton to ensure that no damage has occurred during shipping. Make sure that all supplied accessories are included with your unit.

The following items should be included:

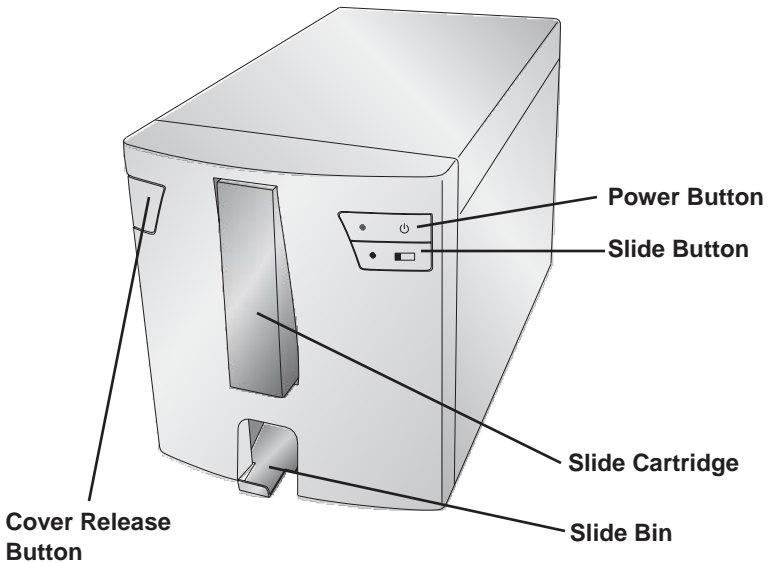
- HistoCore PERMA S Slide Printer
- Power cord
- Power converter
- USB cable
- 100 pack of slides
- Blue slide cartridge
- One color ribbon
- One black ribbon
- Print head cleaning pen
- Installation USB stick and documentation
- Polishing paper



---

## C. IDENTIFYING THE PARTS

The following illustrations show the various parts of the printer. These parts will be referred to throughout this manual so return here if you ever encounter a term that is unfamiliar to you.



The **Cover Release Button** is a mechanical button that releases the spring-loaded mechanism on the cover.

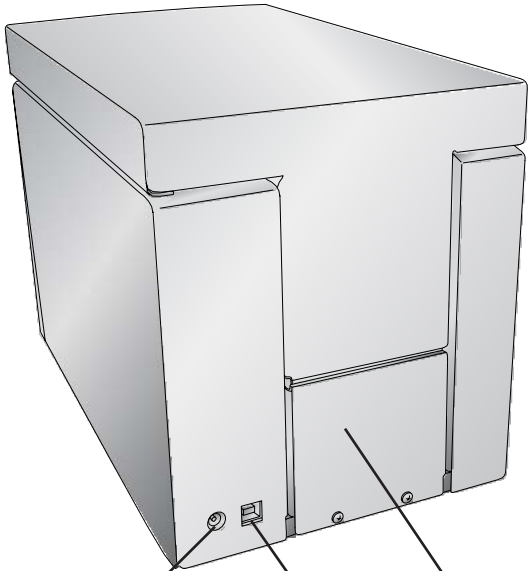
The **Power Button** turns off the printer when the cover is closed. When the cover is open, press and hold the power button to reverse the slide rollers motors.

The **Slide Button** will advance any slide stuck in printer to the Slide Bin. When the cover is open, press and hold the slide button to advance the slide roller motors.

The **Slide Bin** will hold 15 Slides when it is fully ejected. Pull the Slide Bin forward to fully eject it. A sensor will trip if more than 15 standard 1mm slides are in the bin.



**Rear View**



**Power**

**USB**

**Rear Access  
Panel**

---

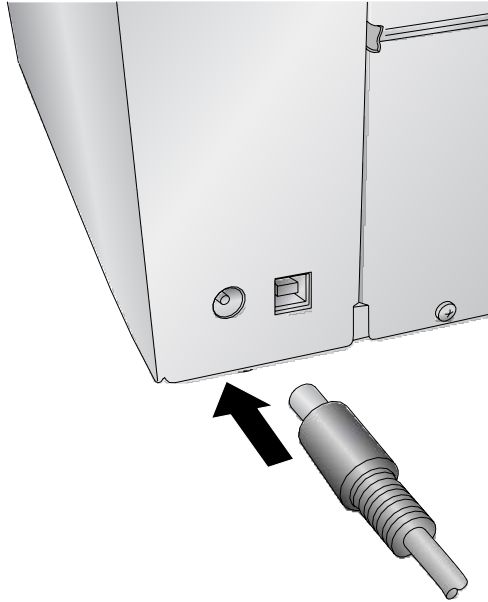
## D. SLIDE SPECIFICATIONS

Slide length and width shall meet ISO 8037 Standards, have a thickness of 1mm +/- 0.05 and have clipped corners. They should have ground edges and should be made from soda lime glass. The use of slides without ground edges may lead to increased printer wear and tear that may void warranty claims. Slides must have a coated color frosting. The coating must be of uniform thickness across the entire width of the slide. The HistoCore PERMA S Slide Printer uses thermal transfer print technology. This print technology requires stricter standards on the surface finish and cleanliness of the slide's frosted coating compared to slides that are used with ink jet technology printers. The coating must be smooth and free of any clumps or dust embedded in the coating or print defects will occur.

**To achieve optimal printing performance, Leica recommends the use of the PERMASLIDE or PERMASLIDE Plus brand of slides. The use of other print media may result in unsatisfactory print quality and/or jamming of the slide during the printing process.**

## E. CONNECT POWER

Attach the power cord to the Power brick. Plug the power cord into a grounded outlet and the 5 mm barrel connector to the back of the printer. The power converter is a universal 100V-240V input and a 12V output.



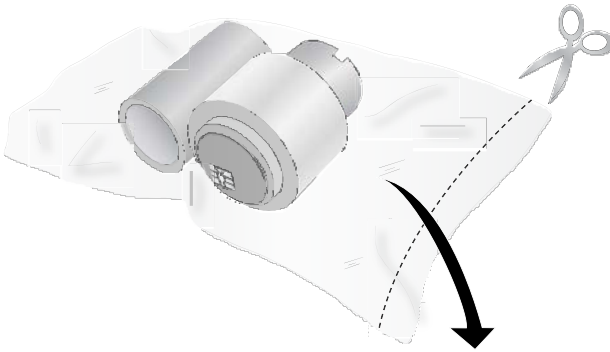
**DO NOT CONNECT USB UNTIL THE PRINTER DRIVER HAS BEEN INSTALLED.**

## F. LOAD A RIBBON

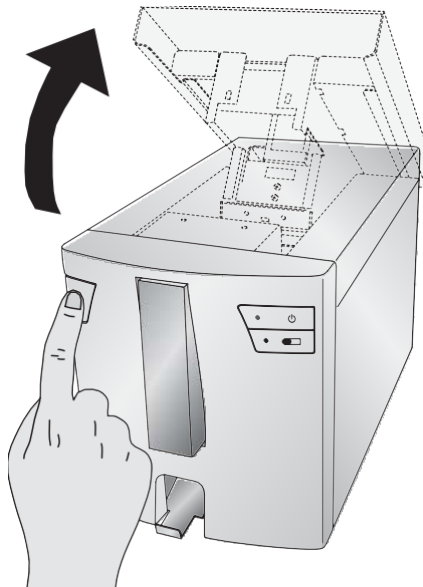
The HistoCore PERMA S Slide Printer uses either a Black ribbon (5000 prints) or a CMYK Color ribbon (1000 prints). You must use Leica ribbons to print with the HistoCore PERMA S Slide Printer.

1. Remove a Color or Black Ribbon from its packaging. Detach the take up ribbon from the supply ribbon by gently pulling them apart.

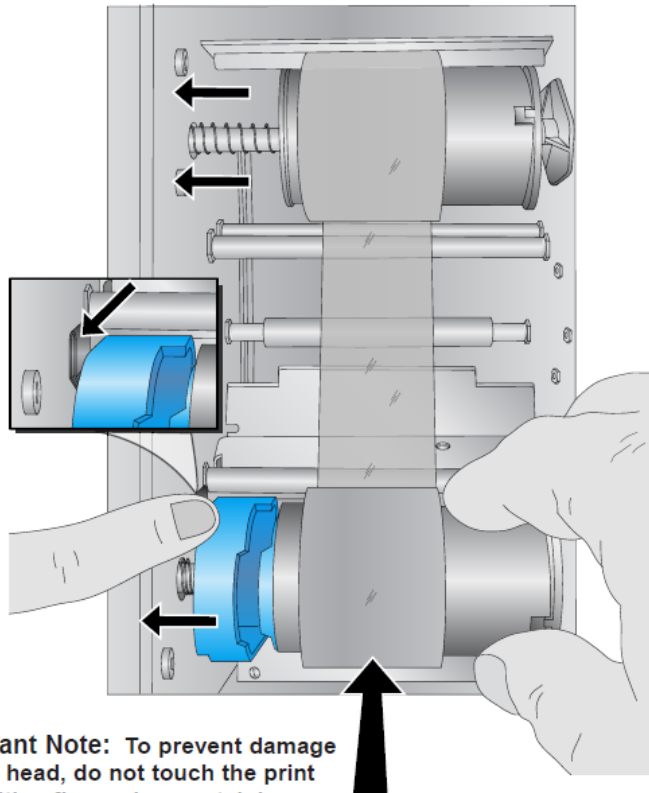
**Information:** The printer will only print with a Leica print ribbon.



2. Open the top cover by pressing the release button on the left side of the printer.



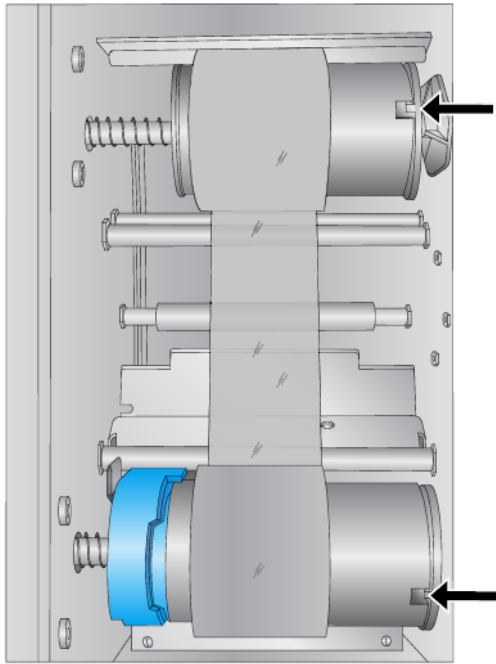
3. Remove the ribbon from its shrink wrapped packaging. Hold the take up (back) ribbon core with your left hand. Hold the supply (front) ribbon with your right hand. Install the take up ribbon by depressing the spring loaded hub inside the printer. Snap the take up ribbon core into place.



**Important Note:** To prevent damage to print head, do not touch the print head with a finger ring containing diamond or metal.

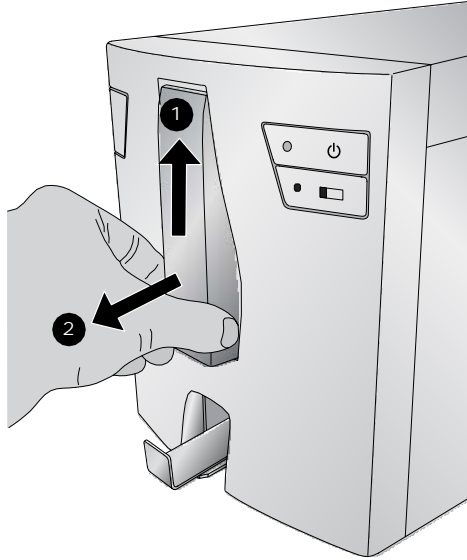
4. Push the blue spring loaded hub by depressing the tab with your left pointer finger. Insert the supply ribbon straight down. Match the blue shape on the ribbon to the corresponding depression on the hub. (You may need to rotate the blue shape on the ribbon.)

5. Rotate the hubs until the tabs on the right side hubs match the notches on the ribbon. Manually turn the take up core until the ribbon is taut.

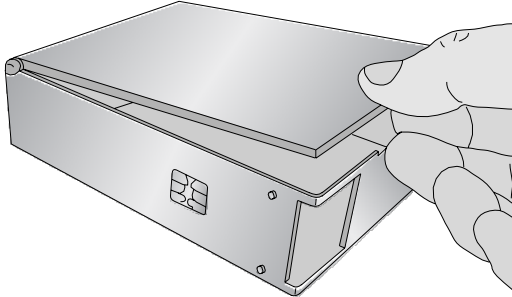


## G. LOAD A SLIDE CARTRIDGE

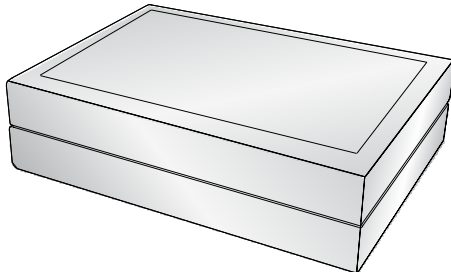
1. Remove the empty blue slide cartridge by pulling up and out.



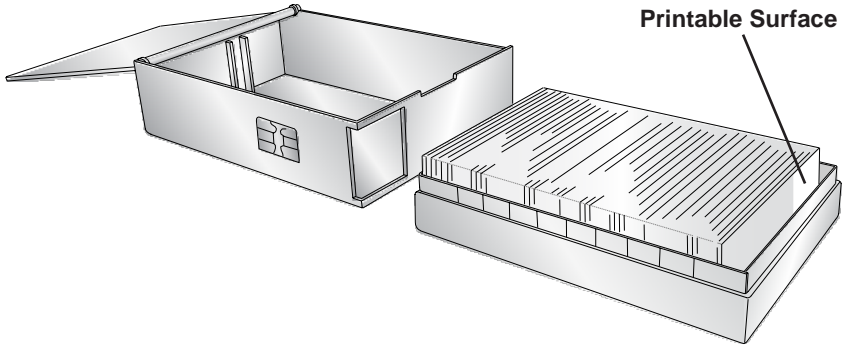
2. Open the blue side cartridge.



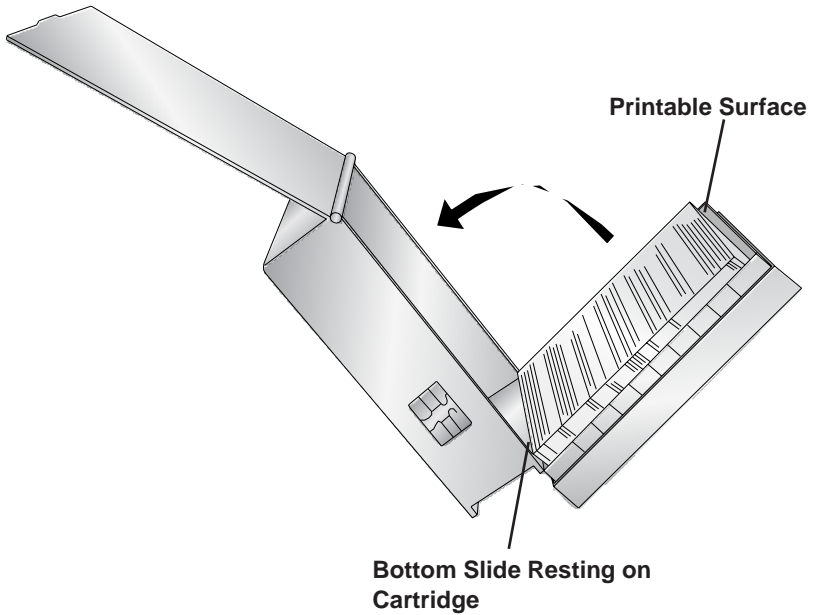
3. Locate the 100 pack slide box.



4. Place the slides next to the blue side cartridge so that the printable surface is on the TOP of the slide with the orientation shown below. **Note:** To achieve the proper orientation, it may be necessary to replace the box top, flip the box over and remove the other side of the box.



5. Carefully tip the slide box into the slide cartridge. The bottom slide in the box should rest on the edge of the slide cartridge. Note the location of the printable surface.

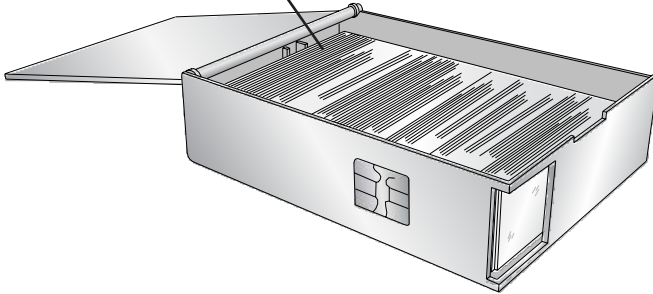




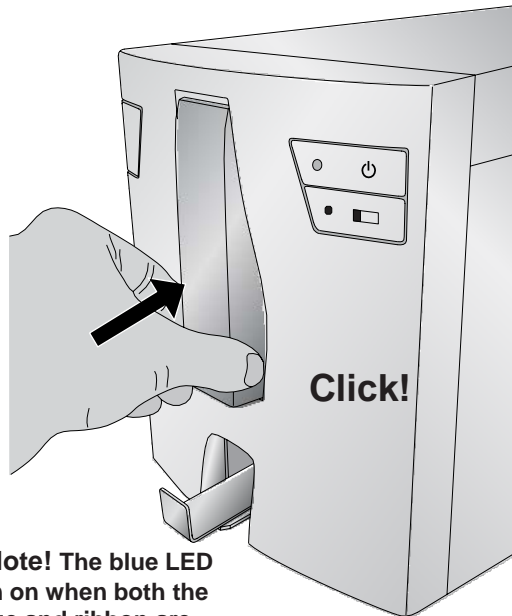
6. Once the slides are in place, straighten any that did not properly fall in the cartridge and ensure the printable surface is facing up and near the front of the cartridge as it is placed in the printer.

Printable Surface

**Important Note!** To prevent feeding problems, a.) fan the slides with your latex glove protected finger and b.) never touch the slide surface without latex gloves!



7. Close the lid and insert the cartridge into the printer. Push near the bottom of the cartridge until you hear a click.

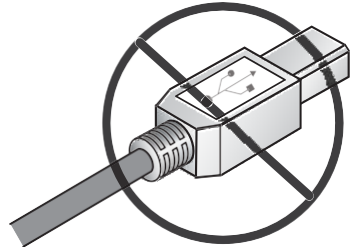


**Important Note!** The blue LED light will turn on when both the slide cartridge and ribbon are correctly installed.

## H. INSTALL THE PRINTER DRIVER

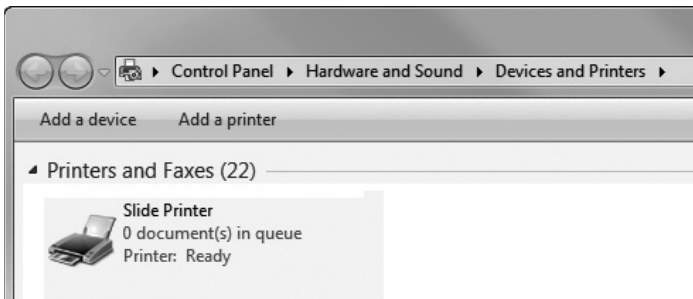
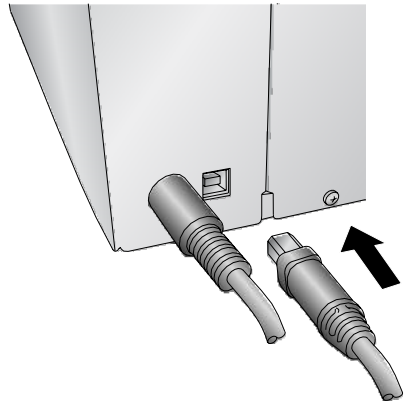
To connect the printer with your computer, please follow these instructions.

1. Insert the installation USB stick.



**DO NOT PLUG IN THE USB CABLE UNTIL PROMPTED BY THE INSTALLER.**

2. Follow the prompts in the installer to install the printer driver.
3. Finally plug in the USB cable to complete the installation.
4. When the printer driver has been installed successfully you will see a "Slide Printer" icon in your Devices and Printers.



PLEASE BE AWARE THAT THE PRINTER CANNOT BE SHARED WITHIN A WINDOWS NETWORK.

---

## I. SCANNER ZEBRA DS6707 CONFIGURATION FOR PTLAB

Before using the Scanner in PTLab follow the instructions from below:

1. Install the scanner driver via the installer from the USB flash drive
2. After successful installation and restart scan the Barcode from below to simulate the **CDC Host Mode**



3. Now you can use the Scanner in PTLab

If you want to reset the scanner to **Factory Defaults**, please scan the barcode below. Be aware, that all customized settings will be set back to Factory Status:



## Section 2: Printing Slides

You may use the Leica PTLAB software to print to the HistoCore PERMA S Slide Printer. The PTLab software has its own instructions for use. Please refer to it for detailed capabilities.

### A. PRINTING FROM OTHER PROGRAMS

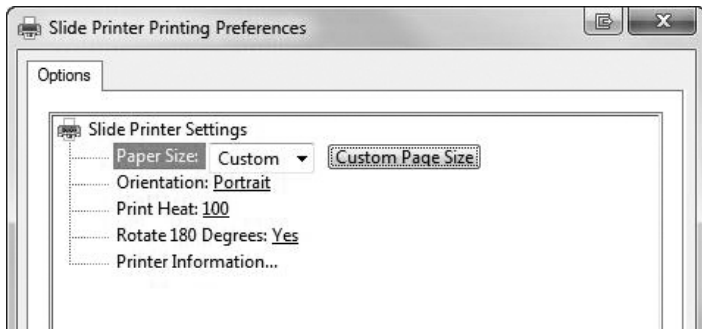
Printing to the Slide Printer from other software can be accomplished by using the standard Windows driver. The document requirements are listed below:

- Default Page = 22 mm W x 17 mm H
- Colors = Cyan, Magenta, Yellow, Red, Blue/Purple, Green, Black
- All colors must be 100% saturated

To print, simply go to the applications print function. Choose the "Slide Printer" as the printer. Click OK to print.

### B. PRINTER DRIVER SETTINGS

Click the Start button and choose Devices and Printers (Windows 7, 8, 10). Right-click on the Slide Printer Icon and select Printing Preferences from the drop-down menu.



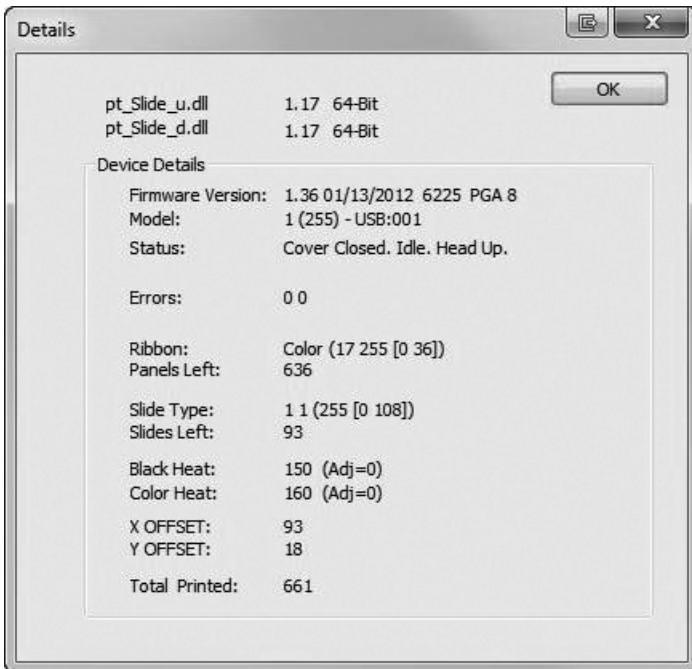
**Paper Size:** Default paper size is set to the maximum. Edit these settings if you are printing to slides with a smaller printable area.

**Orientation:** Change the orientation to Portrait or Landscape.

**Print Heat:** Increase or decrease the Print Heat from 1-255. Increase to print heat to improve print quality. 100 is the default value. Sustained use of a high print heat values will decrease the life of the print head and potentially break the ribbon. Different manufacturers of slides may require more or less heat. The minimum heat settings possible that result in a good print should be used.

**Rotate 180 Degrees:** Flips the image up-side down. Default setting is Yes.

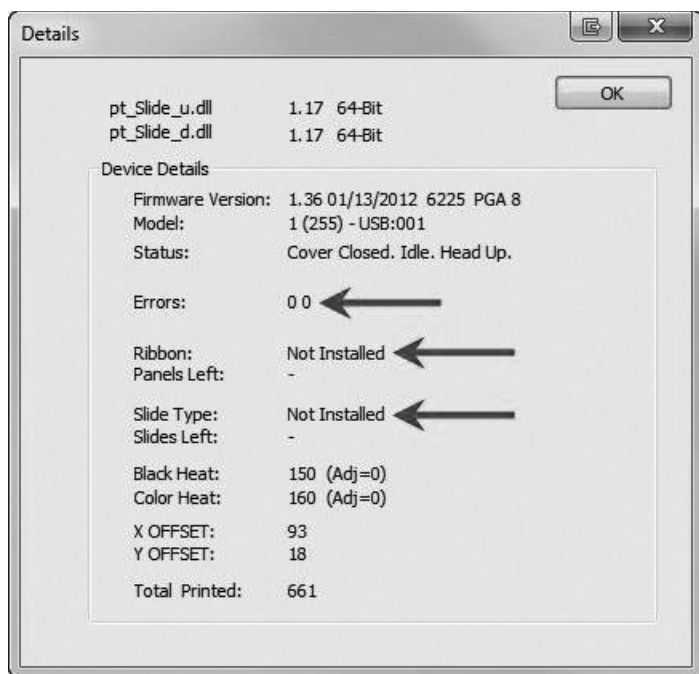
**Printer Information:** Click here to display printer driver versions, firmware versions, total prints, current status, remaining slides, remaining prints and offset values.



## Section 3: Maintenance and Troubleshooting

### A. INDICATOR LIGHTS AND ERROR CODES

Power light on Steady - Slide Cartridge light ON	Ready to receive Print.
Power light on Steady - Slide Cartridge light OFF	No ribbon installed and/ or No Slide Cartridge Installed.
<b>Flashing</b> Slide Cartridge light and slide button light	An error is present. Refer to error code or error message displayed in the printer information dialog in the printer driver preferences area. See the error code list below. (PTLab will display these errors in the software)



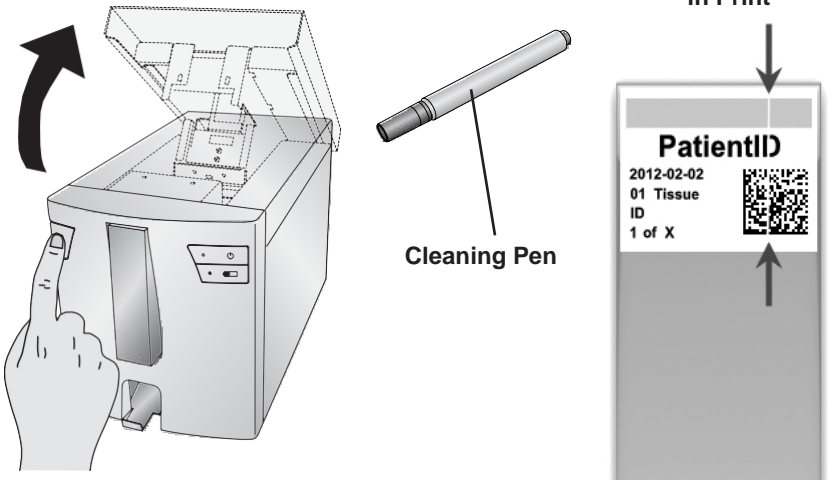
See Section 2.1 Printing Slides / B. Printer Driver Settings / Printer Information (page 28))

Slide Cartridge Invalid	80 0
Ribbon PWM	40 0
Head Load	20 0
Input Empty	10 0
Input Jam	08 0
Ribbon Advance Error	04 0
Ribbon Invalid	02 0
Lifter Not Functioning	01 0
Ribbon Out	00 01
Ribbon Break	00 02
Output Full	00 08
Slide Connection Error	00 10
Ribbon Connection Error	00 20
Ribbon Jam Error	00 40

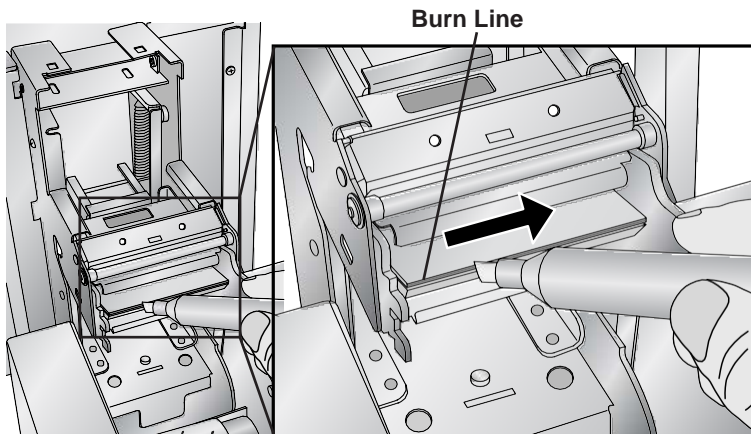
## B. CLEANING THE PRINT HEAD

A print head cleaning pen is included with the printer. Clean the print head after every ribbon change or if you notice quality problems such as vertical line through the entire print.

1. Unplug Power.
2. Open the printer cover.



3. Locate the Print head mounted to the underside of the cover.



**Important Note:** To prevent damage to print head, do not touch the burn line with a finger ring containing diamond or metal.

4. Clean the print head using the print head pen. Swipe the tip across the burn line 1 or 2 times. If you notice the tip getting dirty, clean it by wiping it across a clean paper surface.

### **C. INTENSIVE PRINT HEAD CLEANING**

In case you observe vertical lines in your print that cannot be removed by the cleaning process with the clean pen (see section 3B) please follow the described additional intensive cleaning process:

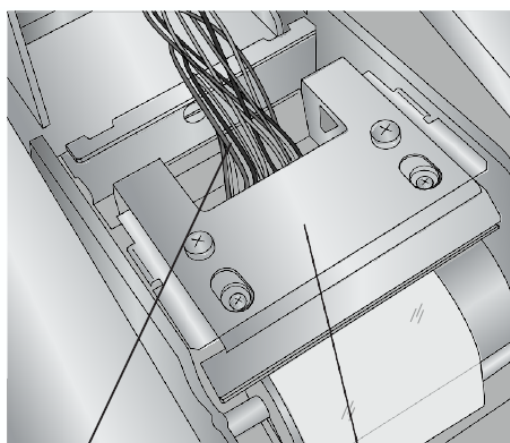
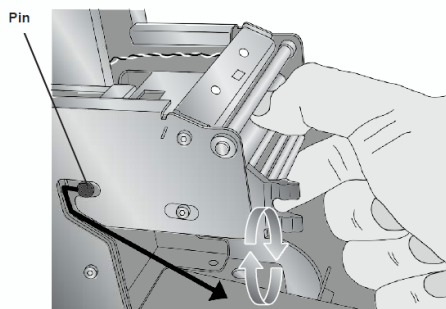
1. Unplug power.
2. Open the printer cover.
3. Polish the print head burn line with the provided polishing paper from left side to right side until smooth and free of debris.
4. Check the print quality after polishing a small amount with 3 strikes.
5. Stop polishing as soon as good print quality is achieved.
6. Do not overuse the polishing paper (max. usage of 6 times).
7. If print quality does not improve call service or replace the print head.



## D. REPLACING THE PRINT HEAD

If cleaning the print head (Section 3B) does not resolve a quality problem such as a vertical line through the entire print, it may be time to replace the print head. Print heads are designed to last tens of thousands of prints. However, it is possible a premature failure could occur if high heat settings were continuously used, it is used in a particularly hot environment or if slides not recommended for the printer are used.

1. Unplug Power.
2. Open the printer cover.
3. Locate the Print head mounted to the underside of the cover.
4. Push back, then down and then flip it 180 degrees to reveal the cable connector. Watch the pin on the side of the print head mechanism to guide the print head out of the metal housing.
5. Disconnect the cable from the connector. Pull on the cables to remove the connector.

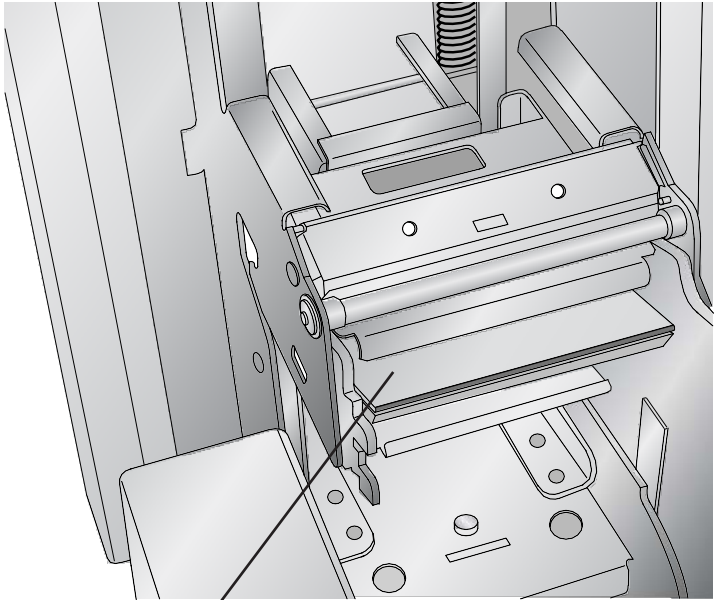


Disconnect this Cable

Print Head Flipped 180 Degrees

6. Connect the new print head.
7. Rotate the printhead 180 degrees and push it back into the metal housing.
8. **IMPORTANT!** Find the Resistance value printed on the printhead.

Example: R= 3180



**Resistance Value Printed Here**






Before printing, enter this value in the advanced settings area of the PTLab software.


Click the settings icon in the upper right corner of PTLab. To enable the advanced area of settings hold SHIFT + A. Now click on Advanced Settings. Enter the Head Resistance. Click Set.

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## **E. TROUBLESHOOTING PRINT QUALITY**

Print Quality problems are usually caused by debris or flaws on the printable surface of the slide. Use the chart below to diagnose quality problems.

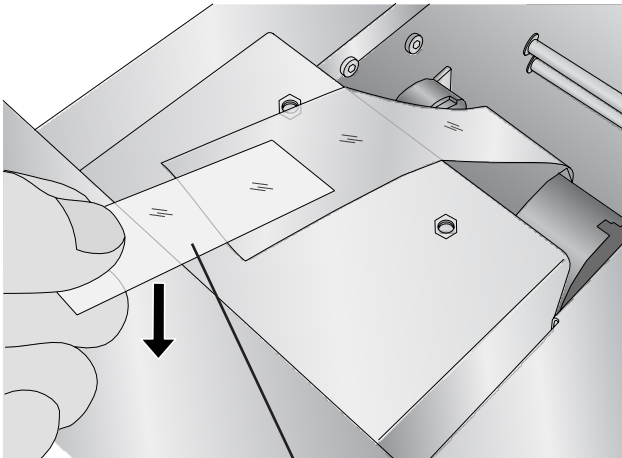
 <p><b>PatientID</b> 2012-02-02 01 Tissue ID 1 of X</p>	<p><b>Vertical Line.</b> A line vertically through the entire print is caused by dust or debris on the print head burn line or blown pixel on the print head. See Section 3B for cleaning instructions and 3C for print head replacement instructions.</p>
 <p><b>PatientID</b> 2012-02-02 01 Tissue ID 1 of X</p>	<p><b>Horizontal Line.</b> A horizontal line through print is caused by a small bump on the slide. This causes the entire print head to lift at this point so the effect of the bump is extended to the left and right of the bump. Low quality or defective slides may be the cause.</p>
 <p><b>PatientID</b> 2012-02-02 01 Tissue ID 1 of X</p>	<p><b>Group of Spots.</b> This may be caused by dust particles on the slide. Keep the slide clean. Store them in the blue slide cartridge at all times. Avoid handling the slides. Do not remove them from their shrink wrapping until you will be inserting the slides into the blue cartridge.</p>
 <p><b>PatientID</b> 2012-02-02 01 Tissue ID 1 of X</p>	<p><b>Light Printing.</b> Light printing is caused by insufficient heat or slides that are not thermal printable (inkjet). You may be able to improve quality by increasing the heat setting in the Printer Preferences or the PTLab software. Different manufacturers of slides may require more or less heat. The minimum heat settings possible that result in a good print should be used. (Section 2B)</p>
 <p><b>PatientID/.</b> 2012-02-02 01 Tissue ID 1 of X</p>	<p><b>Random Missing Area (Print Surface Intact).</b> This is caused by a rough printable surface. Low quality slides, defective slides or slides that are not thermal printable (inkjet) may be the cause.</p>

 <p><b>PatientID</b> 2012-02-02 01 Tissue ID 1 of X</p>	<p><b>Random Missing Area (Printable Surface Missing).</b> If the printable surface is missing or scratched off, the printer cannot print in these areas. Low quality slides, defective slides or mishandling of slides may be the cause of this problem.</p>
 <p><b>PatientID</b> 2012-02-02 01 Tissue ID 1 of X</p>	<p><b>Rounding at the leading edge.</b> Rounding at the leading edge of any new color on a slide is typically caused by low quality slides or slides that are not thermal printable (inkjet). If changing slides is not an option consider modifying your template to include a print quality line at the bottom of the printable area.</p>

## F. REPAIRING/PREVENTING RIBBON BREAKS

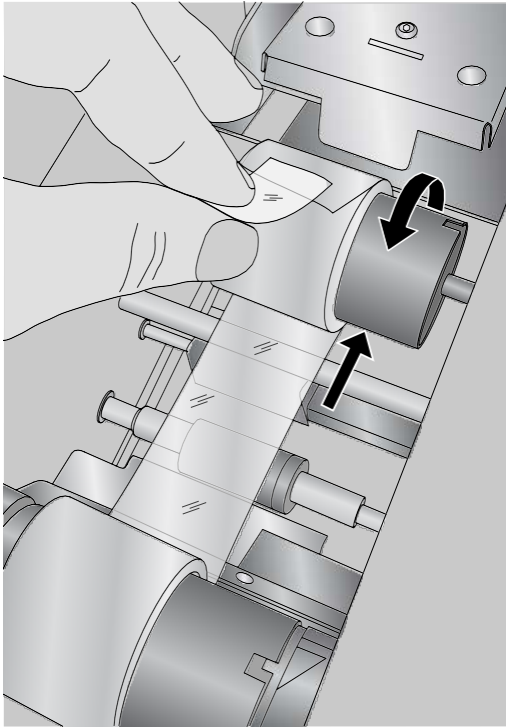
Ribbon breaks can occur if the head setting is too high. To repair a ribbon break follow this procedure:

1. Open the cover.
2. Locate the supply roll ribbon. Place it on the top of the print as shown below. Attach a piece of tape.



**Tape Sticky Side Down**

3. Feed the supply side of the ribbon under the take up roll.  
Tape the supply ribbon to the take-up roll.



4. Manually turn the take-up roll several complete rotations to prevent the tape from coming loose.
5. Close the Cover.

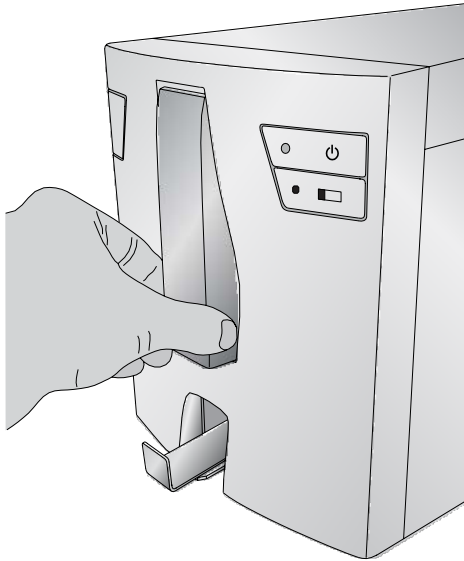
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## **G.** RETRIEVING A BROKEN OR STUCK SLIDE

If a slide is broken or stuck in the system there are two access panels that can be used to retrieve the slide. If a slide is found inside the printer, use the Power and Slide buttons to move the internal slide rollers forward and back to advance the slide to a point where it can be removed. Follow this procedure:

1. Open the top cover.
2. Remove the Ribbon.

3. Remove the slide cartridge.



4. In the slide cartridge compartment check near the bottom roller for a slide.
5. Check under the ribbon. Use the Power and Slide buttons to move the slide to a position where you can remove it.

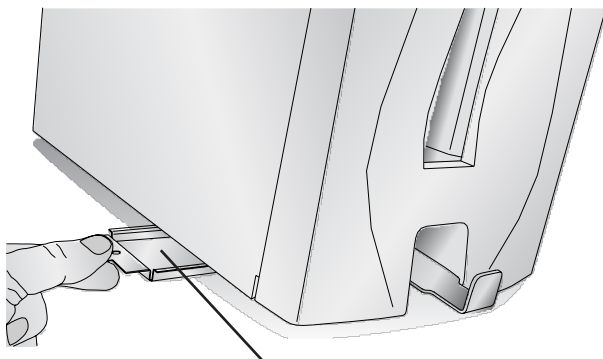
**Tip!** *Once the slide is on the rubber belts near the back, you can close the cover and press the slide button to advance the slide down the slide chute.*

6. If the slide is near the back and you are unable to retrieve it using the buttons you can remove the back cover panel.



**Screws for Access Panel**

7. Finally if the slide is broken you can remove it using the bottom catch bin. Pick up the slide printer and rotate it in multiple directions until all of the pieces are in the bin. Now pull out the bin and empty it into the trash.

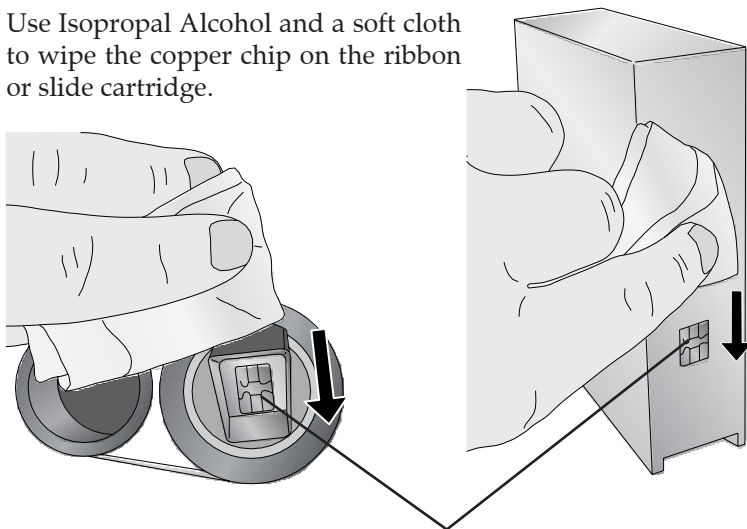


Catch Bin

## H. CARTRIDGE OR RIBBON RECOGNITION PROBLEMS

If your cartridge or ribbon is installed but the blue LED light behind the cartridge does not turn on or the software says no cartridge or ribbon is installed, you may need to clean the copper chip on the ribbon or cartridge.

Use Isopropyl Alcohol and a soft cloth to wipe the copper chip on the ribbon or slide cartridge.



Copper Chip

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## I. SERVICE INFORMATION

If you are in need of technical customer support or spare parts, please contact your Leica representative or the Leica dealer where you purchased the instrument.

Please provide the following information:

- Model name and serial number of the instrument.
- Location of the instrument and name of the contact person.
- Reason for the service call.
- The delivery date of the instrument.

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## J. CONSUMABLES AND ACCESSORIES

### Consumables:

Ink ribbon black (pack of 6)	Part # 14060655727
Ink ribbon color (pack of 6)	Part # 14060655728

### Accessories:

Print head cleaning pens (pack of 5)	Part # 14060655774
Slide cartridge	Part # 14060655729
Print Head Polishing Paper (1 pc)	Part # 14060656073



## Section 4. Technical Specifications

Printing technology:	Thermal transfer
Print speed:	Up to 9 slides/minute (monochrome) Up to 5 slides/minute (solid colors) Up to 4 slides/minute (process colors) 300
Print resolution:	dpi
Ink type:	Resin thermal transfer
Ribbon types:	Color: 1000 prints Black: 5000 prints
Printable colors:	8 solid colors
Slide types:	Recommended use of PERMASLIDE or PERMASLIDE Plus brand of slides
Slide capacity:	100 slides
External cassette capacity:	100 slides
Output tray capacity:	15 slides
Construction:	Steel frame with powder-coated steel and plastic covers
Data interface:	USB 2.0
Printer drivers:	Windows™ 7, 8 and 10
Height:	218.4 mm
Width:	179.8 mm
Depth:	319.5 mm
Weight:	7.62 kg
Power requirements:	100-240VAC, 50/60 Hz, 60 watts
Warranty:	One year parts and labor