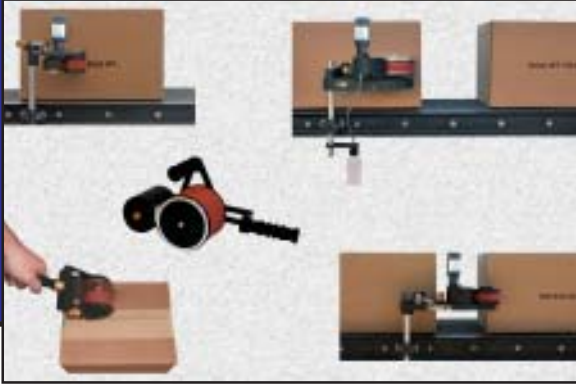


Innovations in Stenciling & Marking Equipment since 1904

POROUS CODERS



NON-POROUS CODERS



SPECIALTY PRODUCTS



MARKING INKS



MARKING PENS



STENCILING SYSTEMS



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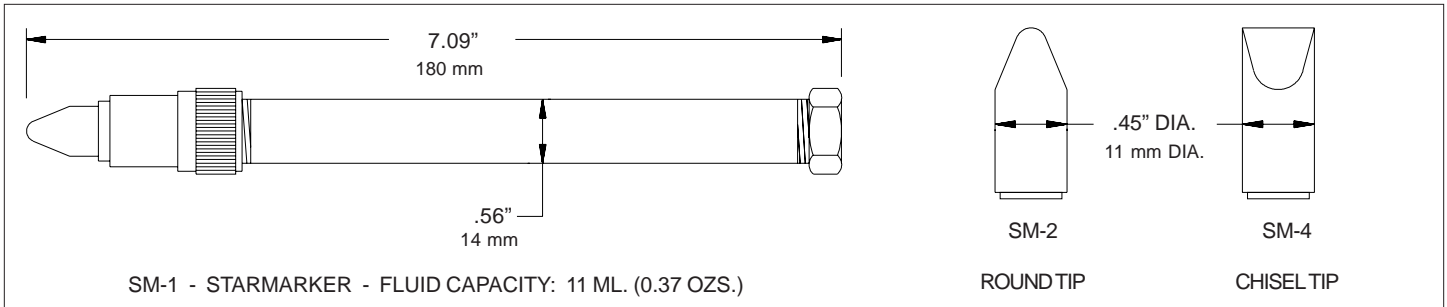
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Universal's refillable marking pens are constructed from precision machined aluminum components. The Starmarker has a polished aluminum barrel and is available with a round or chisel tip. The Superline Marker has a black anodized barrel and is available with a round, chisel, fineline round and fineline chisel tip, making this pen much more versatile. Both pens are supplied with a viton o-ring, for use with petroleum base inks to ensure leak proof valve operation and can be completely disassembled for cleaning and repair. EPR O-Rings are available as an option for alcohol base inks. Universal recommends dye based ink for marking on both porous and non-porous materials.



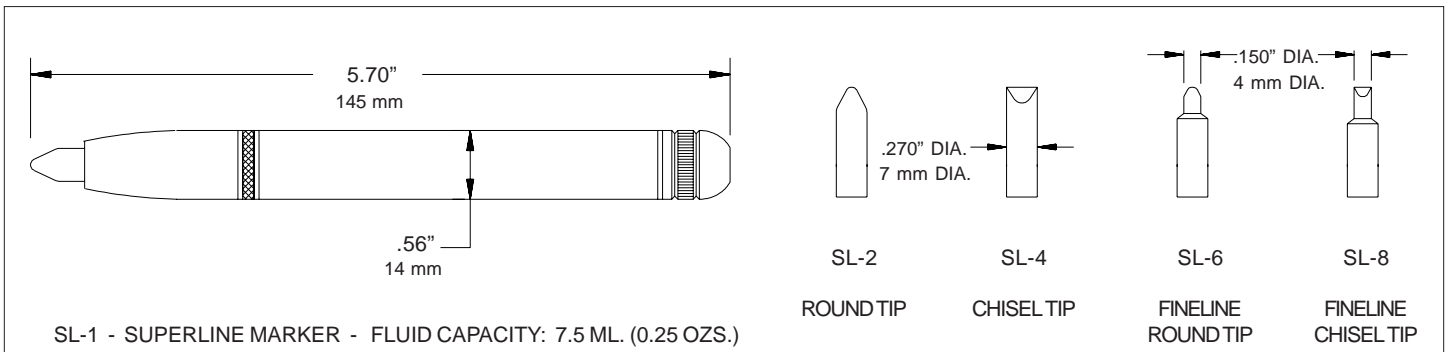
SM-1 STARMARKER WITH ROUND POINT TIP

STARMARKER REFILLABLE FELT TIP MARKERS	
STOCK NO.	DESCRIPTION
SM-1	STARMARKER W/ROUND TIP
SM-1C	STARMARKER W/CHISEL TIP
SM-GK	STARMARKER GASKET KIT
SM-2	ROUND POINT FELT TIPS
SM-4	CHISEL POINT FELT TIPS



SL-1 SUPERLINE MARKER WITH ROUND POINT TIP

SUPERLINE REFILLABLE FELT TIP MARKERS	
STOCK NO.	DESCRIPTION
SL-1	SUPERLINE W/ROUND TIP
SL-1C	SUPERLINE W/CHISEL TIP
SL-GK	SUPERLINE GASKET KIT
SL-2	ROUND POINT FELT TIPS
SL-4	CHISEL POINT FELT TIPS
SL-6	FINELINE ROUND POINT FELT TIPS
SL-8	FINELINE CHISEL POINT FELT TIPS



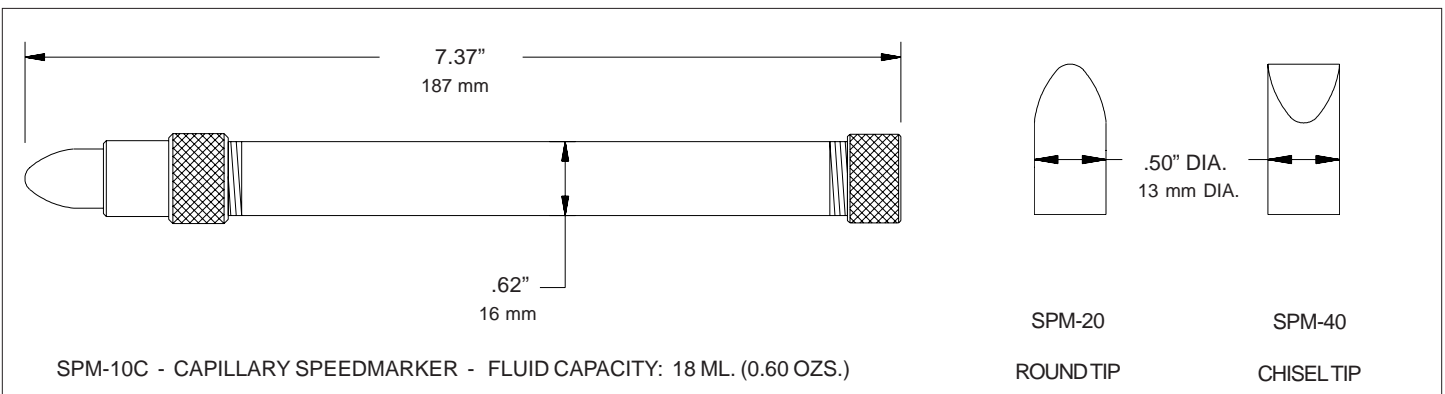


SPM-10C CAPILLARY SPEEDMARKER WITH ROUND POINT TIP

The SPM-10C Speedmarker is a refillable, industrial quality marker which utilizes capillary action to provide a continuous supply of ink to the felt tip.

The Speedmarker is the largest pen Universal manufactures and is available with either a round point or a chisel point felt tip.

SPEEDMARKER REFILLABLE FELT TIP MARKERS	
STOCK NO.	DESCRIPTION
SPM-10C	CAPILLARY SPEEDMARKER W/ROUND TIP
SPM-10C-C	CAPILLARY SPEEDMARKER W/CHISEL TIP
SPM-20	ROUND POINT FELT TIPS
SPM-40	CHISEL POINT FELT TIPS



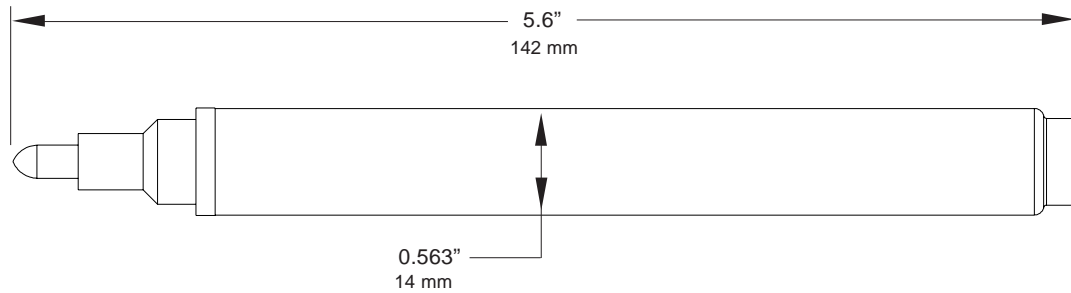
Universal FTX2 “disposable” pigmented paint markers contain a fast drying, pigmented ink that produce bold opaque marks on almost any surface. These markers are ideal for marking on metals, glass, plastics and other materials where pigmented inks must be used for high visibility. The FTX2 Paint Marker is specially formulated to mark through oily film and produce permanent marks that will withstand a variety of chemicals, won’t fade in the sunlight or wash away in the rain making them perfect for marking products that are stored or displayed outside.

FTX2 Marker Tips are made from continuous strands of a special fiber material which is formed together in a parallel orientation. This produces tiny channels in the tips to allow the finely ground pigments in the ink to flow through.

If the caps are left off these markers and the nibs are allowed to dry out, these channels become clogged with dried pigments and the tips would need to be replaced to restore the marker to its original condition and performance.



FTX2 PAINT MARKERS



FTX2 PAINT MARKER - FLUID CAPACITY: 10 ML. (0.338 OZS.)

FTX2 DISPOSABLE FELT TIP PAINT MARKERS	
STOCK NO.	DESCRIPTION
FTX2-WH	WHITE FTX PIGMENTED PAINT MARKER

The Universal Roll-A-Stencil Jr. System is designed for stenciling economy. This system can be used with both porous and non-porous inks. The simplicity of this system makes it most desirable when fast drying, non-porous inks are used. Ink is applied to the Jr. Pad which acts as a supply reservoir. The roller is then rolled across the pad several times where it absorbs enough ink for many stenciled impressions. These units are perfect for stenciling on metal drums, pipes, steel plate, concrete etc. with Universal Type D ink.

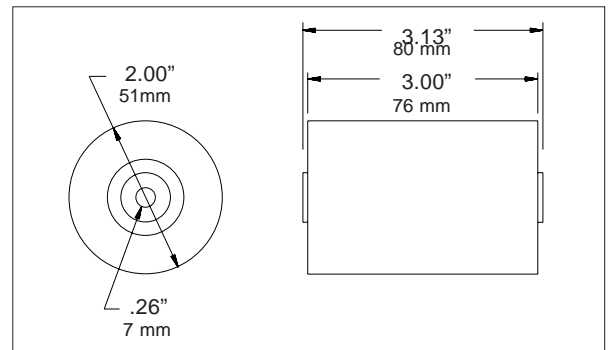


ROLL-A-STENCIL JR. ROLLER SYSTEMS

Universal replacement rollers are made from the highest quality, firm density neoprene foam which is bonded to solid birch wood cores using solvent resistant epoxy. Our rollers are then precision ground between centers, for perfect concentricity. The JR series rollers utilize proprietary splined delrin bushings for a secure fit and smooth rolling action.

**JR-51R / JR-53R / JR-56R
(REPLACEMENT ROLLERS)**

1-1/2" / 3" / 6" LENGTHS

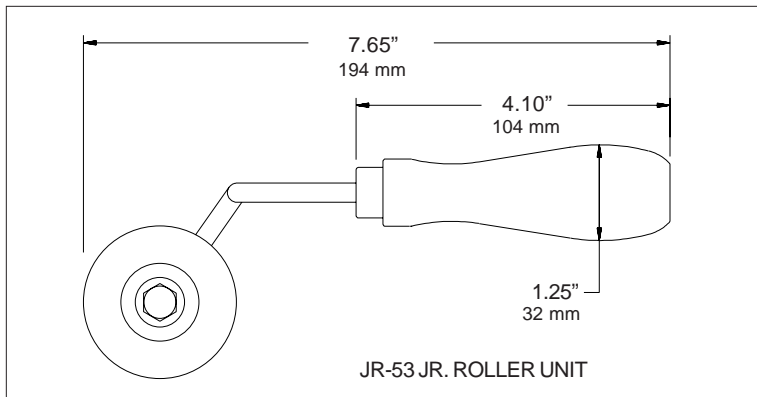


JR-53R JR. REPLACEMENT ROLLER

Universal Roll-A-Stencil Jr. Roller Units are constructed of lightweight aircraft grade aluminum alloy frames. Solid birch handles with a black enameled finish are ergonomically designed to fit in the hand and are lighter than competitive units with plastic handles. These exclusive features reduce operator fatigue during production stenciling.

**JR-51 / JR-53 / JR-56
(ROLLER UNITS)**

1-1/2" / 3" / 6" LENGTHS



JR-53 JR. ROLLER UNIT

2" DIAMETER ROLL-A-STENCIL JR. ROLLER SYSTEMS	
STOCK NO.	DESCRIPTION
JR-51	1-1/2" WIDE ROLLER UNIT W/COVER
JR-51R	1-1/2" WIDE REPLACEMENT ROLLER W/COVER
JR-53	3" WIDE ROLLER UNIT W/COVER
JR-53K	3" WIDE ROLLER KIT (CONTAINS 1 ROLLER UNIT W/COVER, 1 PINT OF BLACK TYPE "D" INK AND 1 JR. PAD BOX)
JR-53R	3" WIDE REPLACEMENT ROLLER W/COVER
JR-56	6" WIDE ROLLER UNIT W/COVER
JR-56R	6" WIDE REPLACEMENT ROLLER W/COVER

The Universal PBFR replacement rollers are designed specifically for the Press Button Fountain Roller Unit. They are made from the highest quality, firm density neoprene foam which is bonded to solid birch wood cores using solvent resistant epoxy. Our rollers are then precision ground between centers, for perfect concentricity.

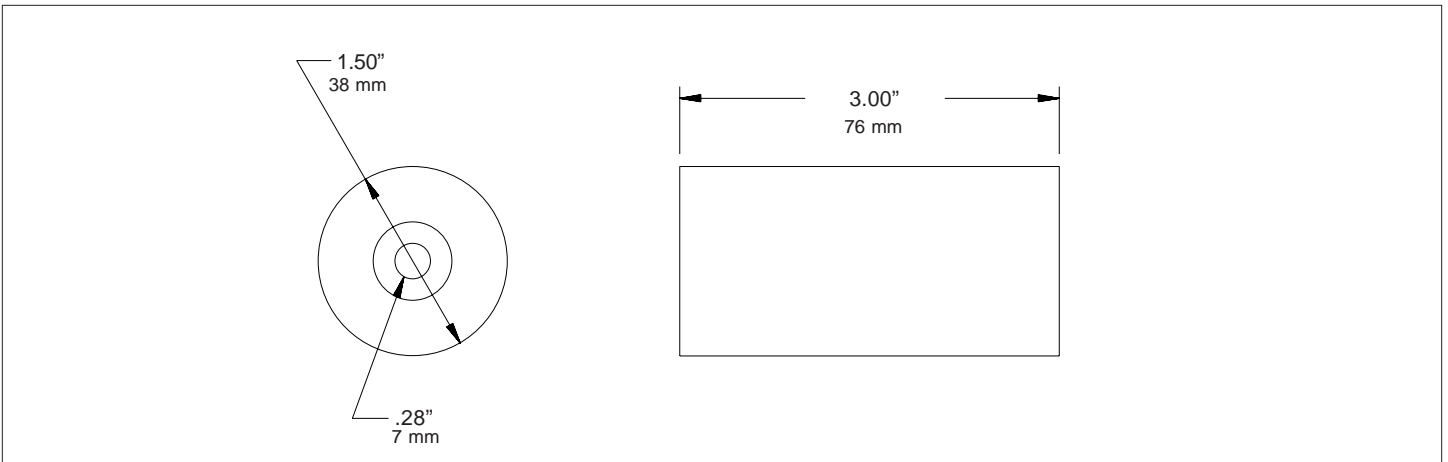
After prolonged use, the foam roll on the stencil roller applicator will become clogged with pigment residue and worn from abrasion. When the roller shows signs of excessive wear, it should be replaced.



PBFR-32 REPLACEMENT ROLLER WITH BOX



REPLACING THE PBFR-32 ON THE PBFR UNIT



PBFR-32 REPLACEMENT ROLL



The PBFR-33 Felt Wick feeds the ink directly to the roller surface and will also become clogged and worn along with the roller. It should be replaced when you replace the roller.

1-1/2" DIAMETER PRESS BUTTON FOUNTAIN ROLLER	
STOCK NO.	DESCRIPTION
PBFR-32	REPLACEMENT ROLLER IN DISPLAY BOX
PBFR-33	REPLACEMENT FELT WICKS (AVAILABLE IN DOZENS ONLY)

The Universal Roll-A-Stencil Jr. Ink Pad Boxes were designed to ink the JR. Roller Systems. These boxes are manufactured from enameled steel and have a hinged lid which closes tightly to prevent solvent evaporation.

The **JR-50** pad box assembly contains a foam pad for use with **alcohol base** stencil ink.

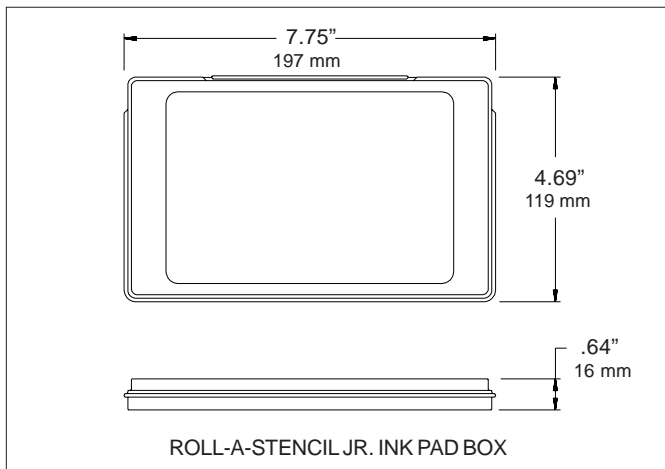
The **JR-50P** pad box assembly contains a foam pad for use with **petroleum base** stencil ink.

Universal's Jr. Handle Frame Assemblies are manufactured from aircraft grade aluminum. The enameled, birch wood handles are ergonomically designed to fit comfortably in your hand and to reduce weight which prevents operator fatigue during production stenciling.

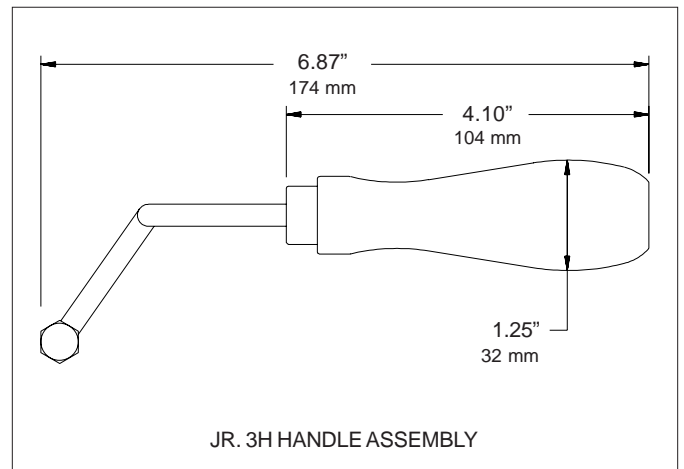


JR. INK PAD BOXES & JR. HANDLE ASSEMBLIES

The Roll-A-Stencil Jr. Replacement Handle Assemblies are available, without rollers, in three standard sizes for roller lengths of 1-1/2", 3" and 6". Custom sizes are available on a special order basis.



ROLL-A-STENCIL JR. INK PAD BOX



JR. 3H HANDLE ASSEMBLY

The Jr. Handle Assembly and Jr. Pad Box components can be purchased separately.

JR. PAD BOXES & JR. HANDLE ASSEMBLIES	
STOCK NO.	DESCRIPTION
JR-50	INK PAD BOX WITH A TYPE D FOAM PAD FOR TYPE D & M (ALCOHOL BASE) INKS ONLY
JR-50P	INK PAD BOX WITH A TYPE P FOAM PAD FOR (PETROLEUM BASE) INKS ONLY
JR-1.5H	1-1/2" JR. HANDLE ASSEMBLY
JR-3H	3" JR. HANDLE ASSEMBLY
JR-6H	6" JR. HANDLE ASSEMBLY

Universal offers the finest line of manual and automatic coding systems on the market today. We have made a long-term commitment to provide the ultimate in quality and dependability in our contact coding machines. While many of our competitors have shifted their total development efforts toward ink jet technology as the only solution to coding problems, our research and development efforts have produced coding solutions that are, in many cases, not only more cost effective but often far superior in performance.

Ink jet technology has certainly taken the forefront in applications requiring time coding and consecutive numbering but the practicality of using ink jet to apply static date and product codes is questionable. A typical ink jet system will be 2-12 times the cost of a standard contact coding system. Contact coding not only requires far less capital investment but, in most cases, results in superior print quality, substantial savings in ink and long-term maintenance costs.

The Universal line of contact coding systems include Hand Printers for applications requiring coding portability, Reciprocating coders for applying codes to small parts where roll coders cannot be used, a wide selection of both porous and non-porous roll coders for conveyed products and web printing and low pressure, atomizing spray markers for non-contact application of color codes. Each of our coders are described in detail in the following sections. Some basic application parameters must be considered in order to determine which coding system is best suited for your application. The following information will be useful in making this determination.

ROLL CODERS

Roll Coders include a wide range of contact coding systems which are characterized by cylindrical print drums which hold rubber printing dies. The print drums on these coders are friction driven, usually by a pair of rubber friction bearer rings which ride on the surface of the product being marked. The inking system on a typical roll coder is usually an ink roller which is mounted tangent to the print drum. As the printing dies are rotated past the ink roll, a thin film of ink is applied to the surface of the dies and then it is transferred to the surface of the product. In essence, this form of coding can be defined as rotary rubber stamping and anything from simple dates and product codes to elaborate logos can be applied by this method. Roll coders are available in a variety of styles and sizes and are typically used for marking flat surfaced, conveyed products such as corrugated cartons, lumber, paper products and both porous and non-porous continuous web materials.

INDEXING AND NON-INDEXING ROLL CODERS

Roll coders are available in two basic types, Indexing and Non-Indexing, which refer to the mechanical operating characteristics of the print drums. The print drum on an indexing roll coder contains a spring mechanism which returns the print drum to the same relative position after each mark is applied. A typical application for an indexing roll coder would be to apply codes to corrugated cartons which are being transported on a power driven conveyor belt. The advantage of an indexing roll coder over a non-indexing type is the ability of the indexing machine to apply the code in the same position, relative to the leading edge of the carton. A small space or gap between cartons is required for the indexing mechanisms to operate properly. The amount of space required between cartons is largely dependent on conveyor line speed and the circumference of the print drum relative to the carton length. Generally speaking, a faster conveyor normally requires a larger space between cartons. A general rule of thumb is to allow a 6" space between cartons at 60 feet per minute conveyor speed.

The print drums on non-indexing roll coders rotate freely on their bearings and will stop at random positions when they disengage from the product. Non-Indexing machines are normally used to apply codes to continuous web materials or cartons being transported on a conveyor belt where no space between cartons exist. In these applications, registering a single code print on each carton is not possible and therefore codes are normally printed multiple times on each product at random positions to ensure that at least one full code is applied. If the circumference of the print drum is more than half the length of the carton side being printed, duplicate printing dies are normally mounted on the print drum to ensure a full code print on each carton.

In order to apply codes in the appropriate location on a product, Roll Coders must be mounted in the correct position relative to the products movement on the conveyor or web transport equipment. With the exception of coders designed to be field convertible, the proper mounting configuration for the coder must be determined prior to purchase using the following criteria.

The mounting configuration for all Universal coders is determined by viewing the production line with the product moving away from you. A side mount machine is designed to print on the vertical sides of a product. A top mount machine is designed to print on the horizontal top surface of a product. The specific mounting configurations are shown below, (Figure 1) for Side Mount machines and (Figure 2) for Top Mount machines.

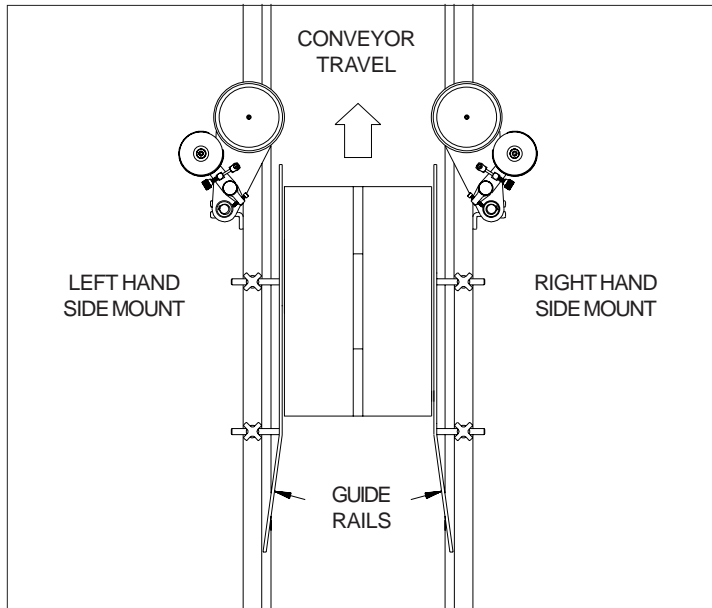


FIGURE 1

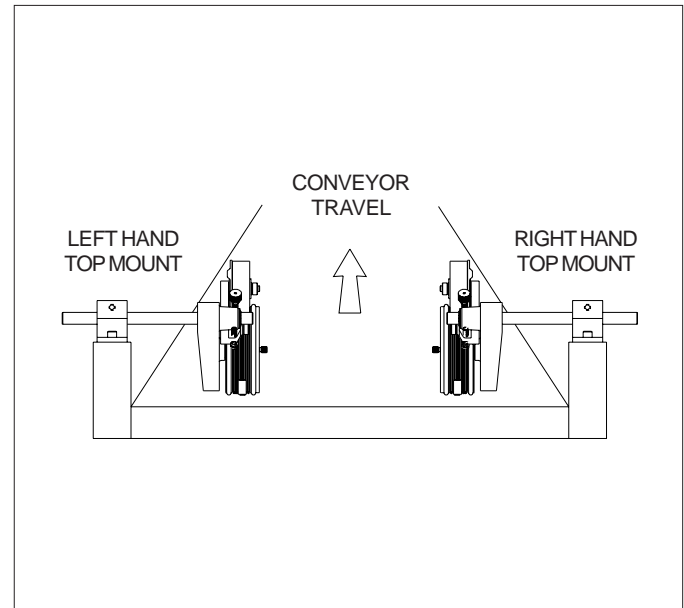


FIGURE 2

SELECTING AN APPROPRIATE SIZE ROLL CODER FOR THE APPLICATION

Roll Coders are available in many sizes and careful consideration must be given to the specific application when making a selection. The first consideration in carton printing applications is the size of the carton being marked and the character size and length of code required. It is very important to understand that the product being marked with a friction driven coder must be capable of rotating the print drum through friction contact with the coders bearer rings. In most cases, this means that the carton must be of adequate weight to rotate the print drum without slipping or skidding on the conveyor belt. Indexing coders normally require more force to rotate the print drums than non-indexing coders since the spring indexing mechanisms produce resistance to rotation.

Although a roll coder with a small print drum can be used to print on carton panels with lengths many times the print drum circumference, in most applications, the panel of the carton being printed should be at least two-thirds the print drum circumference. This is particularly important with indexing coders since the print drums must be positively rotated by the product at least 50% or more of the circumference length in order for the spring return mechanisms to work properly. Conveyor line speed will also affect the performance of indexing coders. In applications where conveyor speed is very slow, the carton panel being printed should be of adequate size to drive the print drum through a full 360 degree rotation of the print drum or more for proper indexing action since print drum inertia is reduced at lower line speeds.

Roll coders are also available in various print drum widths which relate to the capacity to hold larger character sizes or multiple lines of characters. For best print quality, it is generally preferable to use the smallest acceptable character size for the job (down to 1/4" character height) and the least number of lines of code possible. Larger and bolder character sizes and multiple lines of text code will always require greater printing pressure and a much more rigid carton surface than a single line of a smaller character, lighter type face code. Ink consumption rates are also greatly increased by using large, bold type styles or logos. Keep in mind that a 1/4" character code is easily readable from a reasonable distance and in most cases is very easy to apply to the average carton surface with a 1" print width coder.

Selecting a coder with a wider than necessary print width is not recommended since wider friction bearer spacing also requires a more rigid carton surface. It is therefore recommended that the coder selected for the printing application should have the smallest acceptable print width possible for best results.

Small circumference print drums such as those on Universal Mini-Coders and Hand Printers have a much greater curvature on the face of the print drum than larger machines. Since the printing dies must conform to this curvature, it is generally recommended that the character sizes used on these machines be limited to approximately 5/8" height characters which have a narrow character width and will more easily conform to the curvature of the print drum surface. If larger than 5/8" height characters must be used on the Hand Printers and Mini-Coders, it is recommended that a narrow (condensed) type style is used to minimize the width of the characters. Universal's larger Conveyor Line Printers which have a print drum circumference of approximately 18" can handle character sizes of 1" or more and are available in print widths up to 4" but the same rule of thumb applies to these machines. More lines of text and larger, bolder character sizes will require greater printing pressure and a more rigid carton surface for good quality print.

CARTON ALIGNMENT ON THE CONVEYOR LINE

Regardless of how much money you spend on a conveyor line coding system, the single most important factor in achieving good print quality is proper carton alignment. Whether you use contact roll coders or ink jet coding systems, improper carton alignment will definitely result in poor print quality and poor print registration. The use of guide rails on the conveyor line, immediately upstream of the printing station, is imperative for good results.

Commercial quality guide rail components are available from a number of manufacturers or they can be fabricated from very inexpensive materials. The basic function of a guide rail is to accurately align the cartons on the conveyor belt and guide them past the coding system in the same position each time. Proper carton alignment not only ensures uniform printing pressure but it also ensures accurate print registration, prevents excessive wear of the bearer rings and printing dies and protects the coding system from possible damage (See Figure 3).

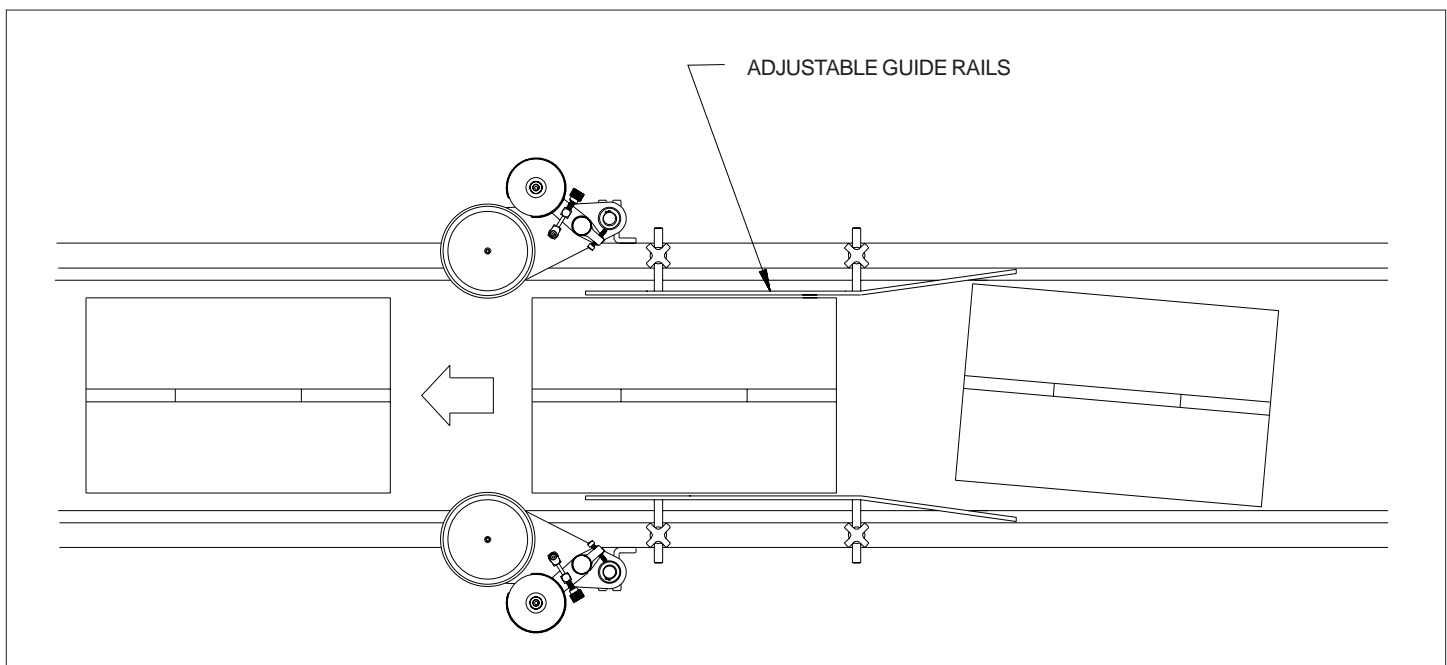


FIGURE 3

WEB PRINTING APPLICATIONS

Applications which require printing on any continuous roll or extruded material such as rolls of paper or plastic film is classified as "web printing". Only non-indexing coders are used for these applications since the friction bearers on the coder print drum remain in constant contact with the material. Although standard coders designed for porous surface printing can be used in some of these applications, Universal's Non-Porous Coders are specifically designed for web printing applications and offer some distinct advantages over conventional coders.

In a typical web printing application, the material is traveling at a relatively high rate of speed and the printed codes are required to dry very rapidly to prevent smearing or transfer of ink when the web is re-rolled. Universal's patented Non-Porous Coders use a proprietary inking system design which applies an extremely thin film of ink to the face of the printing dies. After the code is transferred to the web material, this thin film of ink dries very rapidly.

When printing on continuous web materials, it is best to mount the coder tangent to an idler roll as shown in (Figure 4). The idler roll not only ensures accurate control of the material but it also provides the best support for the required printing pressure.

In web printing applications, the rubber friction bearers on the coder's print drum remain in constant contact with the web material. When one printing die is mounted on the coder, the code will be printed on the web repeatedly at intervals equal to the circumference of the print drum. If closer print spacing is required, duplicate sets of printing dies can be mounted on the print drum to achieve the required print repeat interval.

It is important to note that with contact coding, code prints will be applied at random positions relative to any preprinted text or graphics on the web material. Printing the codes at registered positions is not possible with these machines.

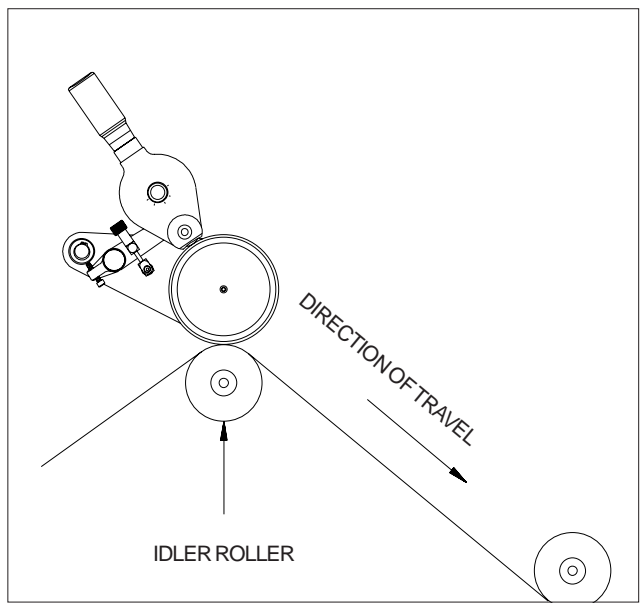


FIGURE 4

When printing on plastic films using #100 alcohol base inks, Universal's Non-Porous Coders will apply marks which dry in as little as 2 seconds at 75 degree Fahrenheit ambient temperature and low humidity. Alcohol base inks dry faster at higher ambient or web temperatures and slower at lower temperatures. High humidity conditions will also retard the drying time of the inks. Please contact our Engineering Department for assistance with specific web printing applications.

MOUNTING BRACKETS

Although they are not always shown in the following coder sections, all of Universal's roll coders are supplied with anodized aluminum mounting brackets. The mounting brackets supplied (See Figure 5) are easily installed on most conveyor lines or other parent equipment. These brackets provide a rigid mounting base for the coder and facilitate fast adjustment of the coder position when changes are required. For coders which have to be used in multiple locations, additional mounting brackets can be ordered separately using stock number CLP-MBA.

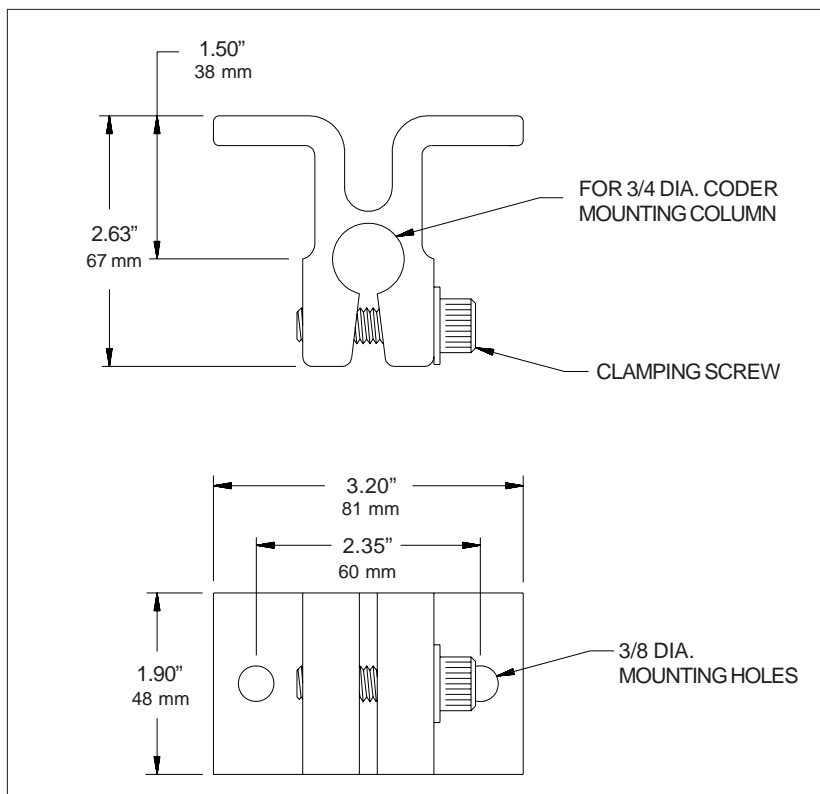


FIGURE 5



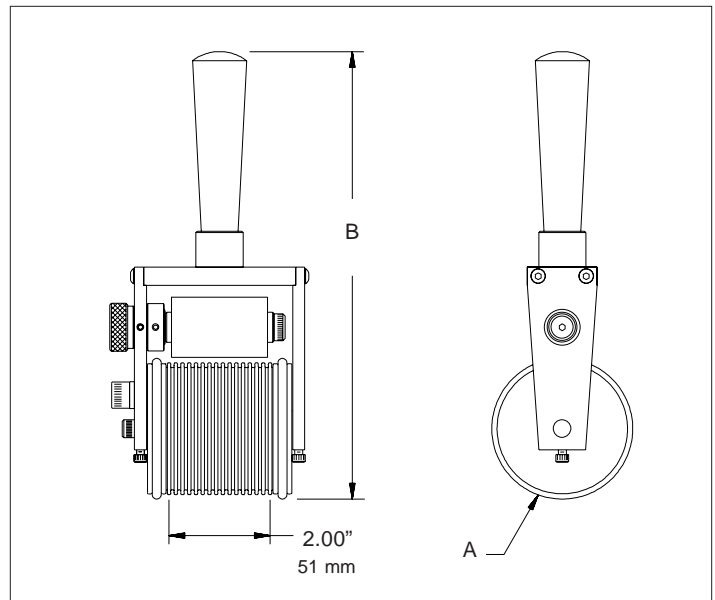
MODEL SHOWN: HP-200

Universal Hand Printers are designed for an efficient, manual application of date codes and other shipping and handling data, making them ideal for use in the warehouse or shipping room where automatic coding is not possible. These lightweight hand coders are manufactured with anodized aircraft grade aluminum frames, sealed ball bearings and have an eccentric knob for adjusting the ink roller contact to the die face.

Standard features include a print drum for use with Universal RIBtype® rubber type and a dry Microcell ink roll. XF Neoprene and Standard Neoprene ink rolls are optional. These units are designed for use with Universal #1150 Coder Ink.

UNIVERSAL POROUS HAND PRINTERS	
STOCK NO.	DESCRIPTION
HP-100NI	SMALL NON-INDEXING HAND PRINTER
HP-200NI	LARGE NON-INDEXING HAND PRINTER
HP-200	LARGE INDEXING HAND PRINTER

Custom sizes are available for special applications. Please contact our Engineering Department for application assistance.



POROUS HAND PRINTER SPECIFICATIONS				
CODER SERIES	NET WEIGHT	PRINT DRUM CIRCUMFERENCE "A"	LENGTH "B"	MAXIMUM DIE SIZE - US STANDARD & METRIC
HP-100NI	1 LB. 6 OZ. (.62 KG.)	6.5" (165 MM) MEASURED AT DIE FACE	8.4" (213 MM)	(US STANDARD) 2"-15 RIBS X 5-9/16" LONG (METRIC CODERS ONLY) 50.8MM -14 RIBS X 141.3 LONG
HP-200NI	1 LB. 11 OZ. (.77 KG.)	9.1" (231 MM) MEASURED AT DIE FACE	9.3" (236 MM)	(US STANDARD) 2"-15 RIBS X 8-3/8" LONG (METRIC CODERS ONLY) 50.8MM -14 RIBS X 212.7MM LONG
HP-200	1 LB. 10.5 OZ. (.75 KG.)	9.1" (231 MM) MEASURED AT DIE FACE	9.3" (236 MM)	(US STANDARD) 2"-15 RIBS X 8-3/8" LONG (METRIC CODERS ONLY) 50.8MM -14 RIBS X 212.7MM LONG

Note: The porous Hand Printer is not recommended for regular usage with alcohol based inks.

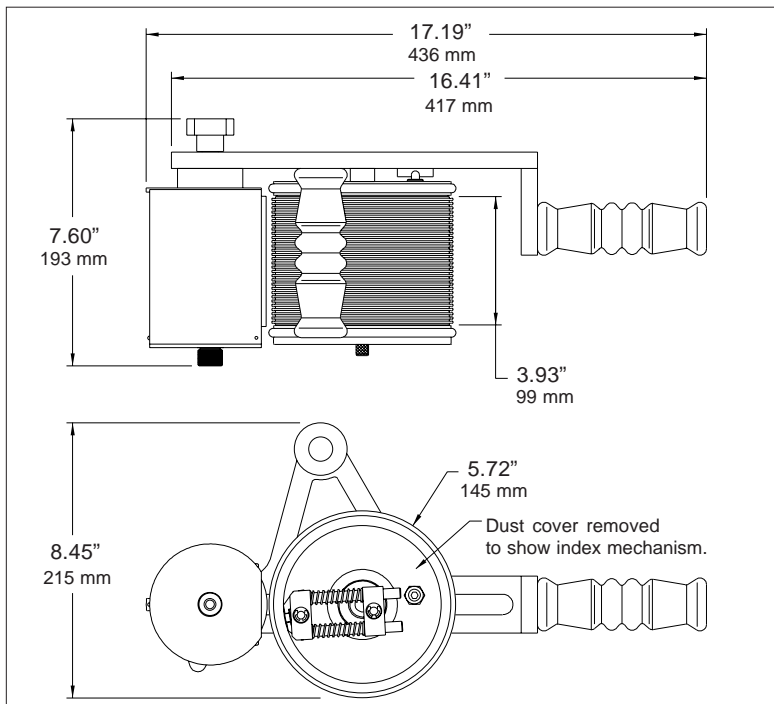


MODEL SHOWN: HPL-400 INDEXING PRINTER

Universal's Large Capacity Porous Hand Printers provide the same large print area capabilities of our standard Conveyor Line Printer where automatic coding is not possible. These hand held coders are designed for marking on cardboard and other porous materials in the shipping room or the warehouse with Universal #1150 coder ink.

Non-indexing Hand Printers continuously print at repeat intervals equal to the drum circumference. The print drum on the indexing printer returns to the same start position after each rotation, allowing for accurate print registration.

POROUS LARGE HAND PRINTERS INDEXING MODELS		POROUS LARGE HAND PRINTERS NON-INDEXING MODELS	
STOCK NO.	DESCRIPTION INDEXING MODELS	STOCK NO.	DESCRIPTION NON-INDEXING MODELS
HPL-100	1-1/8" INDEXING LARGE HAND PRINTER	HPL-100NI	1-1/8" NON-INDEXING LARGE HAND PRINTER
HPL-200	2" INDEXING LARGE HAND PRINTER	HPL-200NI	2" NON-INDEXING LARGE HAND PRINTER
HPL-300	3" INDEXING LARGE HAND PRINTER	HPL-300NI	3" NON-INDEXING LARGE HAND PRINTER
HPL-400	4" INDEXING LARGE HAND PRINTER	HPL-400NI	4" NON-INDEXING LARGE HAND PRINTER



HPL-400 INDEXING PRINTER

Heavy duty construction includes an anodized aircraft aluminum frame, stainless steel axles, sealed ball bearings and an ink roll contact adjustment feature.

These coders are available in 4 standard print widths all with 18" circumference print drums. Included with each coder is a re-inkable dry XF Neoprene Ink Roll and a print drum for use with Universal RIBtype® rubber type.

For special applications, a variety of other inks are available for use with the re-inkable XF Neoprene ink roll, which is compatible with both porous and non-porous inks.

POROUS LARGE HAND PRINTER SPECIFICATIONS				
CODER SERIES	NET WEIGHT	MAXIMUM DIE SIZE METRIC CODERS ONLY	MAXIMUM DIE SIZE US STANDARD	PRINT DRUM CIRCUMFERENCE MEASURED AT DIE FACE
HPL-100	6.1 LBS. (2.8 KG.)	25.4 MM (7 RIBS) X 430.2 MM LENGTH	1" (7 RIBS) X 16-15/16" LENGTH	APPROXIMATELY 18" (457 MM)
HPL-200	6.9 LBS. (3.1 KG.)	49.2 MM (13 RIBS) X 430.2 MM LENGTH	1-15/16" (14 RIBS) X 16-15/16" LENGTH	APPROXIMATELY 18" (457 MM)
HPL-300	8 LBS. (3.6 KG.)	74.6 MM (20 RIBS) X 430.2 MM LENGTH	2-15/16" (21 RIBS) X 16-15/16" LENGTH	APPROXIMATELY 18" (457 MM)
HPL-400	9.1 LBS. (4.1 KG.)	100 MM (27 RIBS) X 430.2 MM LENGTH	3-15/16" (29 RIBS) X 16-15/16" LENGTH	APPROXIMATELY 18" (457 MM)

Universal Mini-Coders are designed for applications which require printing a small amount of code data on cartons or other flat surface materials. The unique inverted design enables the non-indexing Mini-Coder to print within 1/2" of the conveyor belt and the indexing models will print within 1-1/8" of the conveyor belt.

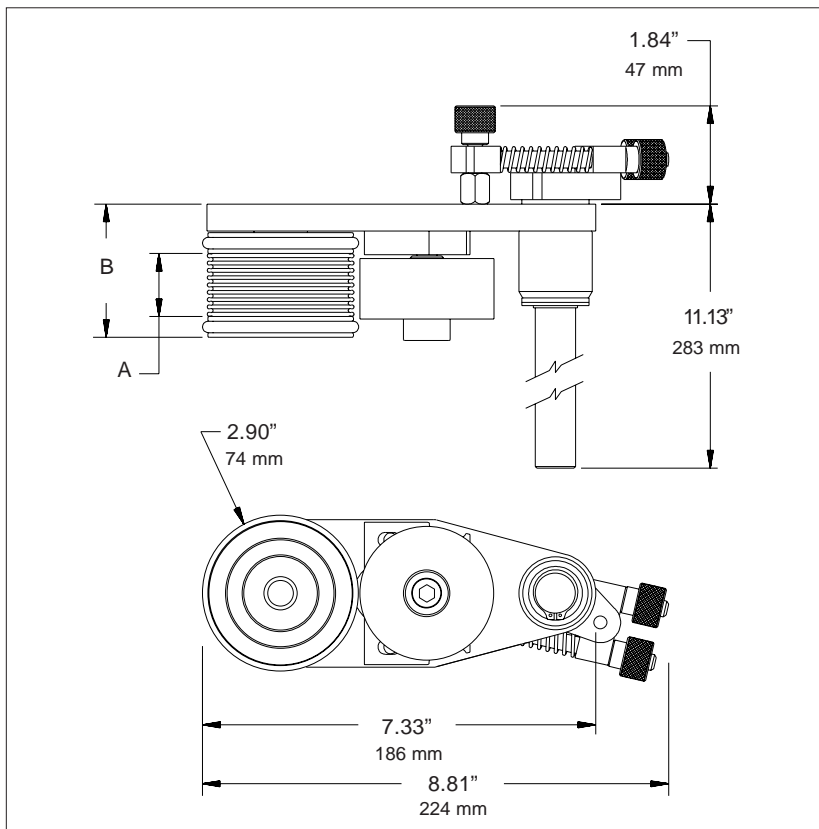
Our patented dual compression spring tension mechanism allows the unit to be installed on either side of the conveyor line without modification.

The standard machine has an anodized aluminum mounting bracket, a print drum for use with Universal RIBtype® rubber type and is supplied with a dry Microcell ink roll. XF Neoprene and Standard Neoprene ink rolls are optional.

Universal's Reservoir Ink Cartridges plug right into the Mini-Coder for convenient, automatic **re-inking** of the ink roll.



MODEL SHOWN: MC-10NI



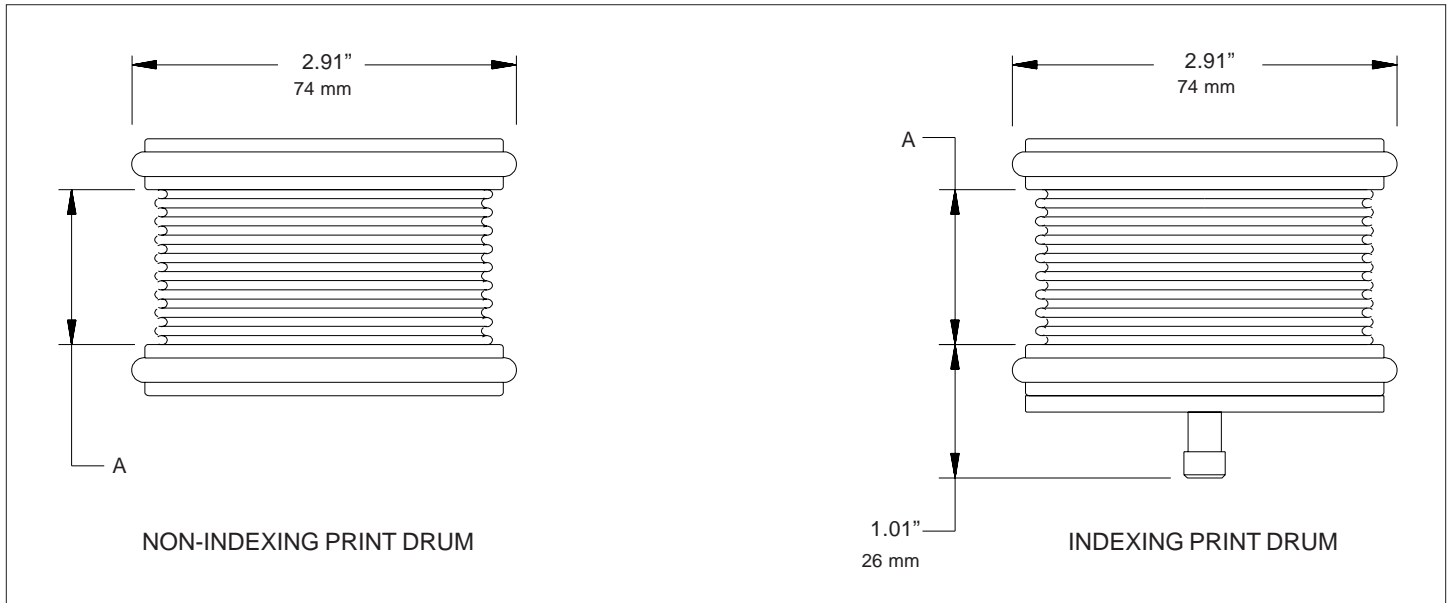
To make type changes easy, all Mini-Coders are equipped with Quick Change Print Drums.

Additional print drums are available to facilitate off-line code changes without stopping production.

POROUS MINI-CODER SPECIFICATIONS

CODER SERIES	NET WEIGHT	MAXIMUM DIE SIZE US STANDARD	MAXIMUM DIE SIZE METRIC CODERS ONLY	PRINT DRUM CIRCUMFERENCE MEASURED AT DIE FACE
MC-10NI	4LB.- 12OZ. (2.15 KG.)	1" (8 RIBS) X 8-3/8" LONG	25.4MM (7 RIBS) X 212.7 MM LONG	APPROXIMATELY 9.1" (231MM)
MC-10	5LB. (2.27 KG.)	1" (8 RIBS) X 8-3/8" LONG	25.4 MM (7 RIBS) X 212.7 MM LONG	APPROXIMATELY 9.1" (231MM)
MC-20NI	5LB.- 20Z. (2.32 KG.)	1-15/16" (15 RIBS) X 8-3/8" LONG	49.2MM (14 RIBS) X 212.7 MM LONG	APPROXIMATELY 9.1" (231MM)
MC-20	5LB.- 7OZ. (2.15 KG.)	1-15/16" (15 RIBS) X 8-3/8" LONG	49.2MM (14 RIBS) X 212.7 MM LONG	APPROXIMATELY 9.1" (231MM)

Indexing Mini-Coders have an external spring mechanism which returns the print drum to the same starting position after each print thus enabling the operator to precisely adjust the print registration on the product. Since the spring mechanism on indexing models extends 5/8" below the bottom of the print drums, these units can print no closer than 1-1/8" of the conveyor belt. See diagram below.



UNIVERSAL POROUS MINI-CODERS WITH QUICK CHANGE PRINT DRUMS				
STOCK NO.	DESCRIPTION	PRINT DRUM CIRCUMFERENCE	DIMENSION "A"	DIMENSION "B"
MC-10NI	1-1/8" NON-INDEXING CODER	9.1" (231 MM)	1.125" (28.5 MM)	2.49" (63 MM)
MC-10	1-1/8" INDEXING CODER	9.1" (231 MM)	1.125" (28.5 MM)	3.11" (79 MM)
MC-20NI	2" NON-INDEXING CODER	9.1" (231 MM)	2" (50.8 MM)	3.54" (90 MM)
MC-20	2" INDEXING CODER	9.1" (231 MM)	2" (50.8 MM)	4.16" (106 MM)

If your printing operation requires frequent code changes and time is of the essence, code changes as fast as 5 seconds can be accomplished using Universal's Quick Change Print Drum Assemblies. Production codes can be set up off-line on the spare drum and when it's time to change codes, simply pull the active print drum off the coder and slip on the replacement. A stainless steel spring plunger holds the drum in place so no tools are required for the changeover.

POROUS MINI-CODER SPARE QUICK CHANGE PRINT DRUM ASSEMBLIES		
STOCK NO.	DESCRIPTION	PRINT WIDTH "A"
MC-10NI-PDA	1-1/8" NON-INDEXING PRINT DRUM ASSEMBLY	1.125" (28.5 MM)
MC-10-PDA	1-1/8" INDEXING PRINT DRUM ASSEMBLY	1.125" (28.5 MM)
MC-20NI-PDA	2" NON-INDEXING PRINT DRUM ASSEMBLY	2" (50.8 MM)
MC-20-PDA	2" INDEXING PRINT DRUM ASSEMBLY	2" (50.8 MM)

Note: All Quick Change Print Drum Assemblies come complete with Bearings, Bearer Rings & Ribtype Drum Covers. Indexing Print Drum Assemblies also include Drum Caps for indexing mechanism.

Universal's line of Midsize Coders establish a new standard of quality and versatility in contact coding systems. The unique modular design of these machines provides the flexibility to adapt the coder to a wider range of applications than any other system on the market. To provide unsurpassed durability, the frames and print drums on these coders are precision machined from solid aircraft aluminum.

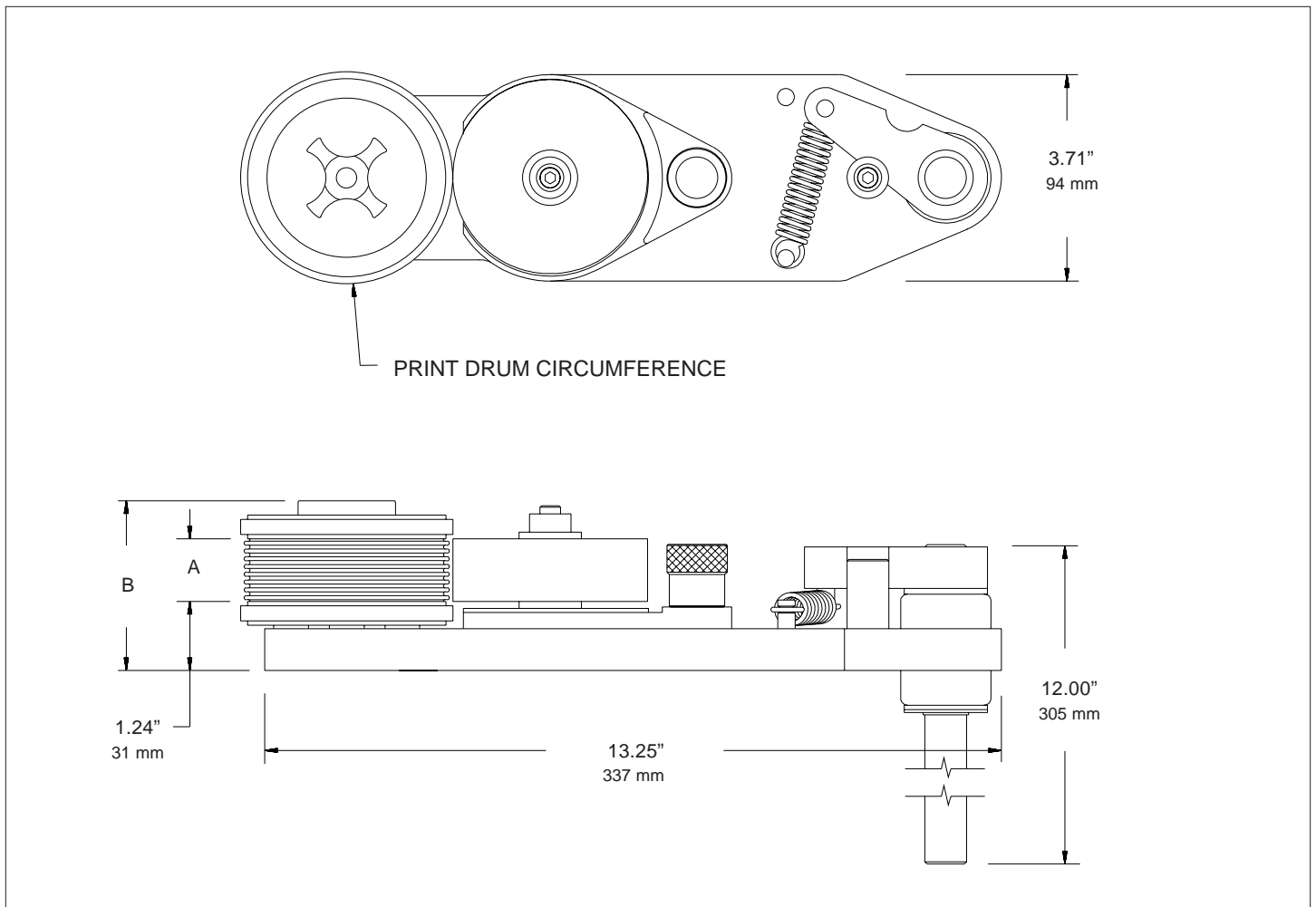
Porous Midsize Coders are offered in 12", 15" & 18" circumference print drum models for more accurate matching of the coder to the carton size. The long frame design and extended deflection capability add to the machine's versatility. When fitted with the optional Reservoir Inking System Cover assembly, the ink rolls are re-inked automatically during the printing operation.



MODEL SHOWN: MS-120 RIGHT HAND SIDE MOUNT
SHOWN WITH OPTIONAL MS-RRC1 COVER

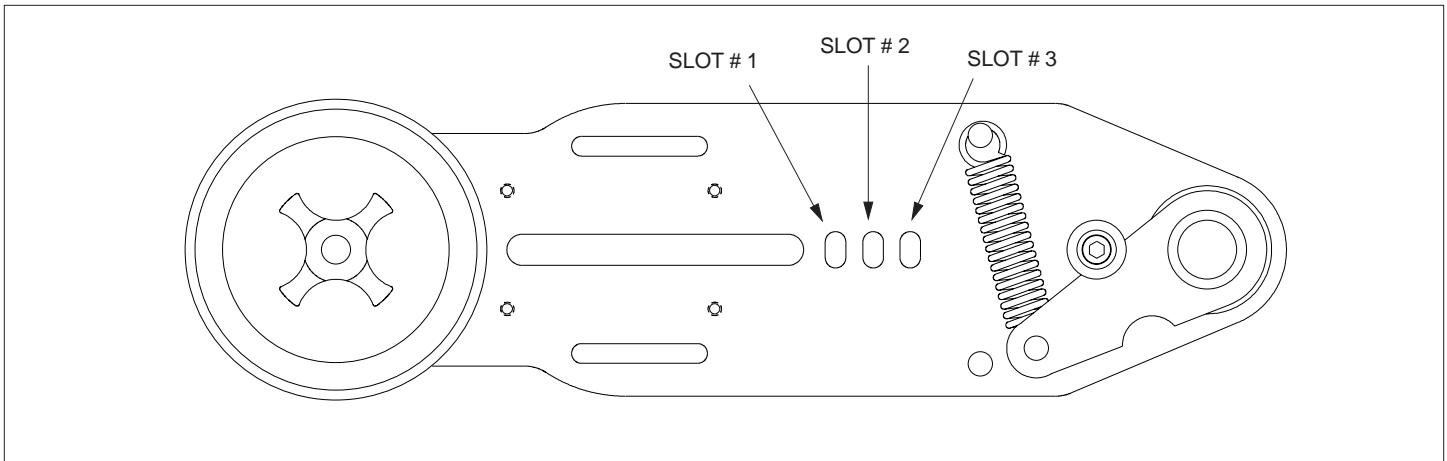
These coders can be ordered for either right-hand or left-hand mounting configuration and are easily field converted if mounting requirements change. The innovative print drum indexing mechanism on these coders was designed to provide both fast response and positive indexing on cartons as short as 55% of the print drum circumference.

All porous models of the Midsize Coder come complete with a dry Microcell Ink Roll and print drums which accommodate Universal's RIBtype® rubber type. XF Neoprene and Standard Neoprene ink rolls are optional. Recommended for use with #1150 Porous Coder Inks.



UNIVERSAL POROUS MIDSIZE CODERS				
STOCK NO.	DESCRIPTION	PRINT DRUM CIRCUMFERENCE	PRINT WIDTH "A"	DIMENSION "B"
MS-120NI	1-1/8" NON-INDEXING MIDSIZE CODER	12" (305 MM)	1.125" (28.5 MM)	3.05" (77.47 MM)
MS-120	1-1/8" INDEXING MIDSIZE CODER	12" (305 MM)	1.125" (28.5 MM)	3.05" (77.47 MM)
MS-150NI	1-1/8" NON-INDEXING MIDSIZE CODER	15" (381 MM)	1.125" (28.5 MM)	3.05" (77.47 MM)
MS-150	1-1/8" INDEXING MIDSIZE CODER	15" (381 MM)	1.125" (28.5 MM)	3.05" (77.47 MM)
MS-180	1-1/8" INDEXING MIDSIZE CODER	18" (146 MM)	1.125" (28.5 MM)	3.05" (77.47 MM)
MS-180NI	1-1/8" INDEXING MIDSIZE CODER	18" (146 MM)	1.125" (28.5 MM)	3.05" (77.47 MM)
MS-220NI	2" NON-INDEXING MIDSIZE CODER	12" (305 MM)	2" (50.8 MM)	3.66" (93 MM)
MS-220	2" INDEXING MIDSIZE CODER	12" (305 MM)	2" (50.8 MM)	3.66" (93 MM)
MS-250NI	2" NON-INDEXING MIDSIZE CODER	15" (381 MM)	2" (50.8 MM)	3.66" (93 MM)
MS-250	2" INDEXING MIDSIZE CODER	15" (381 MM)	2" (50.8 MM)	3.66" (93 MM)
MS-280	2" INDEXING MIDSIZE CODER	18" (146 MM)	2" (50.8 MM)	3.66" (93 MM)
MS-280NI	2" NON-INDEXING MIDSIZE CODER	18" (146 MM)	2" (50.8 MM)	3.66" (93 MM)

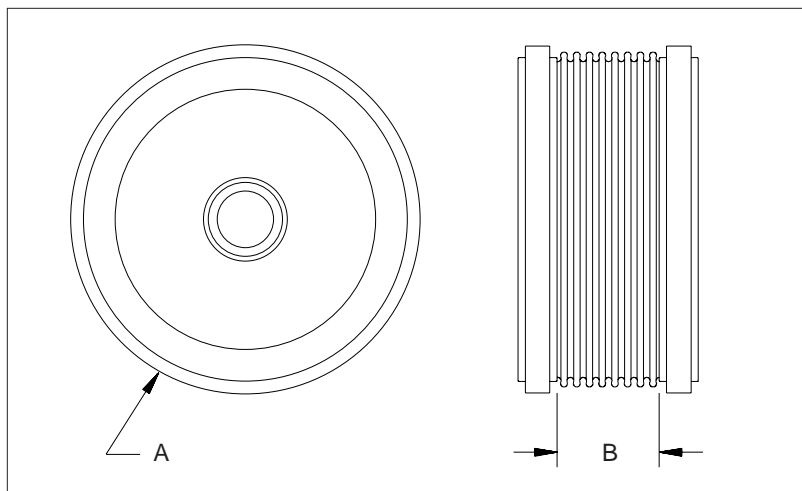
POROUS MIDSIZE CODER SPECIFICATIONS				
CODER SERIES	NET WEIGHT	MAXIMUM DIE SIZE US STANDARD	MAXIMUM DIE SIZE METRIC CODERS ONLY	PRINT DRUM CIRCUMFERENCE MEASURED AT DIE FACE
MS-120NI	7LB.- 30Z. (3.26 KG.)	1" (7 RIBS) X 11-3/8" LONG	25.4MM (7 RIBS) X 288.9 MM LONG	APPROXIMATELY 12" (305MM)
MS-150NI	7LB.- 80Z. (3.40 KG.)	1" (7 RIBS) X 14-1/4" LONG	25.4MM (7 RIBS) X 362 MM LONG	APPROXIMATELY 15" (381MM)
MS-180NI	8LB.- 10Z. (3.67 KG.)	1" (7 RIBS) X 16-15/16" LONG	25.4MM (13 RIBS) X 430.2 MM LONG	APPROXIMATELY 18" (457MM)
MS-220NI	7LB.-10.50Z. 3.47 KG.)	1-15/16" (14 RIBS) X 11-3/8" LONG	49.2MM (13 RIBS) X 288.9 MM LONG	APPROXIMATELY 12" (305MM)
MS-250NI	7LB.- 150Z. (3.60 KG.)	1-15/16" (14 RIBS) X 14-1/4" LONG	49.2MM (13 RIBS) X 362 MM LONG	APPROXIMATELY 15" (381MM)
MS-280NI	8LB.- 100Z. (3.74 KG.)	1-15/16" (14 RIBS) X 16-15/16" LONG	49.2MM (13 RIBS) X 430 MM LONG	APPROXIMATELY 18" (457MM)



As of January 1, 2011, the coder baseplate was lengthened slightly and a 3rd slot was added to allow positioning of the inking system to accommodate an 18" circumference print drum. Slot #1 is for a 12" print drum and slot #2 is for the 15" print drum.

If your printing operation requires frequent code changes and time is of the essence, code changes as fast as 10 seconds can be accomplished using Universal's Quick Change Print Drum Assemblies. Production codes can be set up off-line on the spare drum and when it's time to change codes, simply unscrew the print drum knob, pull the active print drum off the coder and slip on the replacement.

POROUS MIDSIZE CODER SPARE QUICK CHANGE PRINT DRUM ASSEMBLIES			
STOCK NO.	DESCRIPTION	CIRCUMFERENCE "A"	PRINT WIDTH "B"
MSC-120-PDA	1-1/8" PRINT DRUM ASSEMBLY	12" (305 MM)	1.125" (28.5 MM)
MSC-150-PDA	1-1/8" PRINT DRUM ASSEMBLY	15" (381 MM)	1.125" (28.5 MM)
MSC-180-PDA	1-1/8" PRINT DRUM ASSEMBLY	18" (457MM)	1.125" (28.5 MM)
MSC-220-PDA	2" PRINT DRUM ASSEMBLY	12" (305 MM)	2" (50.8 MM)
MSC-250-PDA	2" PRINT DRUM ASSEMBLY	15" (381 MM)	2" (50.8 MM)
MSC-280-PDA	2" PRINT DRUM ASSEMBLY	18" (457 MM)	2" (50.8 MM)



The quick change print drum feature not only facilitates off-line code changes when spare drums are ordered but if the print applications change, the print drum size can be readily changed to accommodate the new requirements.

RESERVOIR INKING SYSTEM - OPTIONAL

Universal's patented Reservoir Inking System was designed to eliminate the task of re-inking the ink roll manually. Add the appropriate size roll cover and our 4 oz. disposable ink cartridge and this system will automatically apply ink to the ink roll during the printing operation. **(Please note that the ink roll on the coder must be pre-inked prior to installing a 4 oz. Reservoir Ink Cartridge).** Universal's Reservoir Inking System feeds ink only when the machine is actively printing, unlike gravity systems that continue to feed ink when the conveyor line is stopped,



ROLL COVERS WITH RESERVOIR SYSTEM MOUNT FOR MIDSIZE CODERS	
STOCK NO.	DESCRIPTION
MS-RRC1	SIDE MOUNT COVER - FOR MS-120,MS-150 & MS-180
MS-RRC1-LT	LEFT TOP MOUNT COVER - FOR MS-120,MS-150 & MS-180
MS-RRC1-RT	RIGHT TOP MOUNT COVER - FOR MS-120,MS-150 & MS-180
MS-RRC2	SIDE MOUNT COVER - FOR MS-220,MS-250 & MS-280
MS-RRC2-LT	LEFT TOP MOUNT COVER - FOR MS-220,MS-250 & MS-280
MS-RRC2-RT	RIGHT TOP MOUNT COVER - FOR MS-220,MS-250 & MS-280



MODEL SHOWN: CLP-100 RIGHT HAND SIDE MOUNT
SHOWN WITH OPTIONAL CLP-RRC1 COVER

Universal Conveyor Line Printers automatically print data on moving cartons and other flat surfaced materials with unsurpassed accuracy and legibility. These machines are mounted directly to the conveyor line and require no power or operator assistance to print high quality impressions thousands of times a day. Available in both indexing (spot printing) and non-indexing (continuous printing) styles.

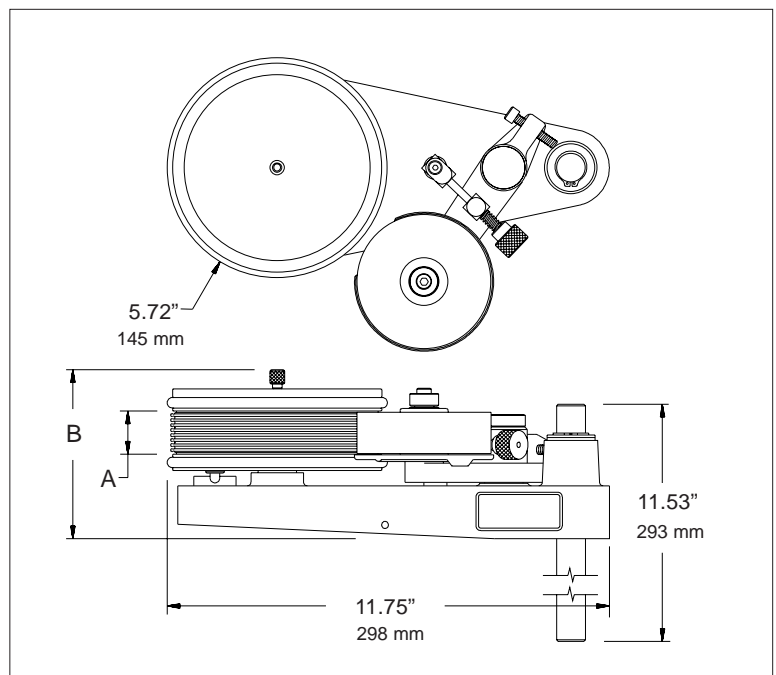
The durable construction of these machines includes a heavy duty, urethane finished cast aluminum frame, sealed ball bearings in the print drum and extensive use of stainless steel columns and shafts. The indexing models use an exclusive twin compression spring drum return mechanism which produces incredibly fast and accurate indexing action and extreme durability.

The standard Conveyor Line Printers are designed for printing on porous surfaces using Universal #1150 ink.

Standard features include, an anodized aluminum mounting bracket, a print drum for use with Universal RIBtype® rubber type and a dry ink roll.

1-1/8" & 2" standard printers come with a Microcell roll, 3" & 4" standard printers come with an XF Neoprene roll.

Although these machines are field convertible, for convenience, specify right-hand or left-hand mount when ordering.



UNIVERSAL POROUS CONVEYOR LINE PRINTERS				
STOCK NO.	DESCRIPTION	PRINT DRUM CIRCUMFERENCE	PRINT WIDTH "A"	DIMENSION "B"
CLP-100NI	1-1/8" NON-INDEXING CONVEYOR LINE PRINTER	18" (457 MM)	1.125" (28.5 MM)	4.40" (112 MM)
CLP-100	1-1/8" INDEXING CONVEYOR LINE PRINTER	18" (457 MM)	1.125" (28.5 MM)	4.40" (112 MM)
CLP-200NI	2" NON-INDEXING CONVEYOR LINE PRINTER	18" (457 MM)	2" (50.8 MM)	5.32" (135 MM)
CLP-200	2" INDEXING CONVEYOR LINE PRINTER	18" (457 MM)	2" (50.8 MM)	5.32" (135 MM)
CLP-300NI	3" NON-INDEXING CONVEYOR LINE PRINTER	18" (457 MM)	3" (76.2 MM)	6.27" (159 MM)
CLP-300	3" INDEXING CONVEYOR LINE PRINTER	18" (457 MM)	3" (76.2 MM)	6.27" (159 MM)
CLP-400NI	4" NON-INDEXING CONVEYOR LINE PRINTER	18" (457 MM)	4" (101.6 MM)	7.27" (185 MM)
CLP-400	4" INDEXING CONVEYOR LINE PRINTER	18" (457 MM)	4" (101.6 MM)	7.27" (185 MM)

POROUS CONVEYOR LINE PRINTER SPECIFICATIONS				
CODER SERIES	NET WEIGHT	MAXIMUM DIE SIZE US STANDARD	MAXIMUM DIE SIZE METRIC CODERS ONLY	PRINT DRUM CIRCUMFERENCE MEASURED AT DIE FACE
CLP-100NI	8LB.- 14OZ. (4.03 KG.)	1" (7 RIBS) X 16-15/16" LONG	25.4MM (7 RIBS) X 430.2 MM LONG	APPROXIMATELY 18" (457MM)
CLP-200NI	9LB.- 7OZ. (4.28 KG.)	1-15/16" (14 RIBS) X 16-15/16" LONG	49.2MM (13 RIBS) X 430.2 MM LONG	APPROXIMATELY 18" (457MM)
CLP-300NI	10LB.-5OZ. (4.68 KG.)	2-15/16" (21 RIBS) X 16-15/16" LONG	74.6MM (20 RIBS) X 430.2 MM LONG	APPROXIMATELY 18" (457MM)
CLP-400NI	10LB.- 15OZ. (4.96 KG.)	3-15/16" (29 RIBS) X 16-15/16" LONG	100MM (27 RIBS) X 430.2 MM LONG	APPROXIMATELY 18" (457MM)

RESERVOIR INKING SYSTEM - OPTIONAL

To eliminate the task of re-inking the ink roll manually, Universal's patented Reservoir Inking System can be used with any of the CLP series printers. Add the appropriate size roll cover and our 4 oz. disposable ink cartridges will automatically apply ink to the ink roll during the printing operation. (Please note that the ink roll on the coder must be pre-inked prior to installing a 4 oz. Reservoir Ink Cartridge). Unlike gravity systems that continue to feed ink when the conveyor line is stopped, Universal's Reservoir Inking System feeds ink only when the machine is actively printing. Figure A shows a Side Mount Roll Cover and Figure B shows a Top Mount Roll Cover.

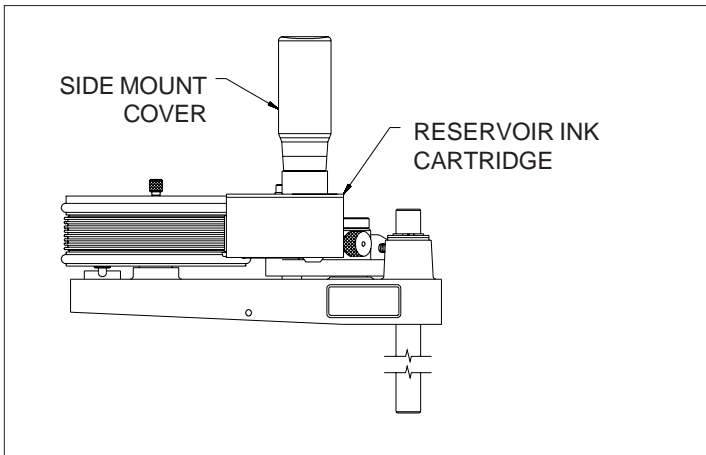


FIGURE A

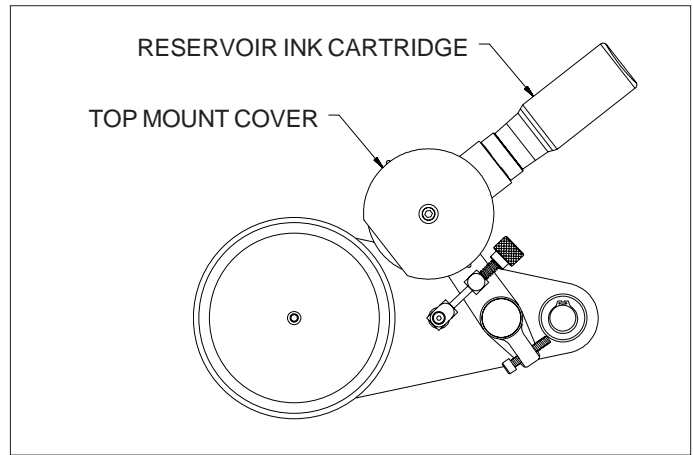


FIGURE B

ROLL COVERS W/RESERVOIR SYSTEM MOUNT FOR CONVEYOR LINE PRINTERS	
STOCK NO.	DESCRIPTION
CLP-RRC1	SIDE MOUNT COVER FOR CLP-100 SERIES PRINTERS
CLP-RRC1-T	TOP MOUNT COVER FOR CLP-100 SERIES PRINTERS
CLP-RRC2	SIDE MOUNT COVER FOR CLP-200 SERIES PRINTERS
CLP-RRC2-T	TOP MOUNT COVER FOR CLP-200 SERIES PRINTERS
CLP-RRC3	SIDE MOUNT COVER FOR CLP-300 SERIES PRINTERS
CLP-RRC3-LT	LEFT TOP MOUNT COVER FOR CLP-300 SERIES PRINTERS
CLP-RRC3-RT	RIGHT TOP MOUNT COVER FOR CLP-300 SERIES PRINTERS
CLP-RRC4	SIDE MOUNT COVER FOR CLP-400 SERIES PRINTERS
CLP-RRC4-T	TOP MOUNT COVER FOR CLP-400 SERIES PRINTERS



MODEL SHOWN: CLP-RRC1-T

POROUS CODER ROLLS**MICROCELL CODER ROLLS**

MICROCELL ink rolls are the most durable rolls available on the market today. This material is an extremely tough, hard density urethane foam which will last up to a year or more under normal conditions. It is recommended for use with **Universal #1150 Ink** or equivalent for printing on corrugated cartons and other **porous** surface materials. These rolls are **re-inkable** for maximum economy.

**HAND PRINTER MICROCELL INK ROLLS**

STOCK NO.	ROLL FACE
HP-100RM	2"

LARGE CAPACITY HAND PRINTER MICROCELL INK ROLLS

STOCK NO.	ROLL FACE
HPL-MC1	1-1/8"
HPL-MC2	2"
HPL-MC3	3"
HPL-MC4	4"

MINI-CODER MICROCELL INK ROLLS

STOCK NO.	ROLL FACE
MC-10MC	1-1/8"
MC-20MC	2"

MIDSIZE CODER MICROCELL INK ROLLS

STOCK NO.	ROLL FACE
MS-MC1	1-1/8"
MS-MC2	2"

CONVEYOR LINE PRINTER MICROCELL INK ROLLS

STOCK NO.	ROLL FACE
CLP-MC1	1-1/8"
CLP-MC2	2"
CLP-MC3	3"
CLP-MC4	4"

Color Codes: 1 = Black, 2 = Red, 3 = Green, 4 = Blue, 9 = Violet

Note: Ink rolls must be pre-inked before use with Universal's patented 4 oz. Reservoir Inking System Cartridges. To order rolls pre-inked with Universal #1150 Ink, add a "P" suffix to the stock number followed by the color code number listed below. Example: A CLP-MC2-P2 stock number designates a 2" face Microcell Roll pre-inked with Red ink.

XF NEOPRENE ink rolls are made from extra firm density foam. Although not quite as durable as Microcell, XF Neoprene rolls offer slightly higher print quality and are recommended where 3 or 4 lines of type are required. These rolls can be used with **Universal #1150 Ink** for **porous** applications. These rolls are **re-inkable** for maximum economy.



HAND PRINTER XF NEOPRENE INK ROLLS	
STOCK NO.	ROLL FACE
HP-100RX	2"

LARGE CAPACITY HAND PRINTER XF NEOPRENE INK ROLLS	
STOCK NO.	ROLL FACE
HPL-XC1	1-1/8"
HPL-XC2	2"
HPL-XC3	3"
HPL-XC4	4"

MINI-CODER XF NEOPRENE INK ROLLS	
STOCK NO.	ROLL FACE
MC-10XC	1-1/8"
MC-20XC	2"

MIDSIZE CODER XF NEOPRENE INK ROLLS	
STOCK NO.	ROLL FACE
MS-XC1	1-1/8"
MS-XC2	2"

CONVEYOR LINE PRINTER XF NEOPRENE INK ROLLS	
STOCK NO.	ROLL FACE
CLP-XC1	1-1/8"
CLP-XC2	2"
CLP-XC3	3"
CLP-XC4	4"

Color Codes: 1 = Black, 2 = Red, 3 = Green, 4 = Blue, 9 = Violet

Note: Ink rolls must be pre-inked before use with Universal's patented 4 oz. Reservoir Inking System Cartridges. To order rolls pre-inked with Universal #1150 Ink, add a "P" suffix to the stock number followed by the color code number listed below. Example: A CLP-XC2-P2 stock number designates a 2" face XF Neoprene Roll pre-inked with Red ink.

NEOPRENE ink rolls are made from soft density foam material. Because this material has a larger cell structure, it is highly recommended for use with **Pigmented Inks** for carton printing on **porous** materials. Although this material is not as durable as XF Neoprene, it provides an acceptable print quality when a lighter touch is required. These rolls are re-inkable for maximum economy.



HAND PRINTER NEOPRENE INK ROLLS	
STOCK NO.	ROLL FACE
HP-100RN	2"

MINI-CODER NEOPRENE INK ROLLS	
STOCK NO.	ROLL FACE
MC-10FC	1-1/8"
MC-20FC	2"

MIDSIZE CODER NEOPRENE INK ROLLS	
STOCK NO.	ROLL FACE
MS-FC1	1-1/8"
MS-FC2	2"

CONVEYOR LINE PRINTER NEOPRENE INK ROLLS	
STOCK NO.	ROLL FACE
CLP-FC1	1-1/8"
CLP-FC2	2"
CLP-FC3	3"
CLP-FC4	4"

Note: Ink rolls must be pre-inked before use with Universal's patented 4 oz. Reservoir Inking System Cartridges. To order rolls pre-inked with Universal Ink, add a "P" suffix to the stock number followed by the color code number listed below. Example: A CLP-FC2-P2 stock number designates a 2" face Neoprene Roll pre-inked with Red ink.

Color Codes: 1 = Black, 2 = Red, 3 = Green, 4 = Blue, 9 = Violet

U.S. Patent No. 5,109,769 - E.P. Patent No. 0508971



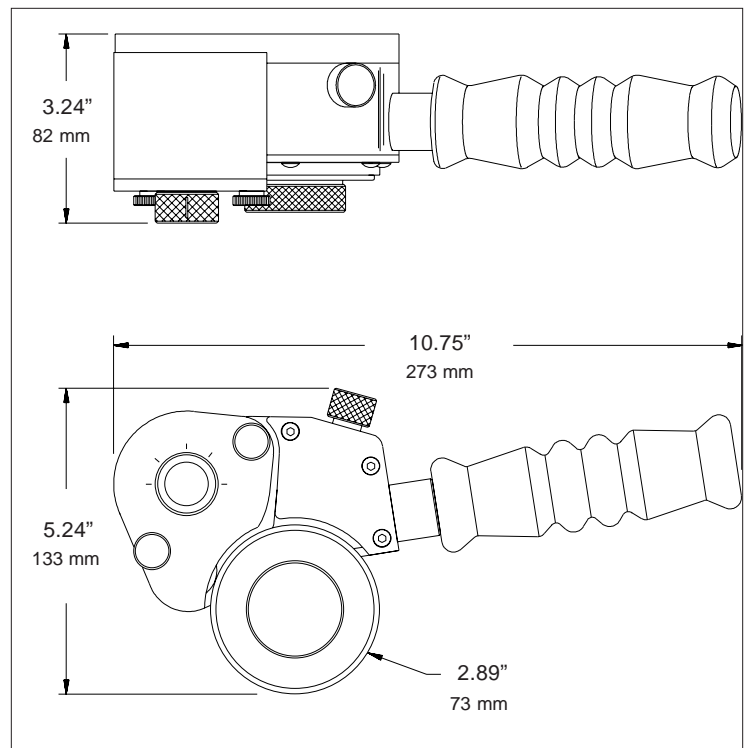
MODEL SHOWN: HPNP-100

Universal's Non-Porous Hand Printer fills the requirement for a portable, hand held roll coder. These coders are ideal for printing alloy specifications on metal sheets or printing lot numbers, date codes and product identification information on plastic, glass, rubber and any flat, non-porous surface that requires fast drying solvent based inks. The Non-Porous Hand Printer is precision machined from aircraft grade aluminum alloy with a black & gold anodized finish. A pair of sealed ball bearings provide smooth, accurate rotation of the print drum and an ergonomic foam handle grip makes the unit comfortable for use in production applications. This unit utilizes the unique technology of our patented Non-Porous Inking System which incorporates both an ink roll and a finely engraved anilox roll in a tightly sealed aluminum housing. This design effectively prevents the evaporation of solvents from the enclosed ink roll and allows the usage of inks that dry as fast as 2 seconds at 75 degree F ambient temperatures.

UNIVERSAL NON-POROUS HAND PRINTERS	
STOCK NO.	DESCRIPTION
HPNP-100NI	NON-INDEXING NON-POROUS HAND PRINTER
HPNP-100	INDEXING NON-POROUS HAND PRINTER
HPNP-100-PDA	REPLACEMENT PRINT DRUM

The Non-Porous Hand Printer is supplied with one of our new Type MT disposable ink rolls but can be ordered with the optional re-inkable XF Neoprene Ink Roll. The RIBtype® rubber type and /or logo dies are sold separately.

The HPNP-100 indexing model has a print drum cam indexing mechanism which returns the print drum to the same starting position after every part is marked. The indexing model can also be used in a non-indexing "continuous print" mode for applying repeat imprints down long lengths of material. The HPNP-100NI non-indexing model is designed for continuous print applications only but can be field upgraded with an optional indexing kit if desired. Whether indexing or non-indexing, the print drum on both models are easily removable for convenience during type setting and print registration position is easily adjustable which provides for accurate print registration on smaller parts.



NON-POROUS HAND PRINTER SPECIFICATIONS				
CODER SERIES	NET WEIGHT	MAXIMUM DIE SIZE US STANDARD	MAXIMUM DIE SIZE METRIC CODERS ONLY	PRINT DRUM CIRCUMFERENCE MEASURED AT DIE FACE
HPNP-100NI	9LB.- 8OZ. (4.31 KG.)	7/8" (8 RIBS) X 8-3/8" LONG	23.8MM (7 RIBS) X 212.7 MM LONG	APPROXIMATELY 9.1" (231MM)
HPNP-100	9LB.- 8OZ. (4.31 KG.)	7/8" (8 RIBS) X 8-3/8" LONG	23.8MM (7 RIBS) X 212.7 MM LONG	APPROXIMATELY 9.1" (231MM)



MODEL SHOWN: HPL-100NI-NP

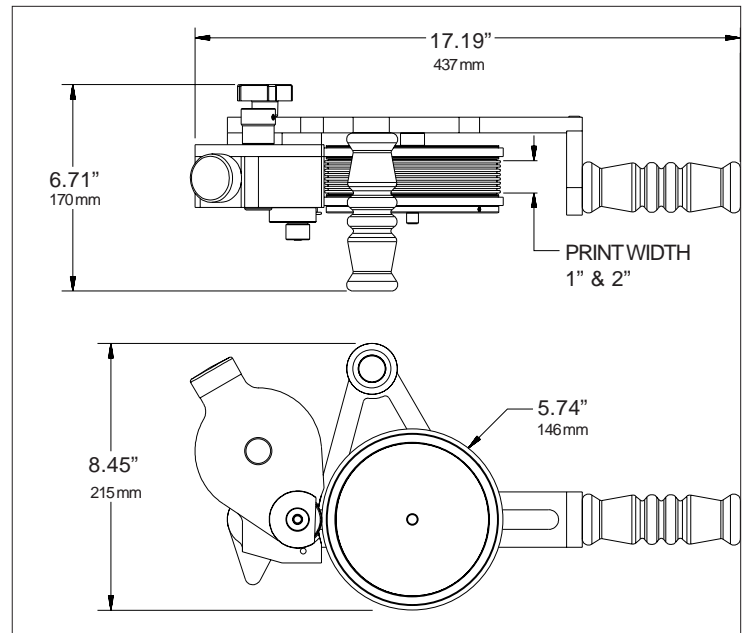
Universal's Large Capacity Non-Porous Hand Printers provide the large print area capacities in a portable, hand held roll coder, where automatic coding is not possible. These large hand held coders are designed for marking on metal, plastic, glass, rubber and other materials that require fast drying solvent based inks.

The unique technology of our patented Non-Porous Inking System allows the usage of inks that dry as fast as 2 seconds at 75 degree F. ambient temperatures. This unique system utilizes both an ink roll and an engraved anilox roll to apply ink to the rubber printing dies. The rolls are mounted in a tightly sealed aluminum housing which prevents solvent evaporation from the ink roll during use.

UNIVERSAL NON-POROUS LARGE CAPACITY HAND PRINTERS	
STOCK NO.	DESCRIPTION
HPL-100NI-NP	1-1/8" NON-INDEXING NON-POROUS HAND PRINTER
HPL-100-NP	1-1/8" INDEXING NON-POROUS HAND PRINTER
HPL-200NI-NP	2" NON-INDEXING NON-POROUS HAND PRINTER
HPL-200-NP	2" INDEXING NON-POROUS HAND PRINTER

Precision machined from aircraft grade aluminum alloy, these coders are ideal for printing specifications, lot numbers, date codes or product identification information on any flat, non-porous surface. The high quality impressions are both weather proof and fade resistant and can be applied at rates much faster than stenciling or conventional hand stamping.

On Indexing Models the print drum's unique indexing mechanism provides for accurate print registration on individual parts. Non-Indexing Models are used for repeat printing down long lengths of material such as metal sheets.



NON-POROUS LARGE CAPACITY HAND PRINTER SPECIFICATIONS				
CODER SERIES	NET WEIGHT	MAXIMUM DIE SIZE US STANDARD	MAXIMUM DIE SIZE METRIC CODERS ONLY	PRINT DRUM CIRCUMFERENCE MEASURED AT DIE FACE
HPL-100NI-NP	7LB.- 03OZ. (3.19 KG.)	7/8" (7 RIBS) X 16-15/16" LONG	23.8MM (7 RIBS) X 430.2 MM LONG	APPROXIMATELY 18" (457MM)
HPL-100-NP	7LB.- 45OZ. (3.38 KG.)	7/8" (7 RIBS) X 16-15/16" LONG	23.8MM (7 RIBS) X 430.2 MM LONG	APPROXIMATELY 18" (457MM)
HPL-200NI-NP	8LB.- 23OZ. (3.73 KG.)	1-7/8" (14 RIBS) X 16-15/16 LONG	49.2MM (13 RIBS) X 430.2 MM LONG	APPROXIMATELY 18" (457MM)
HPL-200-NP	8LB.- 65OZ. (3.92 KG.)	1-7/8" (14 RIBS) X 16-15/16 LONG	49.2MM (13 RIBS) X 430.2 MM LONG	APPROXIMATELY 18" (457MM)

U.S. Patent No. 5,109,769 - E.P. Patent No. 0508971

The Mini-Coder has a 9" print drum circumference and is available only in a 1" print width. Top Mount versions are used for printing on horizontal surfaces such as continuous web materials and Side Mount versions are used primarily for printing on the sides of cartons or other vertical surfaces. The Mini-Coder is available in both indexing and non-indexing styles.

All Non-Porous Mini-Coders are equipped with Quick Change Print Drums. Additional print drums are available to facilitate off-line code changes. (See ordering information below for extra Quick Change Print Drums.)



MODEL SHOWN: MC-10NI-NPLT

UNIVERSAL NON-POROUS MINI-CODERS	
STOCK NO.	DESCRIPTION
MC-10NI-NPLT	1" NON-INDEXING MINI-CODER - LEFT HAND TOP MOUNT
MC-10NI-NPRT	1" NON-INDEXING MINI-CODER - RIGHT HAND TOP MOUNT
MC-10NI-NPLS	1" NON-INDEXING MINI-CODER - LEFT HAND SIDE MOUNT
MC-10NI-NPRS	1" NON-INDEXING MINI-CODER - RIGHT HAND SIDE MOUNT
MC-10-NPLT	1" INDEXING MINI-CODER - LEFT HAND TOP MOUNT
MC-10-NPRT	1" INDEXING MINI-CODER - RIGHT HAND TOP MOUNT
MC-10-NPLS	1" INDEXING MINI-CODER - LEFT HAND SIDE MOUNT
MC-10-NPRS	1" INDEXING MINI-CODER - RIGHT HAND SIDE MOUNT

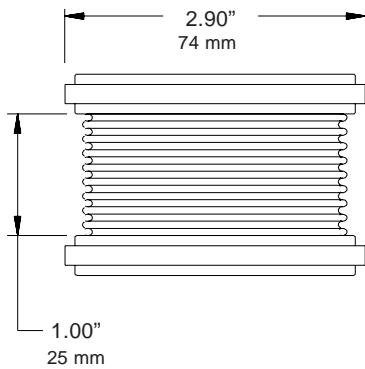


NON-INDEXING PRINT DRUM

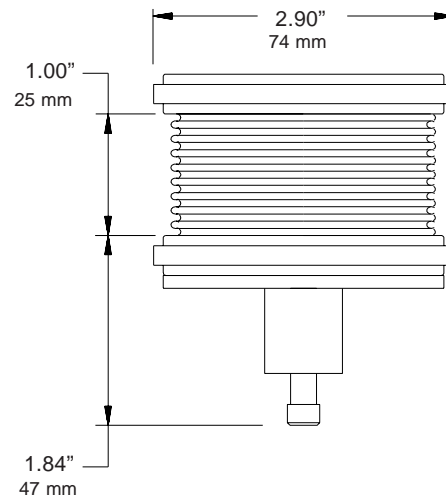


INDEXING PRINT DRUM

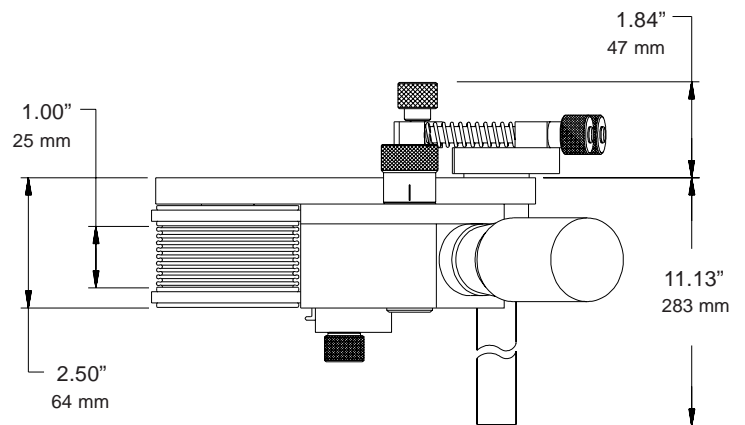
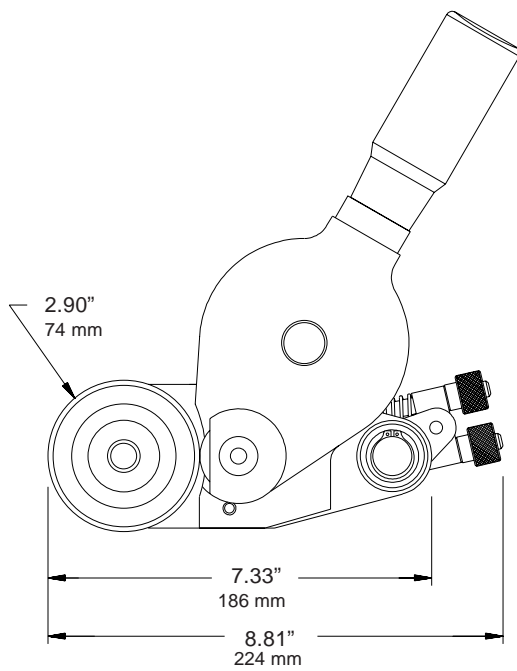
SPARE QUICK CHANGE PRINT DRUMS FOR NON-POROUS MINI-CODERS	
STOCK NO.	DESCRIPTION
MC-10NI-PDA-NP	1" NON-INDEXING PRINT DRUM ASSEMBLY
MC-10-PDA-NP	1" INDEXING PRINT DRUM ASSEMBLY



NON-INDEXING PRINT DRUM



INDEXING PRINT DRUM



NON-POROUS MINI-CODER SPECIFICATIONS

CODER SERIES	NET WEIGHT	MAXIMUM DIE SIZE US STANDARD	MAXIMUM DIE SIZE METRIC CODERS ONLY	PRINT DRUM CIRCUMFERENCE MEASURED AT DIE FACE
MC-10NI	4LB.- 10OZ. (2.10 KG.)	7/8" (8 RIBS) X 8-3/8" LONG	23.8MM (7 RIBS) X 212.7 MM LONG	APPROXIMATELY 9.0" (228MM)
MC-10	4LB.- 5OZ. (1.96 KG.)	7/8" (8 RIBS) X 8-3/8" LONG	23.8MM (7 RIBS) X 212.7 MM LONG	APPROXIMATELY 9.0" (228MM)

U.S. Patent No. 5,109,769 - E.P. Patent No. 0508971

Universal's line of Non-Porous Midsize Coders were designed to satisfy several specific application requirements and supplement the capabilities of our other Non-Porous coders. Our patented non-porous inking system design enables the use of extremely fast drying alcohol base inks with drying times typically in the 2 second range at 75 deg. F. ambient temperatures.

The Midsize Coders are precision machined entirely from aircraft grade aluminum alloys and stainless steel for extreme durability. Sealed ball bearings ensure smooth rotation of both the print drum and the anilox roll and minimize the drive force required for operation which is a particularly important feature when printing on thin web materials.



MODEL SHOWN: MS-120NI-NPRT

These coders are supplied in either right-hand or left-hand mounting configurations and either top or side mount styles.

EXCLUSIVE FEATURES:

WEB PRINTING: The sealed ball bearings ensure smooth rotation to minimize the drive force required for printing on thin web materials. Interchangeable print drum options provide 12", 15" or 18" print repeat intervals.

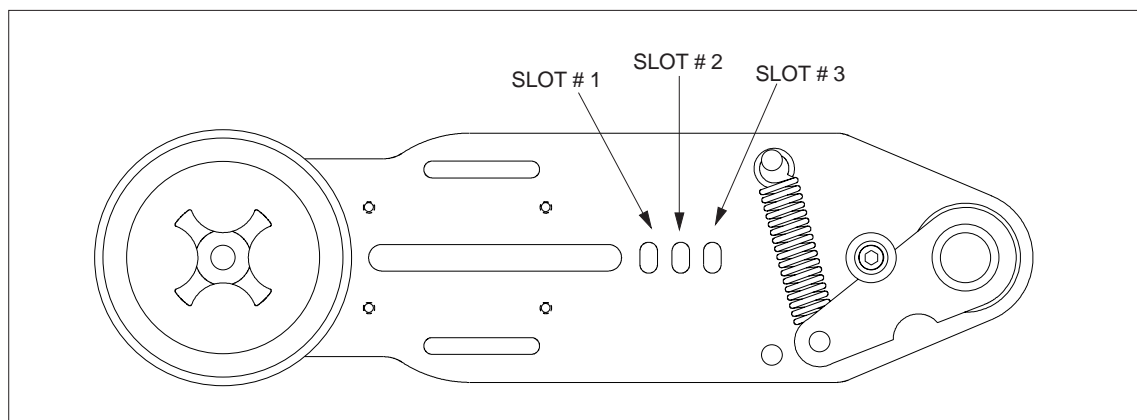
DRUM PRINTING: The long frame design, coupled with the right amount of deflection for each drum size, will allow the coder to print on the sides of large metal or plastic drums on a conveyor belt. Offset bracket modifications are available for extremely long reach applications.

CARTON PRINTING: A spring tension mechanism and a long deflection range on the coders will ensure enough printing pressure to give a sharp impression when printing cartons. This will also compensate for slight variations in the width of the cartons without jamming the line. Interchangeable print drums provide 12", 15" or 18" circumference options to facilitate precise print registration on a wider variety of carton sizes when carton printing.

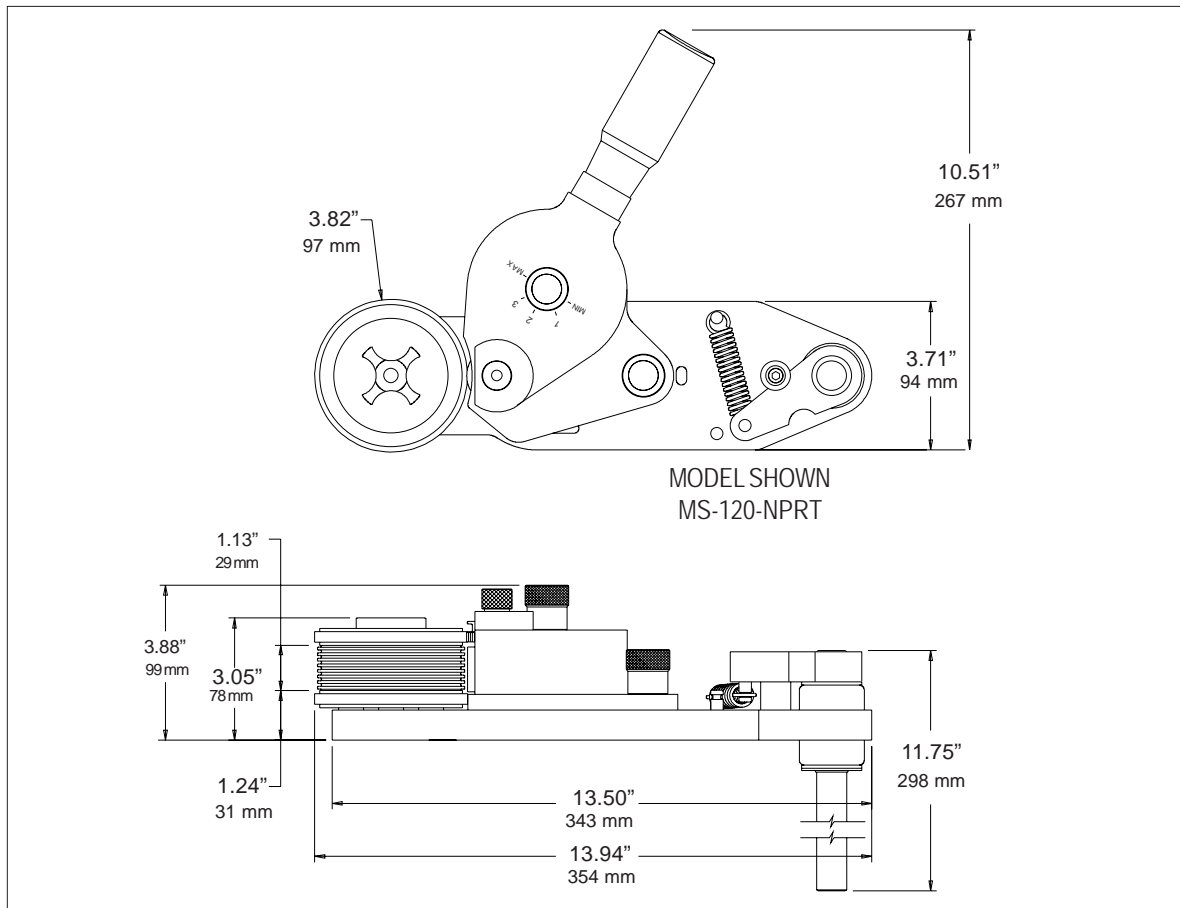
RESERVOIR INKING SYSTEM

Universal's patented Reservoir Inking System was designed to eliminate the task of re-inking the ink roll manually. Our 4 oz. disposable ink cartridges will automatically apply ink to the ink roll during the printing operation. (Please note that the ink roll on the coder must be pre-inked prior to installing a 4 oz. Reservoir Ink Cartridge).

Unlike gravity systems that continue to feed ink when the conveyor line is stopped, Universal's Reservoir Inking System feeds ink only when the machine is actively printing.

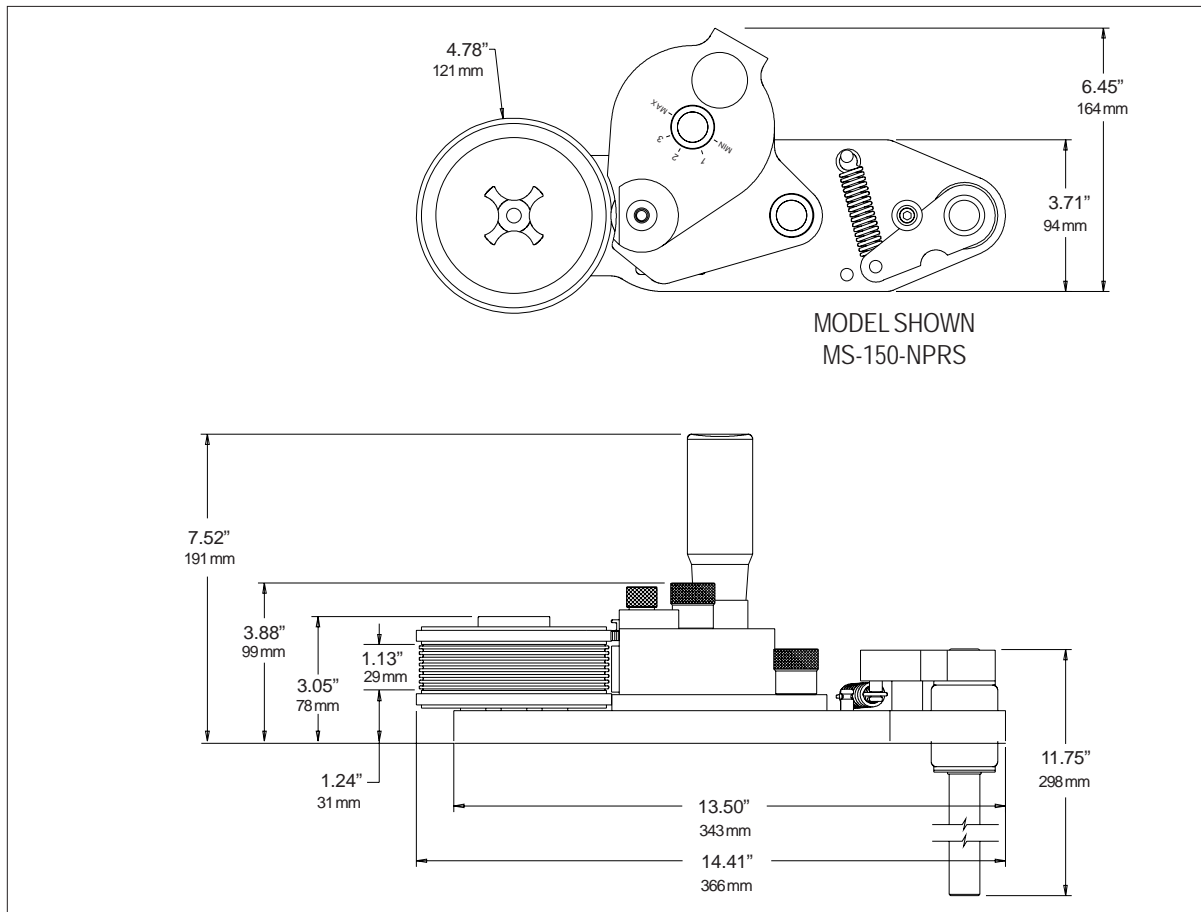


As of January 1, 2011, the coder baseplate was lengthened slightly and a 3rd slot was added to allow positioning of the inking system to accommodate an 18" circumference print drum. Slot #1 is for a 12" print drum and slot #2 is for the 15" print drum.



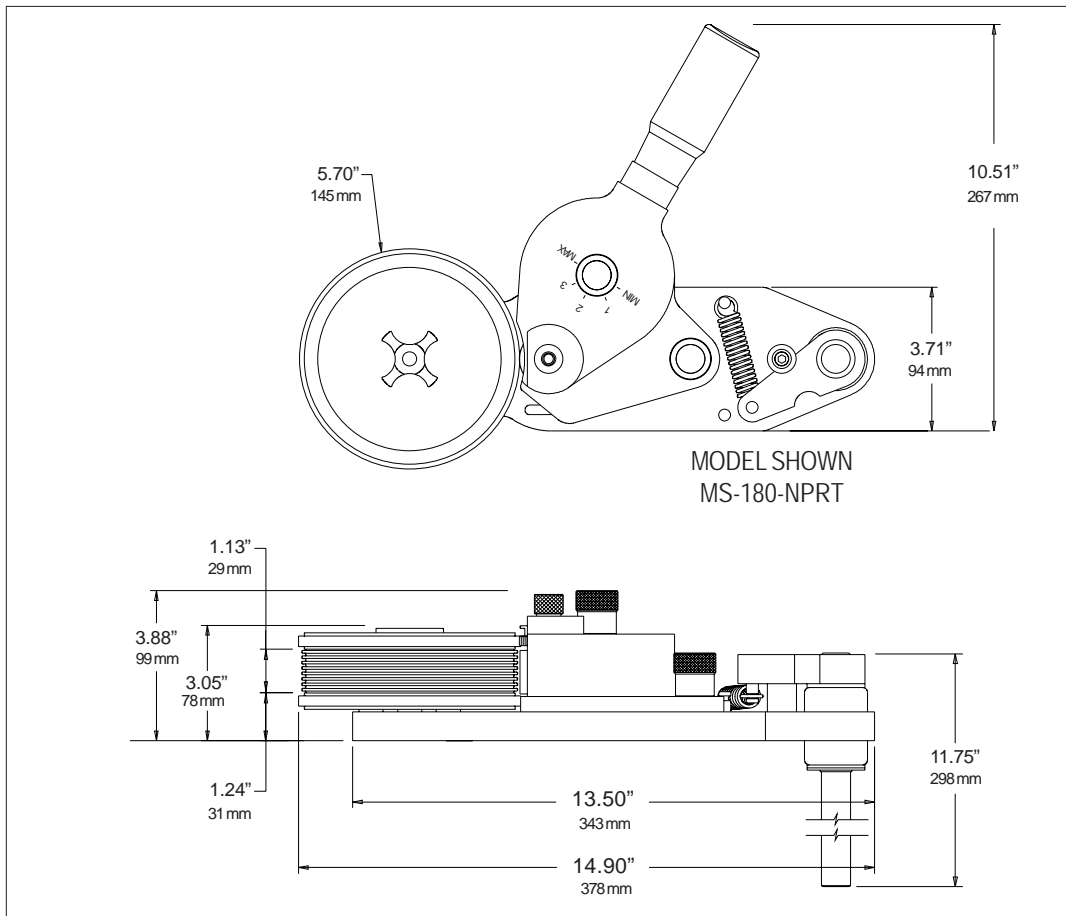
UNIVERSAL NON-POROUS MIDSIZE CODERS WITH 12" PRINT DRUM CIRCUMFERENCE

STOCK NUMBER	DESCRIPTION
MS-120NI-NPLT	1" NON-INDEXING MIDSIZE PRINTER - LEFT HAND TOP MOUNT
MS-120NI-NPRT	1" NON-INDEXING MIDSIZE PRINTER - RIGHT HAND TOP MOUNT
MS-120NI-NPLS	1" NON-INDEXING MIDSIZE PRINTER - LEFT HAND SIDE MOUNT
MS-120NI-NPRS	1" NON-INDEXING MIDSIZE PRINTER - RIGHT HAND SIDE MOUNT
MS-120-NPLT	1" INDEXING MIDSIZE PRINTER - LEFT HAND TOP MOUNT
MS-120-NPRT	1" INDEXING MIDSIZE PRINTER - RIGHT HAND TOP MOUNT
MS-120-NPLS	1" INDEXING MIDSIZE PRINTER - LEFT HAND SIDE MOUNT
MS-120-NPRS	1" INDEXING MIDSIZE PRINTER - RIGHT HAND SIDE MOUNT
MS-220NI-NPLT	2" NON-INDEXING MIDSIZE PRINTER - LEFT HAND TOP MOUNT
MS-220NI-NPRT	2" NON-INDEXING MIDSIZE PRINTER - RIGHT HAND TOP MOUNT
MS-220NI-NPLS	2" NON-INDEXING MIDSIZE PRINTER - LEFT HAND SIDE MOUNT
MS-220NI-NPRS	2" NON-INDEXING MIDSIZE PRINTER - RIGHT HAND SIDE MOUNT
MS-220-NPLT	2" INDEXING MIDSIZE PRINTER - LEFT HAND TOP MOUNT
MS-220-NPRT	2" INDEXING MIDSIZE PRINTER - RIGHT HAND TOP MOUNT
MS-220-NPLS	2" INDEXING MIDSIZE PRINTER - LEFT HAND SIDE MOUNT
MS-220-NPRS	2" INDEXING MIDSIZE PRINTER - RIGHT HAND SIDE MOUNT



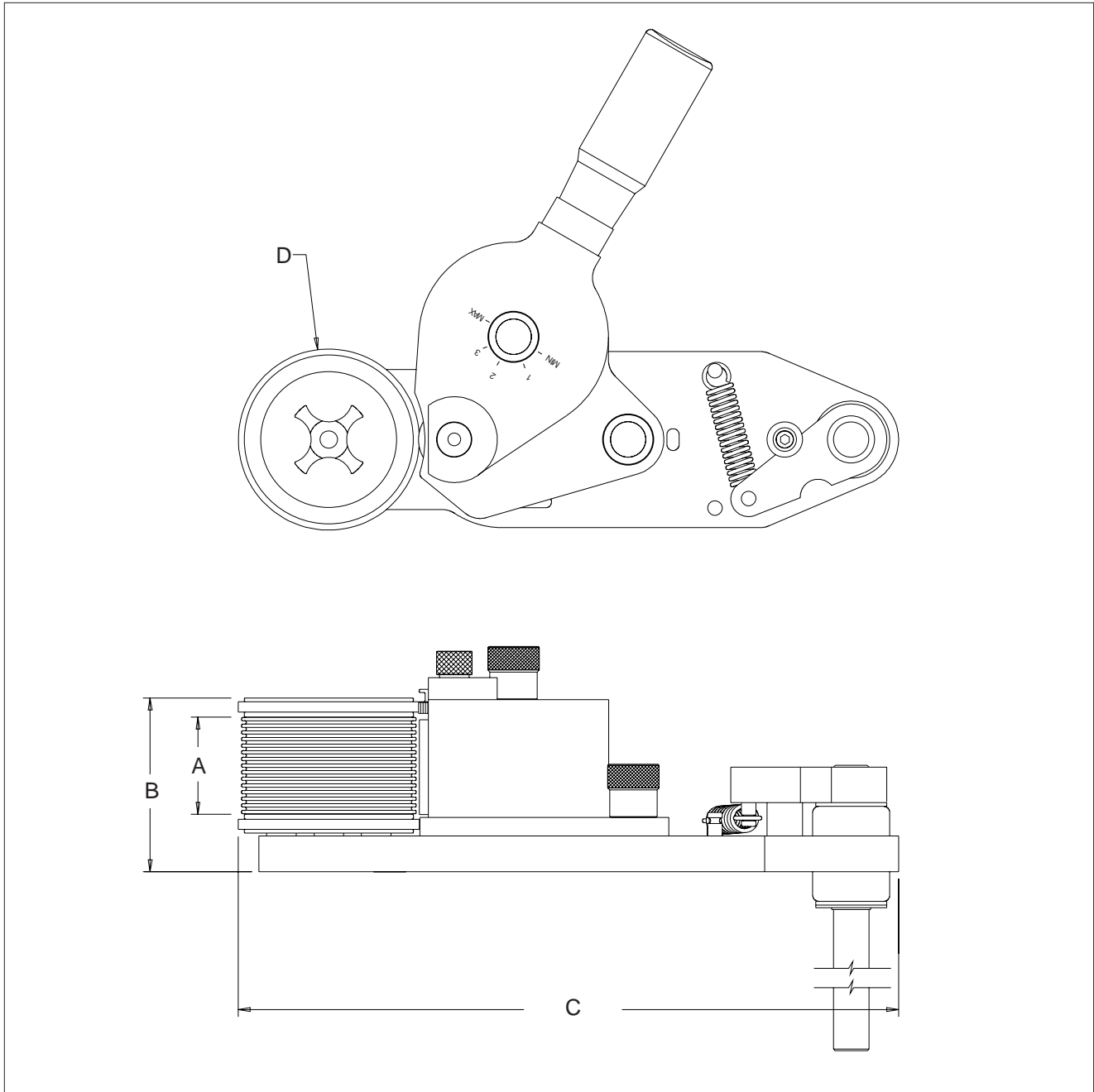
UNIVERSAL NON-POROUS MIDSIZE CODERS WITH 15" PRINT DRUM CIRCUMFERENCE

STOCK NUMBER	DESCRIPTION
MS-150NI-NPLT	1" NON-INDEXING MIDSIZE PRINTER - LEFT HAND TOP MOUNT
MS-150NI-NPRT	1" NON-INDEXING MIDSIZE PRINTER - RIGHT HAND TOP MOUNT
MS-150NI-NPLS	1" NON-INDEXING MIDSIZE PRINTER - LEFT HAND SIDE MOUNT
MS-150NI-NPRS	1" NON-INDEXING MIDSIZE PRINTER - RIGHT HAND SIDE MOUNT
MS-150-NPLT	1" INDEXING MIDSIZE PRINTER - LEFT HAND TOP MOUNT
MS-150-NPRT	1" INDEXING MIDSIZE PRINTER - RIGHT HAND TOP MOUNT
MS-150-NPLS	1" INDEXING MIDSIZE PRINTER - LEFT HAND SIDE MOUNT
MS-150-NPRS	1" INDEXING MIDSIZE PRINTER - RIGHT HAND SIDE MOUNT
MS-250NI-NPLT	2" NON-INDEXING MIDSIZE PRINTER - LEFT HAND TOP MOUNT
MS-250NI-NPRT	2" NON-INDEXING MIDSIZE PRINTER - RIGHT HAND TOP MOUNT
MS-250NI-NPLS	2" NON-INDEXING MIDSIZE PRINTER - LEFT HAND SIDE MOUNT
MS-250NI-NPRS	2" NON-INDEXING MIDSIZE PRINTER - RIGHT HAND SIDE MOUNT
MS-250-NPLT	2" INDEXING MIDSIZE PRINTER - LEFT HAND TOP MOUNT
MS-250-NPRT	2" INDEXING MIDSIZE PRINTER - RIGHT HAND TOP MOUNT
MS-250-NPLS	2" INDEXING MIDSIZE PRINTER - LEFT HAND SIDE MOUNT
MS-250-NPRS	2" INDEXING MIDSIZE PRINTER - RIGHT HAND SIDE MOUNT



UNIVERSAL NON-POROUS MIDSIZE CODERS WITH 18" PRINT DRUM CIRCUMFERENCE

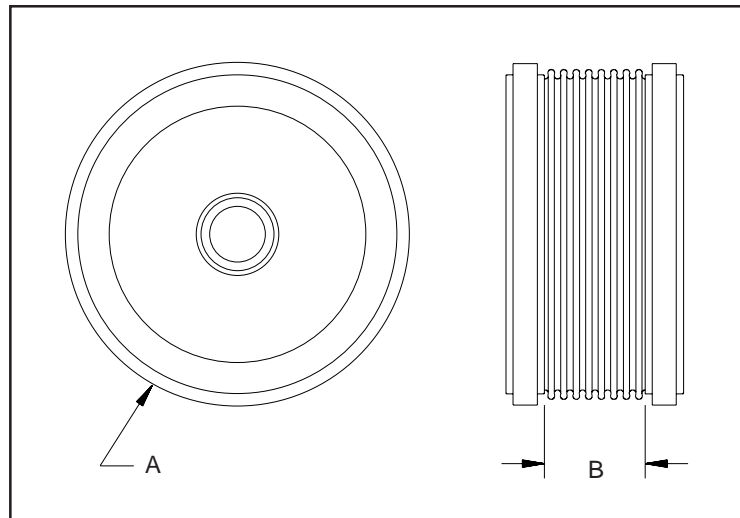
STOCK NUMBER	DESCRIPTION
MS-180NI-NPLT	1" NON-INDEXING MIDSIZE PRINTER - LEFT HAND TOP MOUNT
MS-180NI-NPRT	1" NON-INDEXING MIDSIZE PRINTER - RIGHT HAND TOP MOUNT
MS-180NI-NPLS	1" NON-INDEXING MIDSIZE PRINTER - LEFT HAND SIDE MOUNT
MS-180NI-NPRS	1" NON-INDEXING MIDSIZE PRINTER - RIGHT HAND SIDE MOUNT
MS-180-NPLT	1" INDEXING MIDSIZE PRINTER - LEFT HAND TOP MOUNT
MS-180-NPRT	1" INDEXING MIDSIZE PRINTER - RIGHT HAND TOP MOUNT
MS-180-NPLS	1" INDEXING MIDSIZE PRINTER - LEFT HAND SIDE MOUNT
MS-180-NPRS	1" INDEXING MIDSIZE PRINTER - RIGHT HAND SIDE MOUNT
MS-280NI-NPLT	2" NON-INDEXING MIDSIZE PRINTER - LEFT HAND TOP MOUNT
MS-280NI-NPRT	2" NON-INDEXING MIDSIZE PRINTER - RIGHT HAND TOP MOUNT
MS-280NI-NPLS	2" NON-INDEXING MIDSIZE PRINTER - LEFT HAND SIDE MOUNT
MS-280NI-NPRS	2" NON-INDEXING MIDSIZE PRINTER - RIGHT HAND SIDE MOUNT
MS-280-NPLT	2" INDEXING MIDSIZE PRINTER - LEFT HAND TOP MOUNT
MS-280-NPRT	2" INDEXING MIDSIZE PRINTER - RIGHT HAND TOP MOUNT
MS-280-NPLS	2" INDEXING MIDSIZE PRINTER - LEFT HAND SIDE MOUNT
MS-280-NPRS	2" INDEXING MIDSIZE PRINTER - RIGHT HAND SIDE MOUNT



NON-POROUS MIDSIZE CODER SPECIFICATIONS

CODER SERIES	PRINT WIDTH "A"	DIMENSION "B"	DIMENSION "C"	CIRCUMFERENCE "D"
MS-120	1" (25.4 MM)	3.05" (78 MM)	13.94" (354 MM)	12.00" (305 MM)
MS-150	1" (25.4 MM)	3.05" (78 MM)	14.41" (366 MM)	15.00" (381 MM)
MS-180	1" (25.4 MM)	3.05" (78 MM)	14.90" (378 MM)	18.00" (457 MM)
MS-220	2" (50.8 MM)	3.66" (93 MM)	13.94" (354 MM)	12.00" (305 MM)
MS-250	2" (50.8 MM)	3.66" (93 MM)	14.41" (366 MM)	15.00" (381 MM)
MS-280	2" (50.8 MM)	3.66" (93 MM)	14.90" (430 MM)	18.00" (457 MM)

If your printing operation requires frequent code changes and time is of the essence, code changes as fast as 10 seconds can be accomplished using Universal's Quick Change Print Drum Assemblies. Production codes can be set up off-line on the spare drum and when it's time to change codes, simply unscrew the print drum knob, pull the active print drum off the coder and slip on the replacement. The quick change print drum feature not only facilitates off-line code changes when spare drums are ordered but if the print applications change, the print drum size can be readily changed to accommodate the new requirements.



SPARE QUICK CHANGE PRINT DRUM ASSEMBLIES FOR NON-POROUS MIDSIZE CODERS

STOCK NO.	DESCRIPTION	CIRCUMFERENCE "A"	PRINT WIDTH "B"
MSC-120-PDA-NP	1" PRINT DRUM ASSEMBLY	12" (305 MM)	1.00" (25.4 MM)
MSC-150-PDA-NP	1" PRINT DRUM ASSEMBLY	15" (381 MM)	1.00" (25.4 MM)
MSC-180-PDA-NP	1" PRINT DRUM ASSEMBLY	18" (457MM)	1.00" (25.4 MM)
MSC-220-PDA-NP	2" PRINT DRUM ASSEMBLY	12" (305 MM)	2.00" (50.8 MM)
MSC-250-PDA-NP	2" PRINT DRUM ASSEMBLY	15" (381 MM)	2.00" (50.8 MM)
MSC-280-PDA-NP	2" PRINT DRUM ASSEMBLY	18" (457 MM)	2.00" (50.8 MM)

CODER SERIES	NET WEIGHT	MAXIMUM DIE SIZE US STANDARD	MAXIMUM DIE SIZE METRIC CODERS ONLY	PRINT DRUM CIRCUMFERENCE MEASURED AT DIE FACE
MS-120	9LB.- 13OZ. (4.45 KG.)	7/8" (7 RIBS) X 11-3/8" LONG	23.8MM (7 RIBS) X 288.9 MM LONG	APPROXIMATELY 12" (305MM)
MS-150	10LB.- 4OZ. (4.65 KG.)	7/8" (7 RIBS) X 14-1/4" LONG	23.8MM (7 RIBS) X 362 MM LONG	APPROXIMATELY 15" (381MM)
MS-180	10LB.- 6OZ. (4.71 KG.)	7/8" (7 RIBS) X 16-15/16" LONG	23.8MM (7 RIBS) X 430.2 MM LONG	APPROXIMATELY 18" (457MM)
MS-220	10LB.-7OZ. (4.73 KG.)	1-7/8" (14 RIBS) X 11-3/8" LONG	49.2MM (13 RIBS) X 288.9 MM LONG	APPROXIMATELY 12" (305MM)
MS-250	11LB.- 1OZ. (5.02 KG.)	1-7/8" (14 RIBS) X 14-1/4" LONG	49.2MM (13 RIBS) X 362 MM LONG	APPROXIMATELY 15" (381MM)
MS-280	11LB.- 7OZ. (5.19 KG.)	1-7/8" (14 RIBS) X 16-15/16" LONG	49.2MM (13 RIBS) X 430 MM LONG	APPROXIMATELY 18" (457MM)

U.S. Patent No. 5,109,769 - E.P. Patent No. 0508971

Universal Non-Porous Conveyor Line Printers provide the ultimate in low maintenance printing on all types of non-porous materials. The revolutionary design of our patented Non-Porous Inking System makes printing on waxed and varnished cartons, plastic films, rubber, metal or glass as easy as printing on porous materials with conventional printers, even with inks that dry as fast as 2 seconds at 75 degree F. ambient temperatures. These machines receive ink automatically on demand from our patented, disposable Reservoir Ink Cartridges and can be used with both dye and pigmented base, fast drying marking inks. Ideal for web printing applications.

EXCLUSIVE FEATURES:

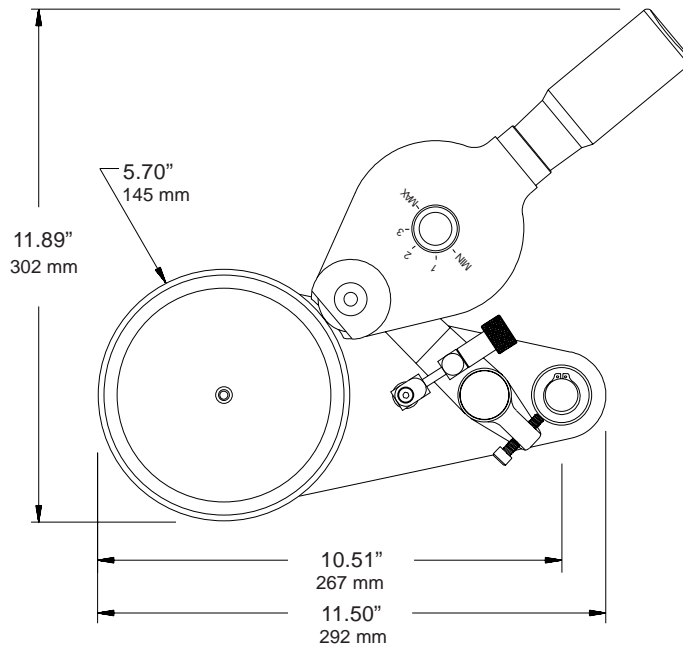
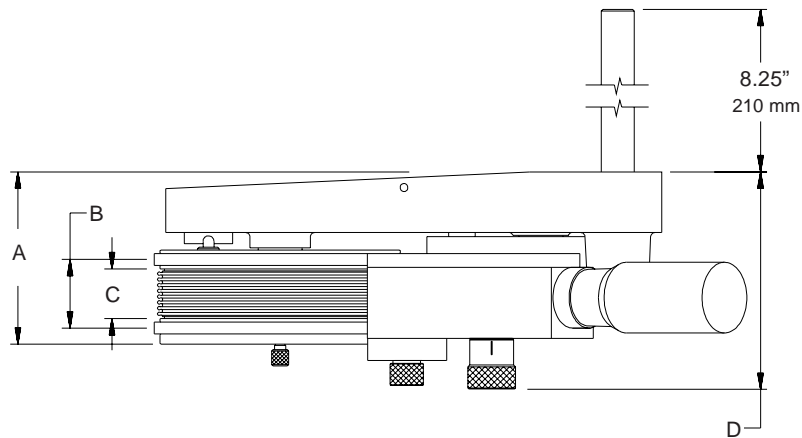
The Non-Porous Conveyor Line Printer has an 18" print drum circumference and comes standard in either a 1" or 2" print width. Top Mount versions are used for printing on horizontal surfaces such as continuous web materials and Side Mount versions are used primarily for printing on the sides of cartons or other vertical surfaces.

The Non-Porous Conveyor Line Printers are available in both Indexing and Non-Indexing styles.



MODEL SHOWN: CLP-100NI-NPLT

UNIVERSAL NON-POROUS CONVEYOR LINE PRINTERS	
STOCK NUMBER	DESCRIPTION
CLP-100NI-NPLT	1" NON-INDEXING CONVEYOR LINE PRINTER - LEFT HAND TOP MOUNT
CLP-100NI-NPRT	1" NON-INDEXING CONVEYOR LINE PRINTER - RIGHT HAND TOP MOUNT
CLP-100NI-NPLS	1" NON-INDEXING CONVEYOR LINE PRINTER - LEFT HAND SIDE MOUNT
CLP-100NI-NPRS	1" NON-INDEXING CONVEYOR LINE PRINTER - RIGHT HAND SIDE MOUNT
CLP-100-NPLT	1" INDEXING CONVEYOR LINE PRINTER - LEFT HAND TOP MOUNT
CLP-100-NPRT	1" INDEXING CONVEYOR LINE PRINTER - RIGHT HAND TOP MOUNT
CLP-100-NPLS	1" INDEXING CONVEYOR LINE PRINTER - LEFT HAND SIDE MOUNT
CLP-100-NPRS	1" INDEXING CONVEYOR LINE PRINTER - RIGHT HAND SIDE MOUNT
CLP-200NI-NPLT	2" NON-INDEXING CONVEYOR LINE PRINTER - LEFT HAND TOP MOUNT
CLP-200NI-NPRT	2" NON-INDEXING CONVEYOR LINE PRINTER - RIGHT HAND TOP MOUNT
CLP-200NI-NPLS	2" NON-INDEXING CONVEYOR LINE PRINTER - LEFT HAND SIDE MOUNT
CLP-200NI-NPRS	2" NON-INDEXING CONVEYOR LINE PRINTER - RIGHT HAND SIDE MOUNT
CLP-200-NPLT	2" INDEXING CONVEYOR LINE PRINTER - LEFT HAND TOP MOUNT
CLP-200-NPRT	2" INDEXING CONVEYOR LINE PRINTER - RIGHT HAND TOP MOUNT
CLP-200-NPLS	2" INDEXING CONVEYOR LINE PRINTER - LEFT HAND SIDE MOUNT
CLP-200-NPRS	2" INDEXING CONVEYOR LINE PRINTER - RIGHT HAND SIDE MOUNT



NON-POROUS CONVEYOR LINE PRINTER SPECIFICATIONS

CODER SERIES	DIMENSION "A"	DIMENSION "B"	DIMENSION "C"	DIMENSION "D"
CLP-100	3.9" (99 MM)	1.60" (40.6 MM)	1" (25.4 MM)	5.0" (127 MM)
CLP-200	4.8" (122 MM)	2.49" (63 MM)	2" (50.8 MM)	5.9" (150 MM)

CODER SERIES	NET WEIGHT	MAXIMUM DIE SIZE US STANDARD	MAXIMUM DIE SIZE METRIC CODERS ONLY	PRINT DRUM CIRCUMFERENCE MEASURED AT DIE FACE
CLP-100NI	10LB.- 12OZ. (3.15 KG.)	7/8" (7 RIBS) X 16-15/16" LONG	23.8 MM (7 RIBS) X 430.2 MM LONG	APPROXIMATELY 18" (457MM)
CLP-200NI	11LB.- 5OZ. (5.13 KG.)	1-7/8" (14 RIBS) X 16-15/16" LONG	49.2 MM (13 RIBS) X 430.2 MM LONG	APPROXIMATELY 18" (457MM)

U.S. Patent No. 5,109,769 - E.P. Patent No. 0508971

The WPNP-400NI Non-Porous Web Printers meet the requirements for printing large text messages and logos on continuous web materials. Ink is supplied to the Web Printer by a disposable Type MT Ink Roll. These rolls contain a fast drying solvent based ink and produce exceptionally dense black marks which dry in 4-7 seconds at 75 degree F. (24 degree C.) ambient temperatures on most non-porous surfaces. The MT disposable rolls provide permanent marks on plastic films, metal, rubber and glass materials.

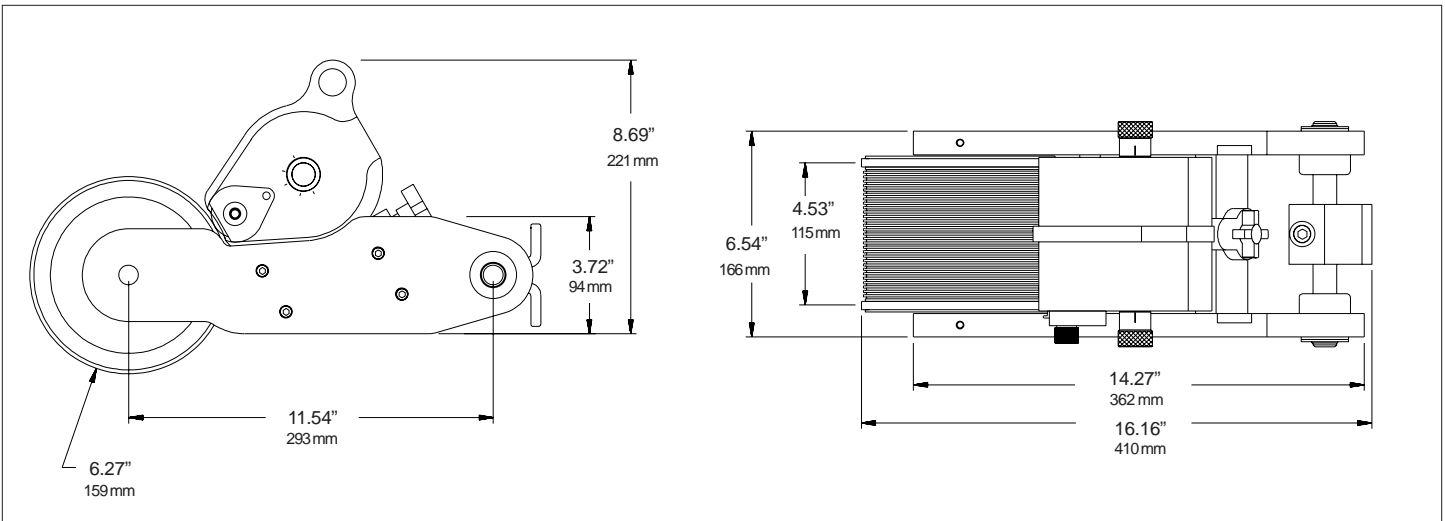
These printers feature a removable Inking System for quick, easy off-line ink roll replacement without tools. WPNP Web printers are designed for top mount installations and are only available in a non-indexing (continuous print) model.



MODEL SHOWN: WPNP-400NI

EXCLUSIVE FEATURES:

- A 4" (102mm) print width capacity and a 19.68" (500mm) circumference Print Drum for large text messages.
- A modular version of Universal's patented Non-Porous Inking System which can be removed from the machine in seconds without the use of tools for off-line ink roll replacement.
- A rugged, dual frame, anodized aluminum construction with stainless steel shafts and axles.
- Universal RIBtype® rubber type is available in standard and metric styles.



Note: WPNP-400NI Web Printer is a special order product. Extended lead time is required.

UNIVERSAL NON-POROUS WPNP WEB PRINTERS	
STOCK NO.	DESCRIPTION
WPNP-400NI	4" NON-INDEXING WPNP WEB PRINTER - TOP MOUNT (INK ROLL SOLD SEPARATELY)

NON-POROUS WPNP-400NI WEB PRINTER SPECIFICATIONS				
CODER SERIES	NET WEIGHT	MAXIMUM DIE SIZE US STANDARD	MAXIMUM DIE SIZE METRIC CODERS ONLY	PRINT DRUM CIRCUMFERENCE MEASURED AT DIE FACE
WPNP-400NI	21LB.- 9OZ. (9.78 KG.)	3-7/8" (30 RIBS) X 19-1/8" LONG	98.4 MM (28 RIBS) X 485.8 MM LONG	APPROXIMATELY 19.68" (500MM)

U.S. Patent No. 5,109,769 - E.P. Patent No. 0508971

The WPNP-400NI-12 Non-Porous Web Printers have a 12" diameter Print Drum to provide a 37.69" print repeat interval giving you more room for larger logos and text messages on web materials. These Web Printers are both simplistic in design and extremely effective in operation. A modular version of Universal's patented Non-Porous Inking System effectively eliminates the rapid evaporation of the ink solvents from the ink roll and additionally can be removed from the machine in seconds without the use of tools for off-line ink roll replacement. Disposable Type MT Ink Rolls provide fast drying, permanent marks on plastic films, metal, rubber and glass materials.

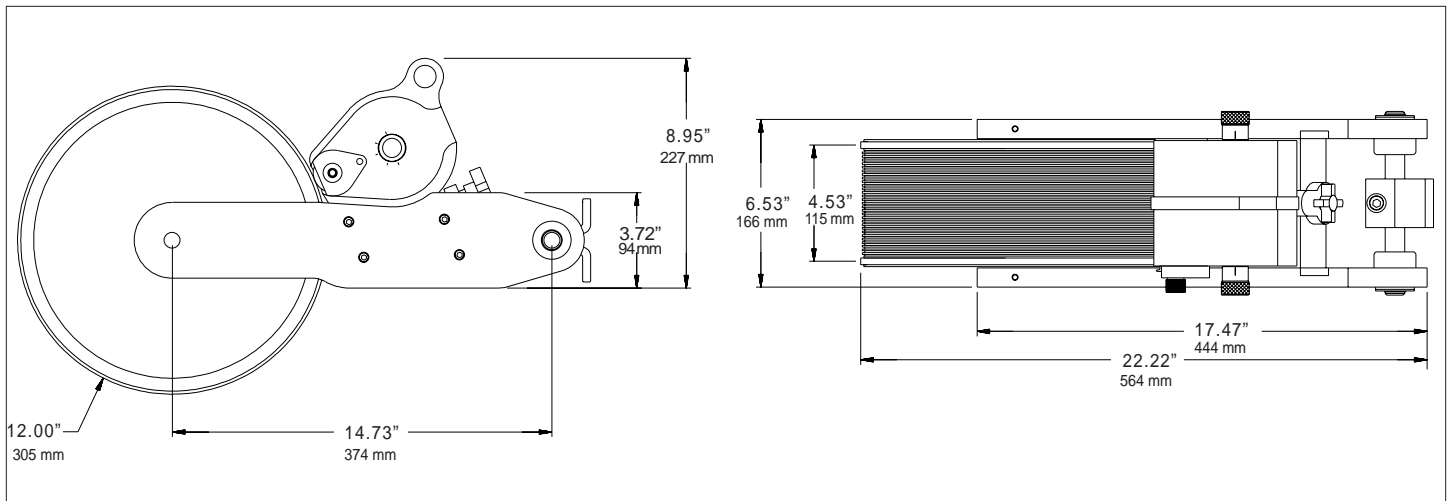
These web printers are designed for top mount installations and are only available in a non-indexing (continuous print) model.



MODEL SHOWN: WPNP-400NI-12

EXCLUSIVE FEATURES:

- A 4" (102mm) print width capacity and a 37.7" (958mm) circumference Print Drum for large text messages.
- A modular version of Universal's patented Non-Porous Inking System which can be removed from the machine in seconds without the use of tools for off-line ink roll replacement.
- A rugged, dual frame, anodized aluminum construction with stainless steel shafts and axles.
- Universal RIBtype® rubber type is available in standard and metric styles.

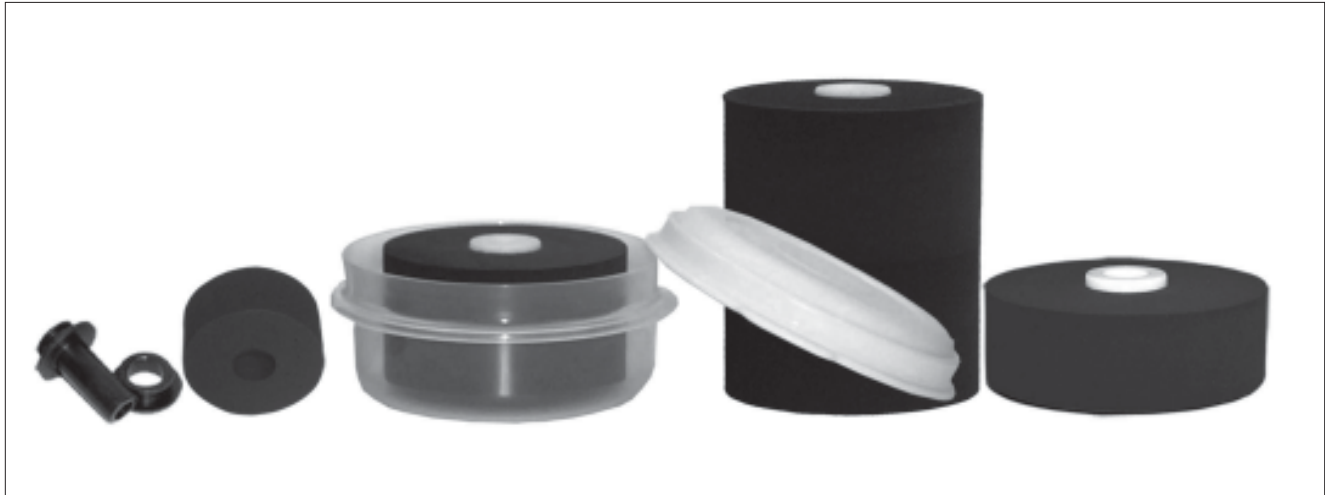


Note: WPNP-400NI-12 Web Printer is a special order product. Extended lead time is required.

UNIVERSAL NON-POROUS WPNP WEB PRINTERS	
STOCK NO.	DESCRIPTION
WPNP-400NI-12	4" NON-INDEXING WPNP WEB PRINTER - TOP MOUNT (INK ROLL SOLD SEPARATELY)

NON-POROUS WPNP-400NI-12 WEB PRINTER SPECIFICATIONS				
CODER SERIES	NET WEIGHT	MAXIMUM DIE SIZE US STANDARD	MAXIMUM DIE SIZE METRIC CODERS ONLY	PRINT DRUM CIRCUMFERENCE MEASURED AT DIE FACE
WPNP-400NI-12	36LB.- 4.5OZ. (16.46 KG.)	3-7/8" (30 RIBS) X 37" LONG	98.4 MM (28 RIBS) X 939.8 MM LONG	APPROXIMATELY 37.7" (958MM)

XF NEOPRENE ink rolls are made from extra firm density foam. These rolls offer slightly higher print quality and are recommended where 3 or 4 lines of type are required. This material performs exceptionally well with **Universal #100 Ink** on **non-porous** materials, roll covers are required. These rolls are **re-inkable** for maximum economy.



NON-POROUS HAND PRINTER XF NEOPRENE INK ROLLS	
STOCK NO.	ROLL FACE
HPNP-100RX	1"
NON-POROUS MINI-CODER, MIDSIZE CODER & CONVEYOR LINE PRINTER XF NEOPRENE INK ROLLS	
STOCK NO.	ROLL FACE
NP-XC1	1"
NP-XC2	2"
NON-POROUS WEB PRINTER XF NEOPRENE INK ROLLS	
STOCK NO.	ROLL FACE
WPNP-XC4	4"

Note: Ink rolls must be pre-inked before use with Universal's patented 4 oz. Reservoir Inking System Cartridges. To order rolls pre-inked with Universal Ink, add a "P" suffix to the stock number followed by the color code number listed below. Example: A NP-XC2-P2 stock number designates a 2" face Non-Porous Roll pre-inked with Red ink.

Color Codes: 1 = Black, 2 = Red, 3 = Green, 4 = Blue, 5 = Yellow, 6 = White, 9 = Violet



*In an effort to further simplify applications requiring the printing of code data on non-porous materials, Universal has released a proprietary ink roll material. The **Type MT** ink rolls, which are **disposable** by design, produce very dense black marks which dry in 8-10 seconds at 75 degree F. ambient temperatures on most non-porous surfaces. These disposable rolls will yield up to 500,000 impressions in average usage. The roll is simply installed on the coder and replaced when the ink capacity is depleted eliminating the need for handling liquid inks. These rolls are impregnated with fast drying solvent based inks and are designed for use only with our line of Non-Porous Coders.*

The Type MT ink rolls were initially developed for use on Universal's Non-Porous Hand Printer because this hand held unit does not have the option of using a 4 oz. Reservoir Ink Cartridge for automatic re-inking. The material performance was so exceptional that additional sizes were developed for the other Non-Porous Coders.

Extensive testing with these new high capacity disposable ink rolls have proven them invaluable in two specific applications:

2" & 4" Non-Porous Coder Applications: *Since their introduction, all of our 2" print width Non-Porous Coders have had print speed limitations related only to the 4 oz. Reservoir Ink Cartridges ability to keep up with the ink delivery requirements of these larger capacity coders. Beyond the relatively low operating speed range, the 4 oz. cartridges would produce noticeable color density variations on multi-line codes or wide logos. Since the Type MT rolls are not re-inked externally, color density variation problems are no longer an issue. They provide a very uniform color density across the full print width capacity of the coder. The 4" print width WPNP Non-Porous Web Printers with the 4" Type MT ink roll is ideal for printing large text messages and logos on continous web materials.*

Bottom Mount Non-Porous Coder Applications: *In all previous applications for printing on the bottom of web materials, custom bottom mount inking system cover assemblies were required for the Non-Porous Coders. In addition, the coders had to be installed in a very specific mounting attitude in order to facilitate the use of the 4 oz. Reservoir Ink Cartridges. Since 4 oz. Reservoir Ink Cartridges are not used with the Type MT ink rolls, there is no longer any restriction on the mounting attitude of the coder or the configuration of the inking system cover when these rolls are used.*

NON-POROUS HAND PRINTER TYPE MT DISPOSABLE INK ROLLS	
STOCK NO.	DESCRIPTION
HPNP-MT1-P1	BLACK TYPE MT INK ROLL - DISPOSABLE

NON-POROUS HPL HANDPRINTER, MINI-CODER, MIDSIZE, CLP & WPNP TYPE MT DISPOSABLE INK ROLLS	
STOCK NO.	DESCRIPTION
NP-MT1-P1	1" BLACK TYPE MT INK ROLL - DISPOSABLE
NP-MT2-P1	2" BLACK TYPE MT INK ROLL - DISPOSABLE
WPNP-MT4-P1	4" BLACK TYPE MT INK ROLL - DISPOSABLE - EXTENDED LEAD TIME REQUIRED

Universal's line of Digital Programmable Ink Delivery Systems were developed as an advanced method of supplying ink "on demand" to all types of contact coding equipment. The PIDS Digital systems feature the accuracy and versatility of a powerful PLC based control with a color touch screen interface. A single PIDS Digital System is capable of controlling up to four peristaltic pump heads and supplying ink to four coders printing on the same web.



MODEL SHOWN: PIDS-DIGITAL-100

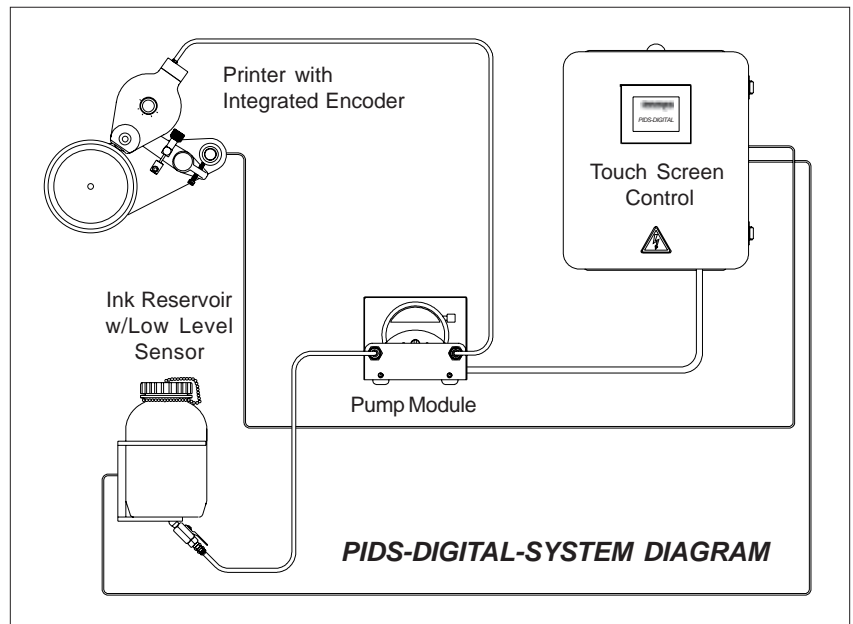
The positive displacement peristaltic pump heads used in the PIDS systems move ink through progressive waves of contraction and relaxation of a resilient pump tube. This unique method of ink delivery greatly reduces inking system maintenance while ensuring consistent high quality code printing.

The unique design of the pump head and Universal's quick disconnect replacement pump tube assembly, facilitates pump tube changes in less than 10 seconds. Since ink never touches any of the pumps component parts, maintenance is limited to replacing the pump tube after approximately 1,000 hours of operation. There are no seals to leak, no valves to clog or wear and only one moving part, simplicity at its best!

Connecting the PIDS DIGITAL Systems to a Universal Non-Porous Coder requires the use of a special **Wiper Adapter and a modified Inking System Cover** for the coder. Ink from the PIDS pump is injected between two thin plastic wipers which in turn "wipe" the ink uniformly across the face of the ink roll at a regulated rate during each cycle of the pump.



WIPER ADAPTER



UNIVERSAL DIGITAL PROGRAMMABLE INK DELIVERY SYSTEM	
STOCK NO.	DESCRIPTION
PIDS-DIGITAL-100	SINGLE HEAD PROGRAMMABLE INK DELIVERY SYSTEM - 115 VAC 60 HZ
PIDS-DIGITAL-100-CE	SINGLE HEAD PROGRAMMABLE INK DELIVERY SYSTEM - 230 VAC 50 HZ
PIDS-DIGITAL-200	TWO HEAD PROGRAMMABLE INK DELIVERY SYSTEM - 115 VAC 60 HZ
PIDS-DIGITAL-200-CE	TWO HEAD PROGRAMMABLE INK DELIVERY SYSTEM - 230 VAC 50 HZ
PIDS-DIGITAL-300	THREE HEAD PROGRAMMABLE INK DELIVERY SYSTEM - 115 VAC 60 HZ
PIDS-DIGITAL-300-CE	THREE HEAD PROGRAMMABLE INK DELIVERY SYSTEM - 230 VAC 50 HZ
PIDS-DIGITAL-400	FOUR HEAD PROGRAMMABLE INK DELIVERY SYSTEM - 115 VAC 60 HZ
PIDS-DIGITAL-400-CE	FOUR HEAD PROGRAMMABLE INK DELIVERY SYSTEM - 230 VAC 50 HZ

INTRODUCTION TO PIDS COMPATIBLE PRINTERS

When using a PIDS-DIGITAL Programmable Ink Delivery System, the printers connected to the system must be specially modified. The primary printer must be a PIDS-DIGITAL printer (one equipped with an inductive proximity sensor) which supplies web motion and velocity information to the control system. The PIDS-DIGITAL Printer Models are equipped with modified print drums containing 4 steel targets and an Inductive proximity sensor which detects these steel targets as they pass in front of the sensor when the print drum is rotating. This sensor/target configuration enables the printer to serve as a very low resolution encoder.

Universal PIDS-DIGITAL Systems are capable of controlling up to 4 pump heads which can feed ink to as many as 4 printers running on the same web. The first printer must be a DIGITAL model with the inductive proximity sensor, the other printers need only be PIDS models which have a wiper adapter. The DIGITAL printer supplies the web velocity information to the control and the ink delivery rates to all attached printers will be identical. It is therefore important that all attached printers are printing the same information which requires the same volume of ink.

Since these systems are only designed for continuous web printing applications, they are available only in non-indexing models. To enable high speed operation, the ink rolls are also prepared for use differently than the ink rolls used on standard Non-Porous Coders.

An inductive proximity sensor is mounted in the printers baseplate which senses the imbedded steel targets in the print drum as they pass in front of the sensor when the print drum is rotating.



INDUCTIVE PROXIMITY SENSOR

The new PIDS-DIGITAL Programmable Ink Delivery Systems are programmed based on web distance traveled as determined by pulse counts received from the Digital Printer and the volume of ink required to print a specific length of web material. This method of programming consistently delivers the correct amount of ink to all attached printers regardless of changes in web velocity. The system will also automatically stop delivering ink if the web stops moving.

While all printer models designed for use with the PIDS-DIGITAL Programmable Ink Delivery Systems have a "PIDS" prefix in the model number, PIDS-DIGITAL printer models have a "-D" suffix on the model number which indicates a Digital model with the inductive proximity sensor.

All printers attached to a PIDS-DIGITAL Programmable Ink Delivery System must use re-inkable XF Neoprene Ink Rolls.

U.S. Patent No. 5,109,769 - E.P. Patent No. 0508971

The Universal Midsize Non-Porous Coder is now available in a PIDS or PIDS-DIGITAL model. These coders function identically to the standard coders, but they have been modified to also function with the PIDS Programmable Ink Delivery System. The modification is a "Wiper Adapter", which transfers the ink from the PIDS System to the ink roll. The PIDS-DIGITAL models have an additional modified baseplate, with an electronic inductive proximity sensor and steel targets in the print drums. This sensor enables the printer to function as an encoder, which supplies electronic pulses to the Universal PIDS-DIGITAL Programmable Ink Delivery System.



MODEL SHOWN: MS-180NI-NPRT

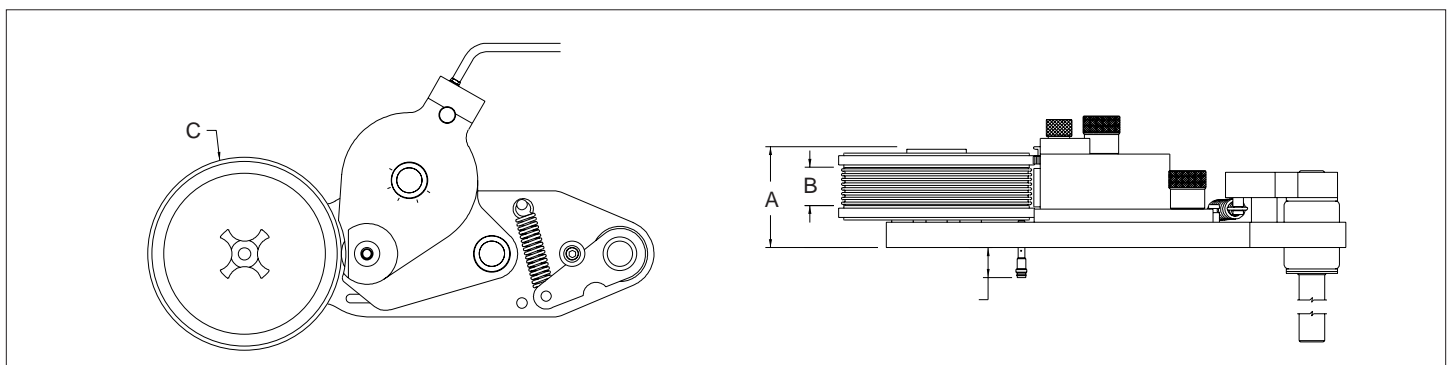
Ink from the PIDS pump is transferred to a pre-inked XF Neoprene ink roll through the "Wiper Adapter". The ink is injected between two thin plastic wipers, which wiper the ink uniformly across the face of the ink roll at a regulated rate during each cycle of the pump.



WIPER ADAPTER

When running multiple coders from one PIDS control box, only one coder need be a PIDS-DIGITAL model. All other PIDS coders connected to the system will receive the same programmed volume of ink.

UNIVERSAL PIDS & PIDS-DIGITAL NON-POROUS MIDSIZE CODERS	
STOCK NUMBER	DESCRIPTION
PIDS-180NI-NPLT	1" NON-INDEXING MIDSIZE PRINTER - LEFT HAND TOP MOUNT
PIDS-180NI-NPRT	1" NON-INDEXING MIDSIZE PRINTER - RIGHT HAND TOP MOUNT
PIDS-280NI-NPLT	2" NON-INDEXING MIDSIZE PRINTER - LEFT HAND TOP MOUNT
PIDS-280NI-NPRT	2" NON-INDEXING MIDSIZE PRINTER - RIGHT HAND TOP MOUNT
PIDS-180NI-NPLT-D	1" NON-INDEXING MIDSIZE PRINTER - LEFT HAND TOP MOUNT-DIGITAL
PIDS-180NI-NPRT-D	1" NON-INDEXING MIDSIZE PRINTER - RIGHT HAND TOP MOUNT-DIGITAL
PIDS-280NI-NPLT-D	2" NON-INDEXING MIDSIZE PRINTER - LEFT HAND TOP MOUNT-DIGITAL
PIDS-280NI-NPRT-D	2" NON-INDEXING MIDSIZE PRINTER - RIGHT HAND TOP MOUNT-DIGITAL



PIDS-DIGITAL NON-POROUS MIDSIZE CODER SPECIFICATIONS			
CODER SERIES	DIMENSION "A"	DIMENSION "B"	DIMENSION "C"
PIDS-MS-180	3.9" (99 MM)	1" (25.4 MM)	18" CIRCUMFERENCE (457 MM)
PIDS-MS-280	4.8" (122 MM)	2" (50.8 MM)	18" CIRCUMFERENCE (457 MM)

U.S. Patent No. 5,109,769 - E.P. Patent No. 0508971

The Universal Non-Porous CLP Coder is now available in a PIDS or PIDS-DIGITAL model. They function identically to the standard Non-Porous CLP coders but they have been modified to function with the PIDS Programmable Ink Delivery System. The PIDS coder models have a "Wiper Adapter", which transfers the ink from the PIDS System to the ink roll. The PIDS-DIGITAL models have an additional modified baseplate, with an electronic inductive proximity sensor and steel targets in the print drums. This sensor enables the printer to function as an encoder, which supplies electronic pulses to the Universal PIDS-DIGITAL Programmable Ink Delivery System.

Ink from the PIDS pump is transferred to a pre-inked XF Neoprene ink roll through the "Wiper Adapter". The ink is injected between two thin plastic wipers, which wipes the ink uniformly across the face of the ink roll at a regulated rate during each cycle of the pump.



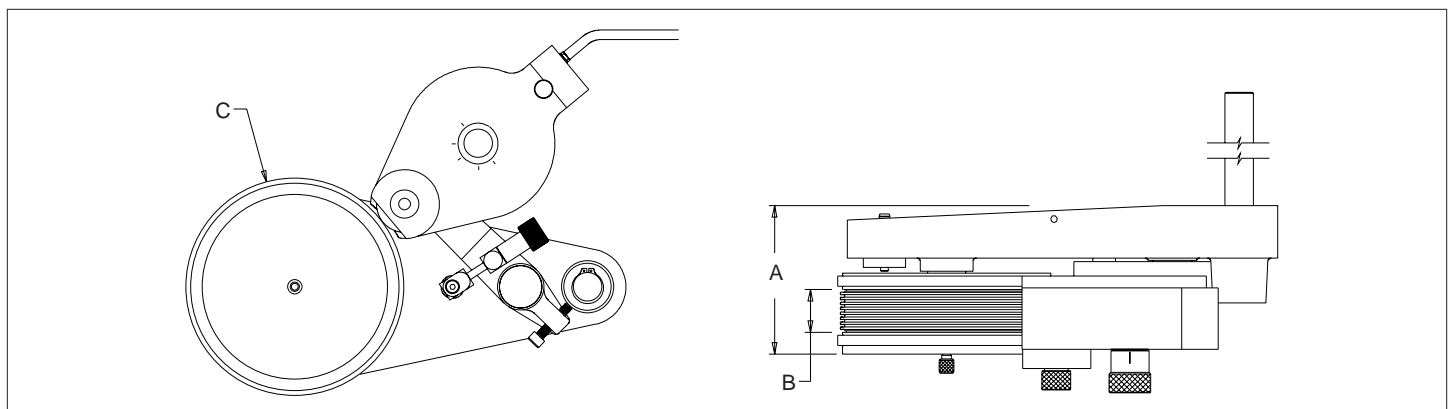
WIPERADAPTER



When running multiple coders from one PIDS control box, only one coder need be a PIDS-DIGITAL model. All other PIDS coders connected to the system will receive the same programmed volume of ink.

UNIVERSAL PIDS & PIDS-DIGITAL NON-POROUS CONVEYOR LINE PRINTERS

STOCK NUMBER	DESCRIPTION
PIDS-100NI-NPLT	1" NON-INDEXING CONVEYOR LINE PRINTER - LEFT HAND TOP MOUNT
PIDS-100NI-NPRT	1" NON-INDEXING CONVEYOR LINE PRINTER - RIGHT HAND TOP MOUNT
PIDS-200NI-NPLT	2" NON-INDEXING CONVEYOR LINE PRINTER - LEFT HAND TOP MOUNT
PIDS-200NI-NPRT	2" NON-INDEXING CONVEYOR LINE PRINTER - RIGHT HAND TOP MOUNT
PIDS-100NI-NPLT-D	1" NON-INDEXING CONVEYOR LINE PRINTER - LEFT HAND TOP MOUNT-DIGITAL
PIDS-100NI-NPRT-D	1" NON-INDEXING CONVEYOR LINE PRINTER - RIGHT HAND TOP MOUNT-DIGITAL
PIDS-200NI-NPLT-D	2" NON-INDEXING CONVEYOR LINE PRINTER - LEFT HAND TOP MOUNT-DIGITAL
PIDS-200NI-NPRT-D	2" NON-INDEXING CONVEYOR LINE PRINTER - RIGHT HAND TOP MOUNT-DIGITAL



PIDS-DIGITAL NON-POROUS CONVEYOR LINE PRINTER SPECIFICATIONS

CODER SERIES	DIMENSION "A"	DIMENSION "B"	DIMENSION "C"
CLP-100	3.9" (99 MM)	1" (25.4 MM)	18" CIRCUMFERENCE (457 MM)
CLP-200	4.8" (122 MM)	2" (50.8 MM)	18" CIRCUMFERENCE (457 MM)

U.S. Patent No. 5,109,769 - E.P. Patent No. 0508971

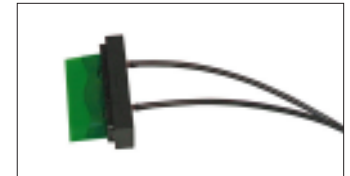
The WPNP-400NI is now available in a PIDS or PIDS-DIGITAL model. The function is identical to the standard WPNP-400NI printers but they have been modified to function with the PIDS Programmable Ink Delivery System.

The PIDS Systems combine the simplicity of electronic programming and the accuracy of peristaltic metering pumps to automatically deliver precise amounts of ink to the coders at prescribed intervals. The ink is transferred to the pre-inked XF Neoprene Ink Roll through a special wiper adapter. These systems enable the use of bulk ink reservoirs and a variety of fast drying dye and pigmented inks including Universal #100, Type D and Type M for marking on plastic films, metal, rubber and glass materials.

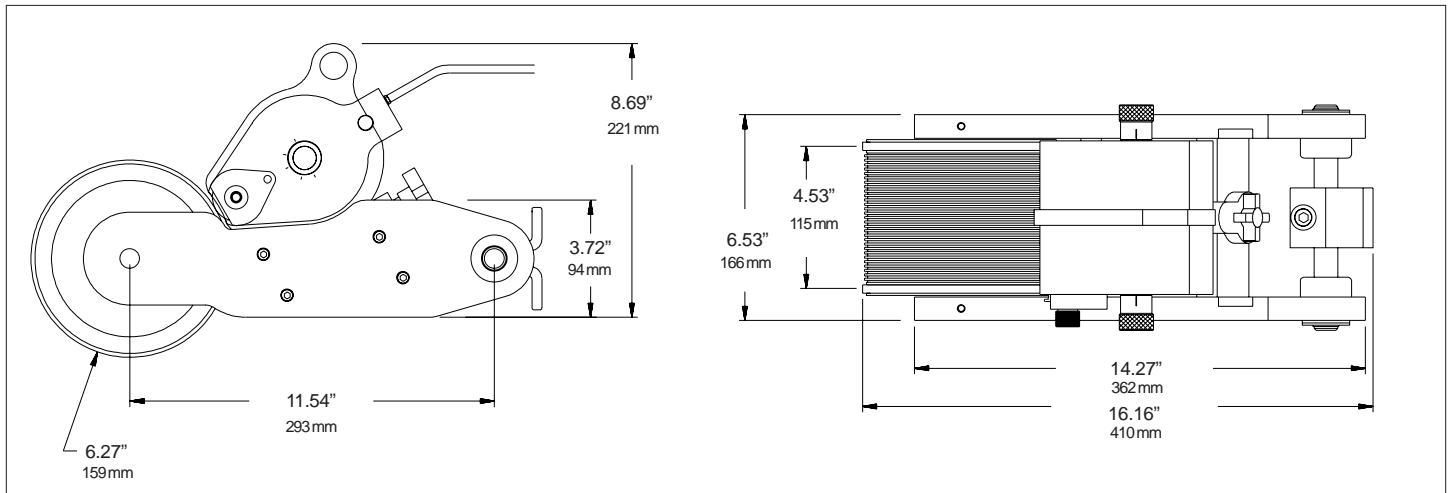


MODEL SHOWN: WPNP-400NI-PIDS

You can run multiple coders from one PIDS control box, as long as one of the coders is a PIDS-DIGITAL model. All other PIDS coders connected to the system will receive the same programmed volume of ink.



PIDS WIPER ADAPTER



Note: WPNP-400NI-PIDS Web Printer is a special order product. Extended lead time is required.

UNIVERSAL PIDS & PIDS DIGITAL NON-POROUS WPNP-400NI WEB PRINTERS	
STOCK NO.	DESCRIPTION
WPNP-400NI-PIDS	4" NON-INDEXING WPNP WEB PRINTER - TOP MOUNT (INK ROLL SOLD SEPARATELY)

NON-POROUS WPNP-400NI-PIDS WEB PRINTER SPECIFICATIONS				
CODER SERIES	NET WEIGHT	MAXIMUM DIE SIZE US STANDARD	MAXIMUM DIE SIZE METRIC CODERS ONLY	PRINT DRUM CIRCUMFERENCE MEASURED AT DIE FACE
WPNP-400NI-PIDS	21LB.- 9OZ. (9.78 KG.)	3-7/8" (30 RIBS) X 19-1/8" LONG	98.4 MM (28 RIBS) X 485.8 MM LONG	APPROXIMATELY 19.68" (500MM)

PIDS & PIDS-DIGITAL NON-POROUS WPNP-12 WEB PRINTERS PIDS NON-POROUS CODERS

U.S. Patent No. 5,109,769 - E.P. Patent No. 0508971

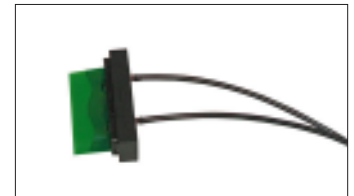
The largest version of our WPNP Series, is now available in a PIDS or PIDS-DIGITAL model. They function identically to the standard WPNP-400NI-12 printer except for the modifications made so they can function with the PIDS Programmable Ink Delivery System.

Ink is supplied to the printer automatically during production, through a bulk ink reservoir via a PIDS-200 Programmable Ink Delivery System. The ink is transferred to the pre-inked XF Neoprene Ink Roll through a special wiper adapter. A wide variety of fast drying dye and pigmented inks can be used in the system including Universal #100, Type D and Type M for marking on plastic films, metal, rubber and glass.

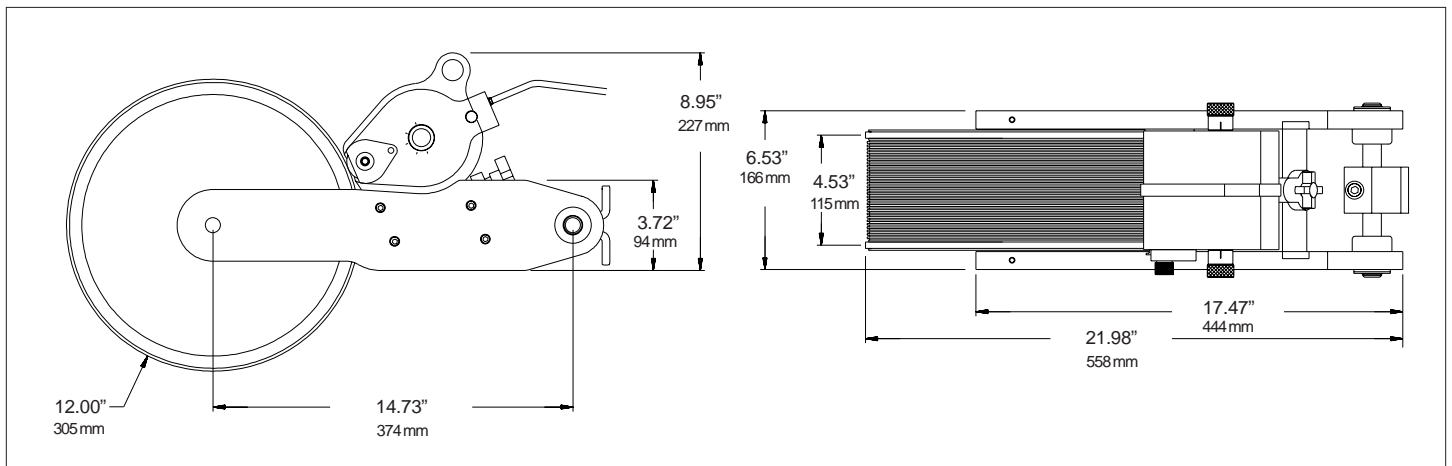


MODEL SHOWN: WPNP-400NI-12-PIDS

You can run multiple coders from one PIDS control box, as long as one of the coders is a PIDS-DIGITAL model. All other PIDS coders connected to the system will receive the same programmed volume of ink.



PIDS WIPER ADAPTER



Note: WPNP-400NI-12-PIDS Web Printer is a special order product. Extended lead time is required.

UNIVERSAL PIDS & PIDS DIGITAL NON-POROUS WPNP-400NI-12 WEB PRINTERS	
STOCK NO.	DESCRIPTION
WPNP-400NI-12-PIDS	4" NON-INDEXING WPNP WEB PRINTER - TOP MOUNT (INK ROLL SOLD SEPARATELY)

NON-POROUS WPNP-400NI-12-PIDS WEB PRINTER SPECIFICATIONS				
CODER SERIES	NET WEIGHT	MAXIMUM DIE SIZE US STANDARD	MAXIMUM DIE SIZE METRIC CODERS ONLY	PRINT DRUM CIRCUMFERENCE MEASURED AT DIE FACE
WPNP-400NI-12-PIDS	36LB.- 4.5OZ. (16.46 KG.)	3-7/8" (30 RIBS) X 37" LONG	98.4 MM (28 RIBS) X 939.8 MM LONG	APPROXIMATELY 37.7" (958MM)

XF NEOPRENE ink rolls are made from extra firm density foam. XF Neoprene rolls offer slightly higher print quality and are recommended where 3 or 4 lines of type are required. This material performs exceptionally well with **Universal #100 Fast Dry Ink** on **non-porous** materials (roll covers required). These rolls are **re-inkable** for maximum economy.



NON-POROUS PIDS & PIDS DIGITAL MIDSIZE CODER & CONVEYOR LINE PRINTER XF NEOPRENE INK ROLLS	
STOCK NO.	ROLL FACE
NP-XC1	1"
NP-XC2	2"
NON-POROUS PIDS & PIDS DIGITAL WEB PRINTER XF NEOPRENE INK ROLLS	
STOCK NO.	ROLL FACE
WPNP-XC4	4"

Note: Ink rolls must be pre-inked before use with Universal's patented 4 oz. Reservoir Inking System Cartridges. To order rolls pre-inked with Universal Ink, add a "P" suffix to the stock number followed by the color code number listed below. Example: A NP-XC2-P2 stock number designates a 2" face Non-Porous Roll pre-inked with Red ink.

Color Codes: 1 = Black, 2 = Red, 3 = Green, 4 = Blue, 5 = Yellow, 6 = White, 9 = Violet

Universal's interchangeable RIBtype® rubber type, is available in a variety of styles to fit most rib base coders and marking machines. Letter & number assortment sets contain letters, numbers, punctuation marks and currency symbols. The quantity of letters in these sets are based on frequency of use for example more A's & E's than Q's & Z's. Number assortment sets contain numbers, punctuation marks and currency symbols.



"5A" & "3A" sets include a variety of letters, numbers, punctuation and currency symbols.

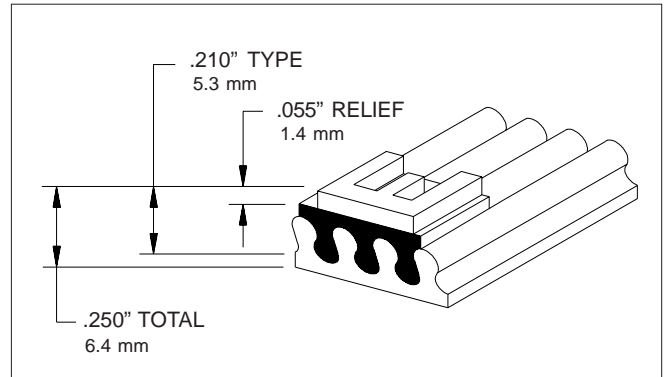
"5F" & "4F" figure sets include either 5 or 4 of each number 0-9 along with punctuation and currency symbols.

"15FS" & "12FS" super number sets offer the most economical way to buy "F" sets. Each "FS" set contains 3 times the quantity of characters in a "F" figure set at about 2-1/2 times the cost.

The next ten pages show the horizontal or standard typesyles & large typesyles available. At the bottom of each page a chart shows a complete list of characters and quantities per set. Larger sizes or other typesyles are available by special order.

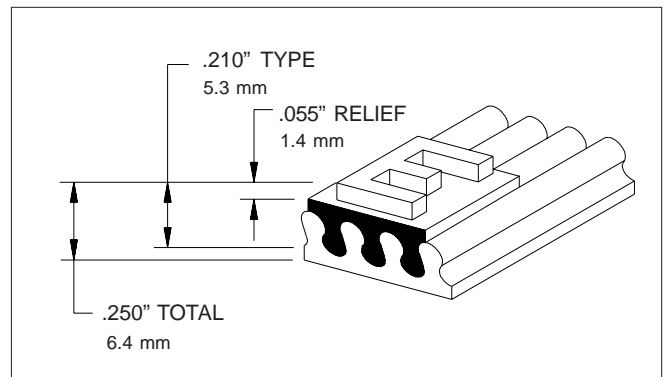
HORIZONTAL (STANDARD) RUBBER TYPE

Horizontal ribbed rubber type is manufactured to a nominal thickness of .210" with a thickness tolerance of +/- .003". We guarantee it! We also guarantee the alignment of our type will meet the same exacting tolerances. With horizontal rubber type, lines of text run parallel to the ribs on a coder drum as indicated on the diagram to the right.



VERTICAL RUBBER TYPE

Vertical rubber type logos and single sort characters are manufactured to the same exacting tolerances as standard rubber type. A vertical rib orientation is used when the printed code needs to read from top to bottom or bottom to top. The rib backing on these dies runs perpendicular to the line of text as indicated on the diagram to the right.



When ordering please indicate character size, style and maximum length, if space is limited.

"Single Line Logotype" is a single line of characters molded in one piece such as a word or code and provides superior quality impressions over combinations of single characters because of uniform typeface wear. They also save time and minimize costly spelling and coding errors.

"Multiple Line Mats" are two or more lines of text on a single piece. When only part of the text changes, a hole or notch can be cut out of the die and a logo or individual characters can easily be inserted.

"Sorts" are single letters, numbers or punctuation marks and can be custom made in any quantity.

"Mirror Image Type" is a "mirror" image of normal text and is used in offset equipment when the type does not print directly on the object. It is also used when printing on the inside of clear packaging.



Special designs, trademarks and typesyles can be created or reproduced to add to your logo or multi line mats. For best results please supply 600 DPI, black and white, camera ready art work.

A STYLE **RIBTYPE** REGULAR TYPESTYLE

STYLE & SIZE	TYPESTYLE SAMPLE	TYPE FACE HEIGHT	NO. OF RIBS	LETTER & NUMBER ASSORTMENT		"F" NUMBER ASSORTMENT		"FS" NUMBER ASSORTMENT	
				SET	STK. #	SET	STK. #	SET	STK. #
A7	RIBTYPE 123456789012	1/16" 1.59 MM	2	5A	UR-A7	5F	UR-A7F	15FS	UR-A7FS
A8	RIBTYPE 1234567	5/64" 1.98 MM	2	5A	UR-A8	5F	UR-A8F	15FS	UR-A8FS
A9	RIBTYPE1234	7/64" 2.78 MM	2	5A	UR-A9	5F	UR-A9F	15FS	UR-A9FS
A10	RIBTYPE123	1/8" 3.18 MM	2	5A	UR-A10	5F	UR-A10F	15FS	UR-A10FS
A11	RIBTYP123	9/64" 3.57 MM	2	5A	UR-A11	5F	UR-A11F	15FS	UR-A11FS
A12	RIBTY12	3/16" 4.76 MM	2	5A	UR-A12	4F	UR-A12F	12FS	UR-A12FS
A13	RIB12	1/4" 6.35 MM	3	5A	UR-A13	4F	UR-A13F	12FS	UR-A13FS
A14	RIBT1	5/16" 7.94 MM	3	5A	UR-A14	4F	UR-A14F	12FS	UR-A14FS
A15	RB3	3/8" 9.53 MM	3	5A	UR-A15	4F	UR-A15F	12FS	UR-A15FS
A15.5	RI4	7/16" 11.1 MM	4	5A	UR-A15.5	4F	UR-A15.5F	12FS	UR-A15.5FS
A16	R2	1/2" 12.7 MM	4	5A	UR-A16	4F	UR-A16F	12FS	UR-A16FS
A17	RI	5/8" 15.9 MM	5	5A	UR-A17	4F	UR-A17F	12FS	UR-A17FS
A18	RI	3/4" 19.0 MM	6	3A	UR-A18	4F	UR-A18F	12FS	UR-A18FS

CHART SHOWING THE CONTENTS OF THE STANDARD A TYPESTYLE SETS

CHARACTERS	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	1	2	3	4	5	6	7	8	9	0	.	,	-	&	\$	'	/	¢	TOTAL PIECES																									
5A SETS	5	4	5	4	6	4	4	4	5	2	2	5	3	5	5	4	2	5	5	5	3	2	3	2	3	2	3	2	2	2	2	2	2	2	2	3	4	4	3	1	1	2			136																									
3A SETS	3	2	3	2	4	2	2	2	3	2	1	2	2	3	3	2	1	3	3	3	2	2	2	1	2	1	3	2	2	2	2	2	2	2	2	3	4	3	4	1	1	1			94																									
5F Number Assortment - For Styles A7 thru A11																										5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	59			
4F Number Assortment - For Styles A12 thru A18																										4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	49	
15FS Super Number Assortment - For Styles A7 thru A11																										15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	177
12FS Super Number Assortment - For Styles A12 thru A18																										12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	147

A STYLE LARGE CHARACTERS **RIBTYPE** REGULAR TYPESTYLE

STYLE & SIZE	TYPESTYLE SAMPLE	TYPE FACE HEIGHT	NO. OF RIBS	LETTER & NUMBER ASSORTMENT		"F" NUMBER ASSORTMENT		"FS" NUMBER ASSORTMENT	
				SET	STK. #	SET	STK. #	SET	STK. #
A19	RI	1" 25.4 MM	8	3A	UR-A19	4F	UR-A19F		
A20	R	1-1/4" 31.75 MM	10						
A21	R	1-1/2" 38.10 MM	12						



CHART SHOWING THE CONTENTS OF THE LARGE A TYPESTYLE SETS

CHARACTERS	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	1	2	3	4	5	6	7	8	9	0	.	,	-	&	\$	'	/	¢	TOTAL PIECES		
3A SETS	3	2	3	2	4	2	2	2	3	2	1	2	2	3	3	2	1	3	3	3	2	2	2	1	2	1	3	2	2	2	2	2	2	2	2	3	4	3	4	1	1	1					94
4F Number Assortment - For Styles A19																												4	4	4	4	4	4	4	4	4	4	2	1	2		1		2	1	49	

A STYLE
LARGE CHARACTERS

RIBTYPE

REGULAR TYPESTYLE

STYLE & SIZE	TYPESTYLE SAMPLE	TYPE FACE HEIGHT	NO. OF RIBS	LETTER & NUMBER ASSORTMENT		"F" NUMBER ASSORTMENT		"FS" NUMBER ASSORTMENT	
				SET	STK. #	SET	STK. #	SET	STK. #
A22		1-3/4" 44.45 MM	14						
A23		2" 50.80 MM	15						

B STYLE

RIBTYPE

REGULAR CONDENSED

STYLE & SIZE	TYPESTYLE SAMPLE	TYPE FACE HEIGHT	NO. OF RIBS	LETTER & NUMBER ASSORTMENT		"F" NUMBER ASSORTMENT		"FS" NUMBER ASSORTMENT	
				SET	STK. #	SET	STK. #	SET	STK. #
B11	RIBTYPE123456	9/64" 3.57 MM	2	5A	UR-B11	5F	UR-B11F	15FS	UR-B11FS
B12	RIBTYPE123	3/16" 4.76 MM	2	5A	UR-B12	4F	UR-B12F	12FS	UR-B12FS
B13	RIBTY12	1/4" 6.35 MM	2	5A	UR-B13	4F	UR-B13F	12FS	UR-B13FS
B14	RIBTY3	5/16" 7.94 MM	3	5A	UR-B14	4F	UR-B14F	12FS	UR-B14FS
B15	RIB4	3/8" 9.53 MM	3	5A	UR-B15	4F	UR-B15F	12FS	UR-B15FS
B16	RB3	1/2" 12.7 MM	4	5A	UR-B16	4F	UR-B16F	12FS	UR-B16FS
B17	RIB	5/8" 15.9 MM	5	5A	UR-B17	4F	UR-B17F	12FS	UR-B17FS
B18	RT	3/4" 19.0 MM	6	3A	UR-B18	4F	UR-B18F	12FS	UR-B18FS
B19	RI	1" 25.4 MM	8	3A	UR-B19	4F	UR-B19F	---	---

CHART SHOWING THE CONTENTS OF THE STANDARD B TYPESTYLE SETS

CHARACTERS	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	1	2	3	4	5	6	7	8	9	0	.	,	-	&	\$	'	/	¢	TOTAL PIECES																									
5A SETS	5	4	5	4	6	4	4	4	5	2	2	5	3	5	5	4	2	5	5	5	3	2	3	2	3	2	3	2	2	2	2	2	2	2	2	3	4	4	3	1	1	2			136																									
3A SETS	3	2	3	2	4	2	2	2	3	2	1	2	2	3	3	2	1	3	3	3	2	2	2	1	2	1	3	2	2	2	2	2	2	2	2	3	4	3	4	1	1	1			94																									
5F Number Assortment - For Styles B11																										5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	59			
4F Number Assortment - For Styles B12 thru B19																										4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	49	
15FS Super Number Assortment - For Styles B11																										15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	177
12FS Super Number Assortment - For Styles B12 thru B18																										12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	147

B STYLE
LARGE CHARACTER

RIBTYPE



REGULAR CONDENSED

STYLE & SIZE	TYPESTYLE SAMPLE	TYPE FACE HEIGHT	NO. OF RIBS	LETTER & NUMBER ASSORTMENT		"F" NUMBER ASSORTMENT		"FS" NUMBER ASSORTMENT	
				SET	STK. #	SET	STK. #	SET	STK. #
B20	RI	1-1/4" 31.75 MM	10						
B21	RI	1-1/2" 38.10 MM	12						

B STYLE
LARGE CHARACTER

RIBTYPE

REGULAR CONDENSED

STYLE & SIZE	TYPESTYLE SAMPLE	TYPE FACE HEIGHT	NO. OF RIBS	LETTER & NUMBER ASSORTMENT		"F" NUMBER ASSORTMENT		"FS" NUMBER ASSORTMENT	
				SET	STK. #	SET	STK. #	SET	STK. #
B22		1-3/4" 44.45 MM	14						
B23		2" 50.80 MM	15						

U STYLE

RIBTYPE

BOLD TYPESTYLE

STYLE & SIZE	TYPESTYLE SAMPLE	TYPE FACE HEIGHT	NO. OF RIBS	LETTER & NUMBER ASSORTMENT		"F" NUMBER ASSORTMENT		"FS" NUMBER ASSORTMENT	
				SET	STK. #	SET	STK. #	SET	STK. #
U70	RIBTYPE12345	1/8" 3.18MM	2	5A	UR-U70	5F	UR-U70F	15FS	UR-U70FS
U71	RIBTYPE1234	5/32" 3.97MM	2	5A	UR-U71	5F	UR-U71F	15FS	UR-U71FS
U72	RBTY123	3/16" 4.76 MM	2	5A	UR-U72	4F	UR-U72F	12FS	UR-U72FS
U73	RBTY123	1/4" 6.35 MM	2	5A	UR-U73	4F	UR-U73F	12FS	UR-U73FS
U74	RIBT12	5/16" 7.94 MM	3	5A	UR-U74	4F	UR-U74F	12FS	UR-U74FS
U75	RIB12	3/8" 9.53 MM	3	5A	UR-U75	4F	UR-U75F	12FS	UR-U75FS
U75.5	RBT1	7/16" 11.1 MM	4	5A	UR-U75.5	4F	UR-U75.5F	12FS	UR-U75.5FS
U76	RB1	1/2" 12.7 MM	4	5A	UR-U76	4F	UR-U76F	12FS	UR-U76FS
U77	RB	5/8" 15.9 MM	5	3A	UR-U77	4F	UR-U77F	12FS	UR-U77FS
U78	RI	3/4" 19.0 MM	6	3A	UR-U78	4F	UR-U78F	12FS	UR-U78FS
U79	RI	15/16" 23.8 MM	7	3A	UR-U79	4F	UR-U79F	12FS	UR-U79FS

CHART SHOWING THE CONTENTS OF THE STANDARD U TYPESTYLE SETS

CHARACTERS	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	1	2	3	4	5	6	7	8	9	0	.	,	-	&	\$	'	/	¢	TOTAL PIECES																										
5A SETS	5	4	5	4	6	4	4	4	5	2	2	5	3	5	5	4	2	5	5	5	3	2	3	2	3	2	3	2	2	2	2	2	2	2	2	3	4	4	3	1	1	2				136																									
3A SETS	3	2	3	2	4	2	2	2	3	2	1	2	2	3	3	2	1	3	3	3	2	2	2	1	2	1	3	2	2	2	2	2	2	2	2	3	4	3	4	1	1	1				94																									
5F Number Assortment - For Styles U70 and U71																											5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	59		
4F Number Assortment - For Styles U72 thru U79																											4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	49	
15FS Super Number Assortment - For Styles U70 and U71																											15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	177
12FS Super Number Assortment - For Styles U72 thru U79																											12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	147

**U STYLE
LARGE CHARACTERS**

RIBTYPE

BOLD TYPESTYLE

STYLE & SIZE	TYPESTYLE SAMPLE	TYPE FACE HEIGHT	NO. OF RIBS	LETTER & NUMBER ASSORTMENT		"F" NUMBER ASSORTMENT		"FS" NUMBER ASSORTMENT	
				SET	STK. #	SET	STK. #	SET	STK. #
U80	RI	1-1/4" 31.75 MM	10						
U81	R	1-1/2" 38.10 MM	12						
U82	R	1-3/4" 44.45 MM	14						
U83	R	2" 50.80 MM	17						

G STYLE

RIBTYPE

BOLD CONDENSED

STYLE & SIZE	TYPESTYLE SAMPLE	TYPE FACE HEIGHT	NO. OF RIBS	LETTER & NUMBER ASSORTMENT		"F" NUMBER ASSORTMENT		"FS" NUMBER ASSORTMENT	
				SET	STK. #	SET	STK. #	SET	STK. #
G73	RIBTY123	1/4" 6.35 MM	2	5A	UR-G73	4F	UR-G73F	12FS	UR-G73FS
G74	RIBTY12	5/16" 7.94 MM	3	5A	UR-G74	4F	UR-G74F	12FS	UR-G74FS
G75	RIBT12	3/8" 9.53 MM	3	5A	UR-G75	4F	UR-G75F	12FS	UR-G75FS
G76	RB12	1/2" 12.7 MM	4	5A	UR-G76	4F	UR-G76F	12FS	UR-G76FS
G77	RB1	5/8" 15.9 MM	5	5A	UR-G77	4F	UR-G77F	12FS	UR-G77FS
G78	RI3	3/4" 19.0 MM	6	5A	UR-G78	4F	UR-G78F	12FS	UR-G78FS
G79	R3	15/16" 23.8 MM	7	3A	UR-G79	4F	UR-G79F	12FS	UR-G79FS

CHART SHOWING THE CONTENTS OF THE STANDARD G TYPESTYLE SETS

CHARACTERS	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	1	2	3	4	5	6	7	8	9	0	.	,	-	&	\$	'	/	¢	TOTAL PIECES																								
5A SETS	5	4	5	4	6	4	4	4	5	2	2	5	3	5	5	4	2	5	5	5	3	2	3	2	3	2	3	2	2	2	2	2	2	2	2	3	4	4	3	1	1	2			136																								
3A SETS	3	2	3	2	4	2	2	2	3	2	1	2	2	3	3	2	1	3	3	3	2	2	2	1	2	1	3	2	2	2	2	2	2	2	2	3	4	3	4	1	1	1			94																								
4F Number Assortment - For Styles G73 thru G79																											4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	2	1	2	1	2	1	2	1	49
12FS Super Number Assortment - For Styles G73 thru G79																											12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	6	3	6	3	6	3	6	3	147

**G STYLE
LARGE CHARACTERS**

RIBTYPE

BOLD CONDENSED

STYLE & SIZE	TYPESTYLE SAMPLE	TYPE FACE HEIGHT	NO. OF RIBS	LETTER & NUMBER ASSORTMENT		"F" NUMBER ASSORTMENT		"FS" NUMBER ASSORTMENT	
				SET	STK. #	SET	STK. #	SET	STK. #
G80	BI	1-1/4" 31.75 MM	10	3A	UR-G80	4F	UR-G80F		
G81	B	1-1/2" 38.10 MM	12	3A	UR-G81	4F	UR-G81F		
G82	B	1-3/4" 44.45 MM	14	3A	UR-G82	4F	UR-G82F		
G83	B	2" 50.80 MM	17	3A	UR-G83	4F	UR-G83F		

CHART SHOWING THE CONTENTS OF THE LARGE G TYPESTYLE SETS

CHARACTERS	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	1	2	3	4	5	6	7	8	9	0	.	,	-	&	\$	'	/	¢	TOTAL PIECES		
3A SETS	3	2	3	2	4	2	2	2	3	2	1	2	2	3	3	2	1	3	3	3	2	2	2	1	2	1	3	2	2	2	2	2	2	2	2	3	4	3	4	1	1	1					94
4F Number Assortment - For Styles G80 thru G83																												4	4	4	4	4	4	4	4	4	4	4	2	1	2	1		2	1		49

Whether you make 10,000 or 100,000 prints a day, the Kortho Digital Hot Quick Coder offers a perfect solution for a variety of coding applications. The unique hot ink technology, provides a clean, sharp, nearly instant dry impression at a high rate printing speed of 300 prints/min. The standard mounting hardware allows quick installation and precise adjustment of coder position. Although this mounting hardware is heavy duty in material, it is small in dimension and has no mounting restrictions.



MODEL SHOWN: HQCD-100 (WITH FINE ADJUST COLLAR)

System Includes:

1. Digital Control Box.
2. Print Head.
3. Power Cord.
4. Standard Mounting Bracket Assembly.
5. Flat Type Holder with removable handle.

Kortho Digital Hot Quick Coders can be used on almost any material and surface with up to three lines of text in a maximum printing area of 12 x 24 mm. The unique spring loaded jumping head, with its "butterfly touch" even allows you to make a perfect print on moving products at a max. speed of 60m/min.

KORTHO DIGITAL HOT QUICK CODER	
STOCK NO.	DESCRIPTION
HQCD-100	KORTHO HOT QUICK CODER W/CONTROL, STANDARD MOUNTING HARDWARE & FLAT TYPE HOLDER
HQC-100-FAB	FINE ADJUST COLLAR

Specifications:

Print Area: 0.472" X 0.945" - 12 x 24 mm

Printing Speed Max: 300 Prints/min.

Product Speed Max: 196 Ft./min. - 60m/min.

Electrical: 110-130 VAC/1 A. - 220-240 VAC/0.5 A.

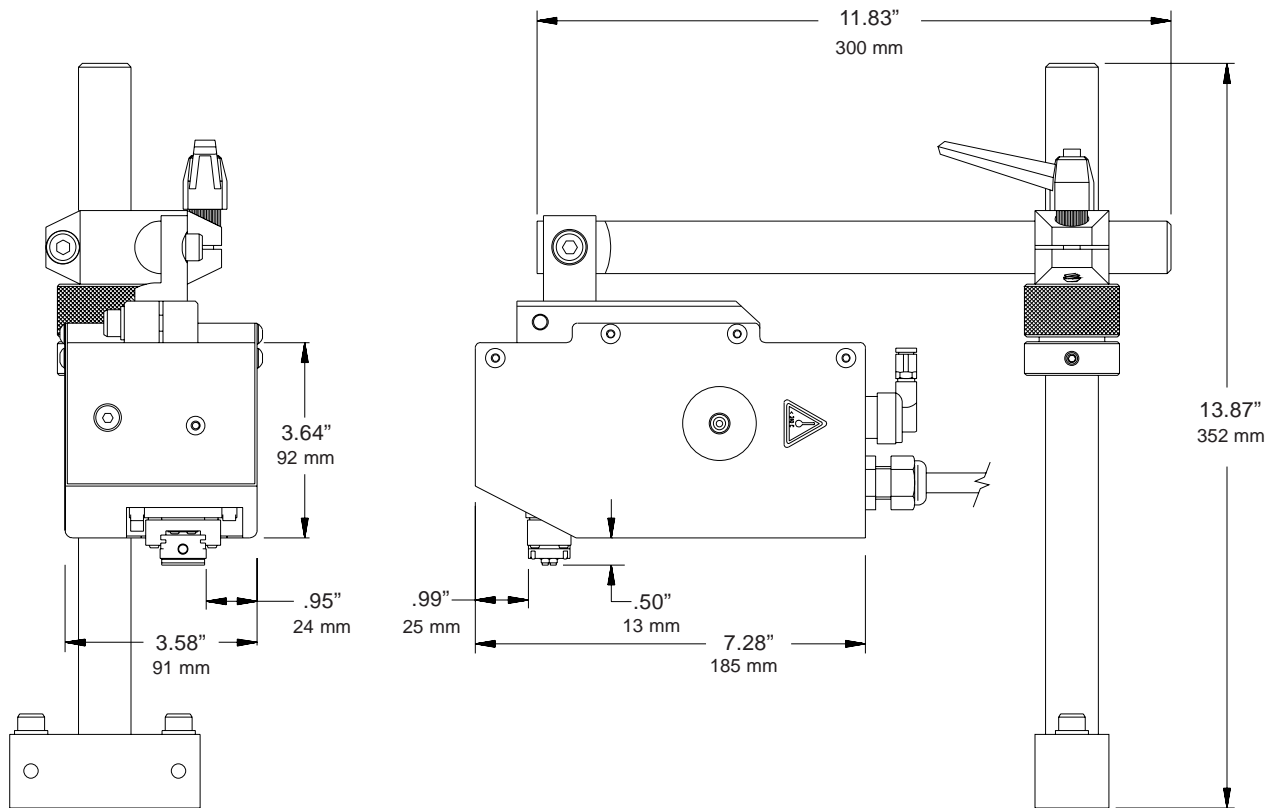
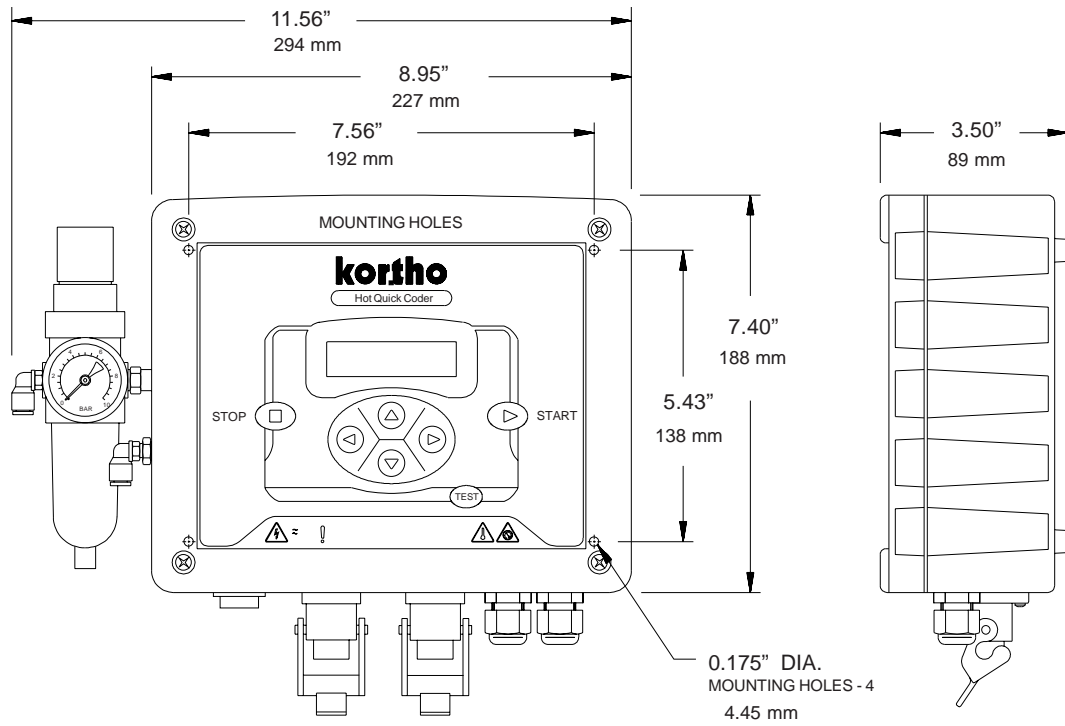
Working Pressure: 56 PSI - 4 bar

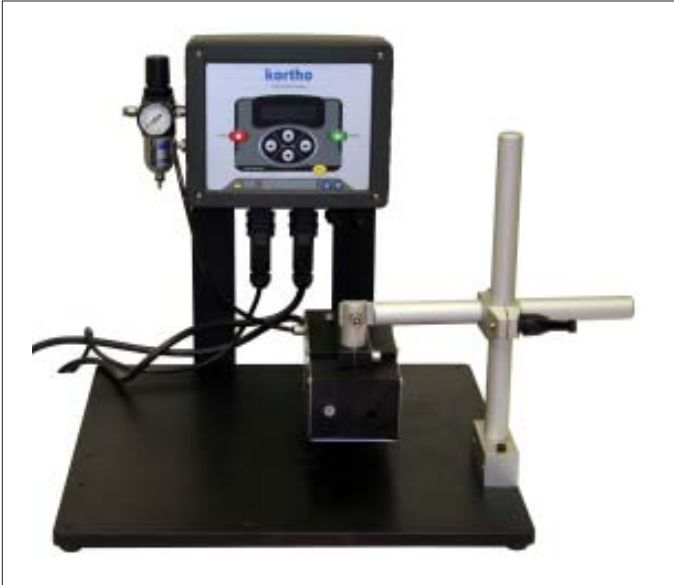
Weight: Coder: 4.7 Lbs. - 2.13 Kg
Control: 4.9 Lbs. - 2.2 Kg



FINE ADJUST COLLAR

The Fine Adjust Collar can be installed on the mounting column of the Standard Mounting Bracket Assembly to provide precision adjustment capabilities when positioning the Print Head. Total adjustment range is approximately 1/2".





MODEL SHOWN: HQC-100
W/KORTHO HOT QUICK CODER BENCH MOUNT STAND - 12" X 18"

Universal has solved the problem for bench top marking applications with the Kortho Hot Quick Coder Bench Mount Stands. The base plates on these stands are manufactured from heavy duty, anodized 1/2" thick aluminum and feature cushioned rubber feet. Threaded mounting holes in the base provide three locations for the installation of the standard Kortho Print Head mounting bracket assembly. A vertical mounting plate with 4 threaded holes provide a convenient mount for the Kortho Control Box. The aluminum base can be machined for mounting permanent part fixtures or temporary locating fixtures can be attached with double backed tape.

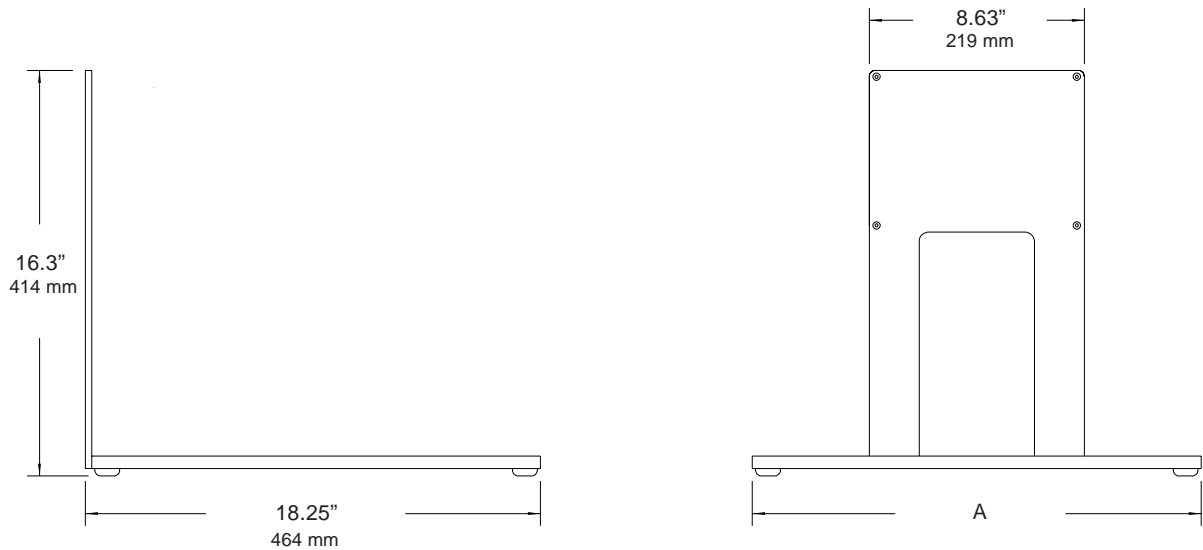
Model No: HQC-100-BS1
Net Weight: 13.54 lbs - 6.16 Kg
Dimension A = 12" - 305 mm

Model No: HQC-100-BS2
Net Weight: 19.03 lbs - 8.65 Kg
Dimension A = 18" - 457 mm

The Kortho Hot Quick Coder Bench Mount Stands are available in two standard models:

The HQC-100-BS1 - Base Size - 12" x 18"

The HQC-100-BS2 - Base Size - 18" x 18"



HOT QUICK CODER BENCH MOUNT STAND

KORTHO HOT QUICK CODER BENCH MOUNT STANDS

STOCK NO.	DESCRIPTION
HQC-100-BS1	KORTHO HOT QUICK CODER BENCH MOUNT STAND - 12" X 18" (MOUNTING HARDWARE INCLUDED)
HQC-100-BS2	KORTHO HOT QUICK CODER BENCH MOUNT STAND - 18" X 18" (MOUNTING HARDWARE INCLUDED)

Kortho ink rolls, which are dry to the touch at room temperature, are preheated prior to use in the self-contained heating system. The Kortho Hot Quick Coder utilizes hot ink technology to provide clean, sharp, nearly instantly dry impressions at a high rate of speed. When hot, the ink in the roll becomes fluid and is then ready for operation. A spare roll can be stored in the unit's preheat chamber during production to keep it ready for immediate use.



HOT QUICK CODER INK ROLLS

Ink rolls are supplied in convenient six-pack boxes and are available in the following colors: black, red, green, blue, brown, orange, yellow and white.

REPLACEMENT INK ROLLS FOR HQC-100 CODERS

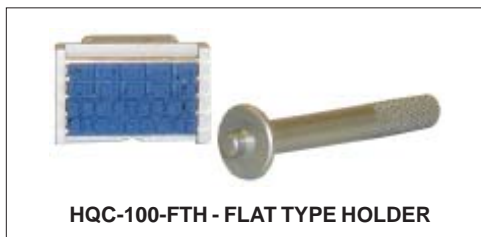
STOCK NO.	DESCRIPTION
HQC-6-BK	HQC-TS WAX ROLLS, BLACK - 6/PK
HQC-6-RD	HQC-TS WAX ROLLS, RED - 6/PK
HQC-6-WH	HQC-TS WAX ROLLS, WHITE - 6/PK
HQC-6-GR	HQC-TS WAX ROLLS, GREEN - 6/PK
HQC-6-BL	HQC-TS WAX ROLLS, BLUE - 6/PK
HQC-6-BR	HQC-TS WAX ROLLS, BROWN - 6/PK SPECIAL ORDER
HQC-6-OR	HQC-TS WAX ROLLS, ORANGE - 6/PK SPECIAL ORDER
HQC-6-YL	HQC-TS WAX ROLLS, YELLOW - 6/PK

Extended lead time may apply to special order rolls.

TYPE HOLDERS FOR HQC-100 CODERS

HQC-100-FTH	FLAT TYPE HOLDER WITH REMOVABLE HANDLE
HQC-100-THCONCAVE	CONCAVE TYPE HOLDER WITH REMOVABLE HANDLE
HQC-100-THCONVEX	CONVEX TYPE HOLDER WITH REMOVABLE HANDLE

Special nonmetallic type is set up off-line in the units quick change type holders to facilitate code changes in seconds.



HQC-100-FTH - FLAT TYPE HOLDER

Additional HQC-100-FTH Flat Type Holders are available to enable setting up codes off line for extremely fast code changes during production. Having a spare Type Holder eliminates the need to let the active Holder cool down for comfortable handling. Print Area: 12mm x 24mm (Approx: 0.5" x 1.0")

The HQC-100-THCONCAVE Type Holders are designed for use in applying codes along the length of cylindrical parts such as round bottles and cans. The concave shape of this type holder conforms to the curvature of the cylinder and enables multiple lines to be printed. The ribbed rubber mat holds the type and provides a cushion to ensure a clear imprint



HQC-100-THCONCAVE - CONCAVED TYPE HOLDER



HQC-100-THCONVEX - CONVEXED TYPE HOLDER

The HQC-100-THCONVEX Type Holders are designed for use in applying codes to the bottoms of aerosol cans. The convex shape of the type holder conforms to the curvature of the can bottom. A ribbed rubber mat holds the type and provides a slight cushion to ensure a clear imprint.



HQC-100-FPT

The Foot Pedal Trigger is designed for manual initiation of the marking cycle. This triggering device is commonly used when the coder is bench mounted and products are manually placed under the marking head for imprinting. Body Dimensions: 3.5" x 2.5" x 0.750".

The HQC-100-FPT Kit includes a Foot Pedal Switch, 8 Foot Cable and installation instructions.

The HQC-100-MST Micro-Switch is a contact trigger used to initiate the print cycle of the HQC. This unit is permanently mounted to the production line and has a 2.5" long trip lever with a low (2.5 Oz.) operating force. Body Dimensions: 2.1" x 1.55" x 0.84".

The HQC-100-MST Kit includes a Microswitch, Dust Proof Enclosure, 6 Foot Cable, Mounting Screws and installation instructions.



HQC-100-MST



HQC-100-PCT-D

The HQC-100-PCT-D is a compact NPN, intelligent reflective beam photocell which is used for non-contact triggering of the HQC marking cycle. This photocell features both automatic and manual calibration options, digital readout, and a sensing range of up to 11.81" (300mm). This sensor excels in applications where product shape, color variations and even clear packaging materials can cause other photocells to fail. Body Dimensions: 1.4" x 0.785" x 0.48".

The HQC-100-PCT-D Kit includes the Photocell, Mounting Bracket, 6 Foot Cable and installation instructions. IP-67 Rated for harsh, wet environments.

The HQC-100-PCT-LR is a compact, long range retro-reflective Photocell which is which is used for non-contact triggering of the HQC marking cycle. This unit has an effective range up to 10 feet and is rated for harsh environments and suitable for installation in wet areas. Body Dimensions: 2.6" x 1.21" x 0.48".

The HQC-100-PCT-LR Kit includes the Photocell, mounting bracket, 6 foot cable and 3" diameter reflector.



HQC-100-PCT-LR

Note: The HQC-100-PCT-LR Kit is not recommended for sensing clear plastic or glass containers. The Gray and Black wires are not used and must be individually insulated with tape or heat shrink to prevent grounding.

KORTHO HOT QUICK CODER TRIGGERING DEVICES	
STOCK NO.	DESCRIPTION
HQC-100-FPT	FOOT PEDAL TRIGGER KIT
HQC-100-MST	MICRO-SWITCH TRIGGER KIT
HQC-100-PCT-D	PHOTOCELL TRIGGER KIT
HQC-100-PCT-LR	PHOTOCELL TRIGGER KIT - LONG RANGE

The Kortho Hot Quick Coder utilizes Universal High-Temp RIBtype® silicone type. This interchangeable ribbed type is available in a variety of sizes as shown below. The High-Temp rubber type is for the Kortho Hot Quick Coder only. All boxed sets contain an assortment of characters, including punctuation, in varying quantities. The chart below shows the quantity of each character in our listed boxed sets.

A + ASSORTMENT																										
CHARACTER	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
QUANTITY IN SET	7	5	5	5	7	5	5	5	5	5	5	5	5	7	5	5	3	5	5	5	5	5	5	3	3	5
CHARACTERS	À	Ä	Ö	Ü	Æ	Ø	1	2	3	4	5	6	7	8	9	0	.	,	-	/						
QUANTITY IN SET	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	3	1	1						

C + ASSORTMENT																										
FIGURES	1	2	3	4	5	6	7	8	9	0	.	,	-	/												
QUANTITY IN SET	9	9	9	9	9	9	9	9	9	9	2	3	2	2												

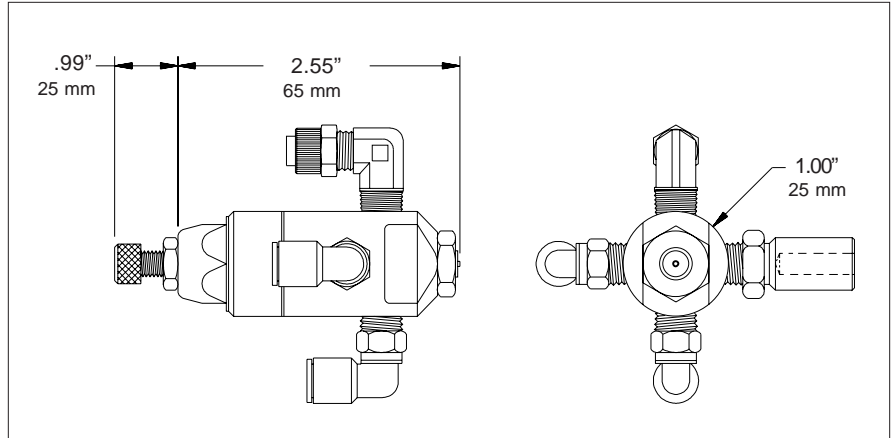
STYLE NO.	*FACE HEIGHT	LETTER TYPE SAMPLE	FIGURE TYPE SAMPLE
2/8	2 mm = 5/64"	DEFGHIJKLMNOPQRSTUVWXYZAB	012345678901234567890123456789
2/10	2.5 mm = 3/32"	CDEFGHIJKLMNOPQRSTUVWXYZ	012345678901234567890123456
2/12	3 mm = 1/8"	XYZABCDEFGHIJKLMNO	56789012345678901234567
2/14	3.5 mm = 9/64"	PQRSTUVWXYZABCDEFGHI	78901234567890123456
2/16	4 mm = 5/32"	GHIJKLMNOPQRSTU	78901234567890123
2/20	5 mm = 3/16"	VWXYZABCDEFGHI	456789012345678

* TYPE FACE HEIGHTS ARE APPROXIMATE

KORTHO HIGH-TEMP RIBtype® METRIC SILICONE TYPE					
STYLE	TYPE SIZE	STOCK NO. A+ ASSORTMENT	STOCK NO. C+ ASSORTMENT	RIBS PER DIE	MAXIMUM DIE SIZE
2/8	2 MM	UR-28A+	UR-28C+	2 RIBS	2 LINES - 13 CHARACTERS MAX
2/10	2.5 MM	UR-210A+	UR-210C+	2 RIBS	2 LINES - 11 CHARACTERS MAX
2/12	3 MM	UR-212A+	UR-212C+	2 RIBS	2 LINES - 9 CHARACTERS MAX
2/14	3.5 MM	UR-214A+	UR-214C+	2 RIBS	2 LINES - 9 CHARACTERS MAX
2/16	4 MM	UR-216A+	UR-216C+	2 RIBS	2 LINES - 7 CHARACTERS MAX
2/20	5 MM	UR-220A+	UR-220C+	2 RIBS	2 LINES - 6 CHARACTERS MAX

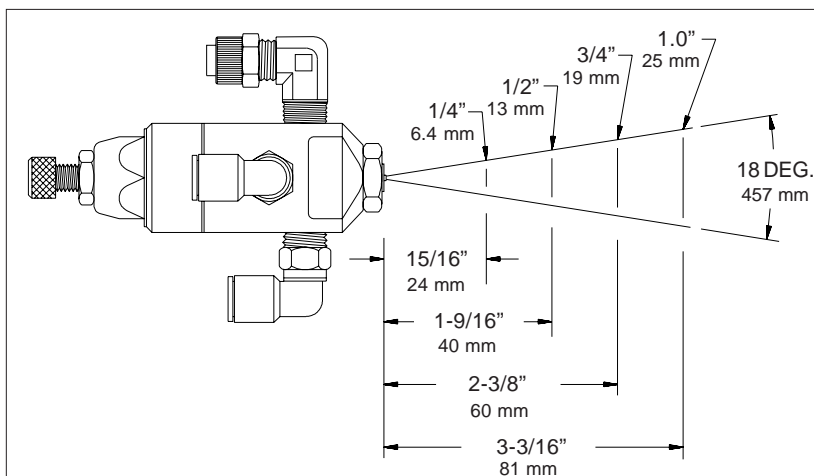
Universal's Micro-Spray Marker was designed for non-contact spot marking applications when color coded dots are required for product identification or acceptance/rejection indication. These low pressure atomizing jet spray marking units can produce up to 180 marks per minute, thus providing a high degree of marking flexibility at typical automation speeds.

Spot or stripe sizes are adjustable from 1/4" minimum to a maximum of 1". This unit may be mounted near automation and sensitive test equipment, placed in marking stations on the production line, or attached to robot arms. The Micro-Spray Marker is capable of marking in any attitude and the fast cycle rates make it ideal for high speed marking applications.



Micro-Spray Marker Systems require 5-12 PSI atomizing air pressure and 70-80 PSI trigger air pressure to operate. Remote gravity feed or pressurized ink reservoirs can handle extremely fast drying dye or pigmented inks for both porous and non-porous marking applications. These markers excel when marking operations require extremely fast drying inks on non-porous surfaces. A gold plated stainless steel clean out needle seats in the nozzle orifice after every cycle to ensure that the marker will continue to print even after prolonged idle periods. The USMR-20AF unit features an adjustable fluid control to regulate the volume of ink being applied per marking cycle. The adjustable model is recommended when more precise control over spot or stripe size is required and drying time is critical.

UNIVERSAL MICRO-SPRAY MARKER	
STOCK NO.	DESCRIPTION
USMR-20AF	MICRO-SPRAY MARKER WITH ADJUSTABLE FLUID CONTROL
USMR-PRK	STANDARD PARTS REPAIR KIT (REBUILDS 1 MARKER) FOR ALCOHOL BASE INKS ONLY
USMR-SRK	STANDARD SEAL REPAIR KIT (REBUILDS 1 MARKER) FOR ALCOHOL BASE INKS ONLY
USMR-PRK-VI	SPECIAL PARTS REPAIR KIT (REBUILDS 1 MARKER) FOR PETROLEUM BASE INKS ONLY
USMR-SRK-VI	SPECIAL SEAL REPAIR KIT (REBUILDS 1 MARKER) FOR PETROLEUM BASE INKS ONLY



SPRAY PATTERN

The Micro-Spray Marker fires an 18 degree conical spray pattern as shown in the figure to the left. The diameter of the spot or the width of the stripe mark being applied depends on the proximity of the part from the marker nozzle.



MODEL SHOWN: USMR-MSA-SM

To simplify installation of Universal's USMR-20AF Micro-Spray Marker, a mounting system has been developed which provides positioning adjustments in 7 independent axes. The modular mounting system design enables the non-contact spray marker to be positioned in any attitude required to apply marks to any surface of irregularly shaped parts. The system utilizes polished stainless steel support bars and right angle blocks to facilitate accurate positioning of the marker body. The split block style clamps can be loosened and tightened repeatedly without marring the shafts.

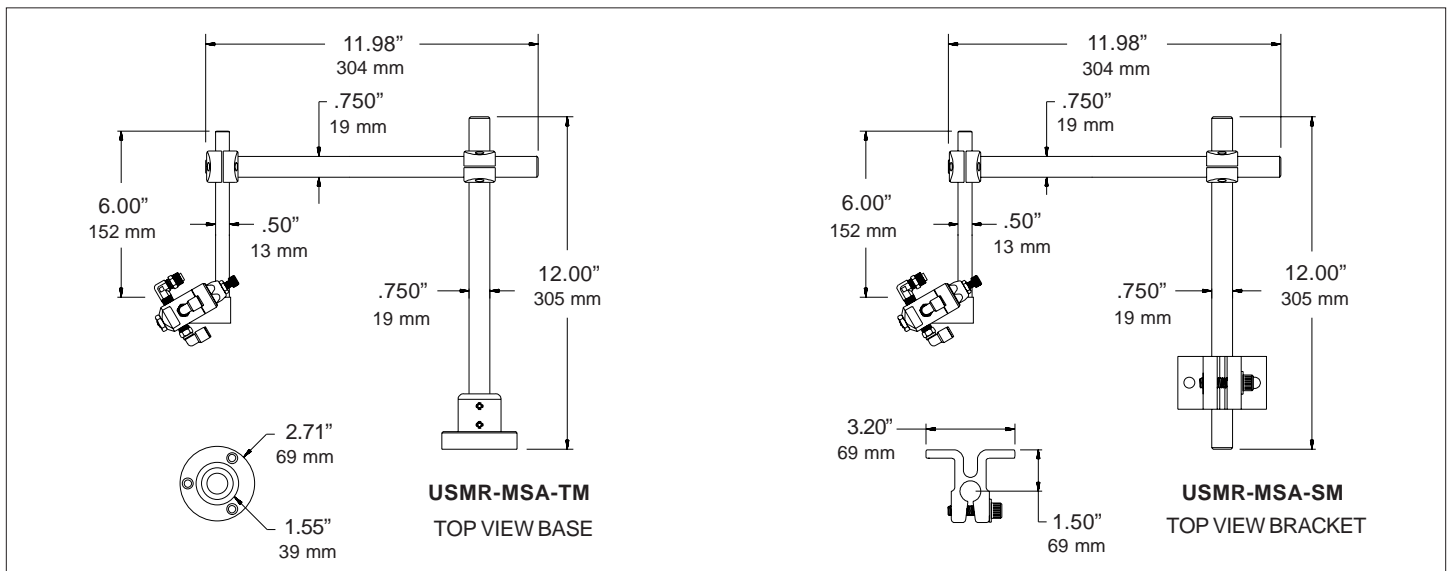
This mounting system is available with both side mount and top mount bases to accommodate mounting on nearly any type of parent equipment.

Both of these mounting system models include two 3/4" diameter x 12" long stainless steel columns and one 1/2" diameter x 6" long shaft, a mounting base, two right angle blocks and an adjustable mounting block for the marker. Custom length columns and shafts are available by special order.



MODEL SHOWN: USMR-MSA-TM

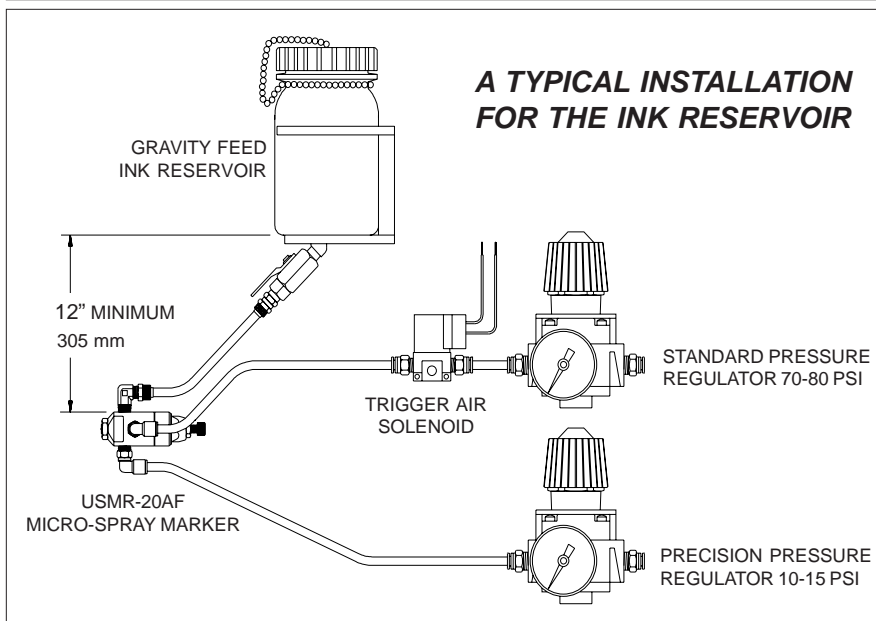
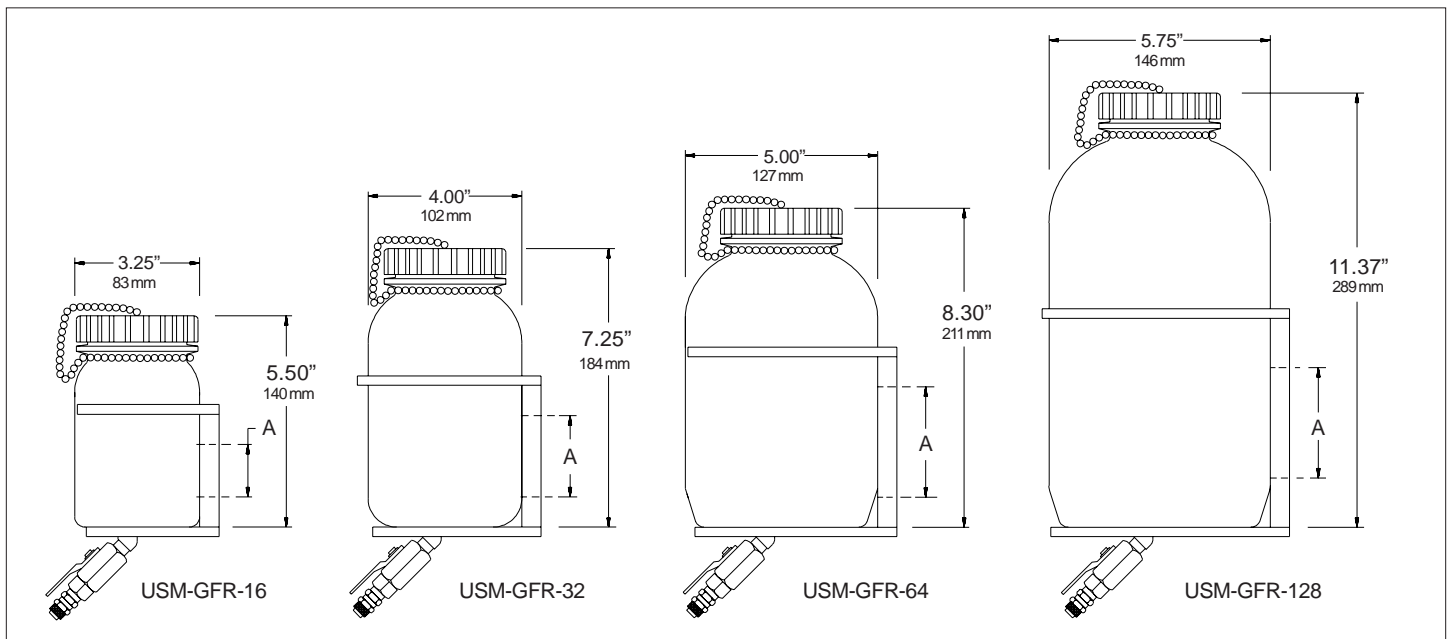
UNIVERSAL USMR-20 MOUNTING SYSTEM	
STOCK NO.	DESCRIPTION
USMR-MSA-SM	USMR-MOUNTING SYSTEM - SIDE MOUNT WITH 12" MOUNTING COLUMN
USMR-MSA-SMR	USMR-MOUNTING SYSTEM - SIDE MOUNT WITH 36" MOUNTING COLUMN & RESERVOIR BRACKET
USMR-MSA-TM	USMR-MOUNTING SYSTEM - TOP MOUNT WITH 12" MOUNTING COLUMN
USMR-MSA-TMR	USMR-MOUNTING SYSTEM - TOP MOUNT WITH 36" MOUNTING COLUMN & RESERVOIR BRACKET



Universal's USM-GFR Gravity Feed Ink Reservoirs are used with the USMR-20AF Spot Marker and the PIDS Programmable Ink Delivery Systems. The reservoirs are available in 4 standard sizes, 16 Oz., 32 Oz., 64 Oz. and 128 Oz. capacities. All models include a mounting bracket and a brass ball valve with a compression type tube fitting for the standard 1/4" OD poly connecting tubes. The large diameter neck design with a threaded lid simplifies filling the reservoir. These units are compatible with both glycol and alcohol base coding inks and the ink level can be visually monitored through the translucent sides of the reservoir.



UNIVERSAL INK RESERVOIRS		
STOCK NO.	DESCRIPTION	MOUNTING HOLE SPACING "A"
USM-GFR-16	16 OZ. GRAVITY FEED INK RESERVOIR	1.37"
USM-GFR-32	32 OZ. GRAVITY FEED INK RESERVOIR	2.12"
USM-GFR-64	64 OZ. GRAVITY FEED INK RESERVOIR	2.87"
USM-GFR-128	128 OZ. GRAVITY FEED INK RESERVOIR	2.87"



INSTALLATION

When an electrical signal is applied to the 3-way solenoid valve, the marker will fire until the signal is removed. A 100 millisecond signal duration is required to apply a 1/4" spot mark. A one-shot timer can be used to control the signal duration from a micro-switch or scanner.

Please contact our Engineering Department for application assistance and ink selection recommendations. Additional equipment such as Pressure Regulators, Solenoids and One-Shot Timers are listed in the Control Components section of this catalog.

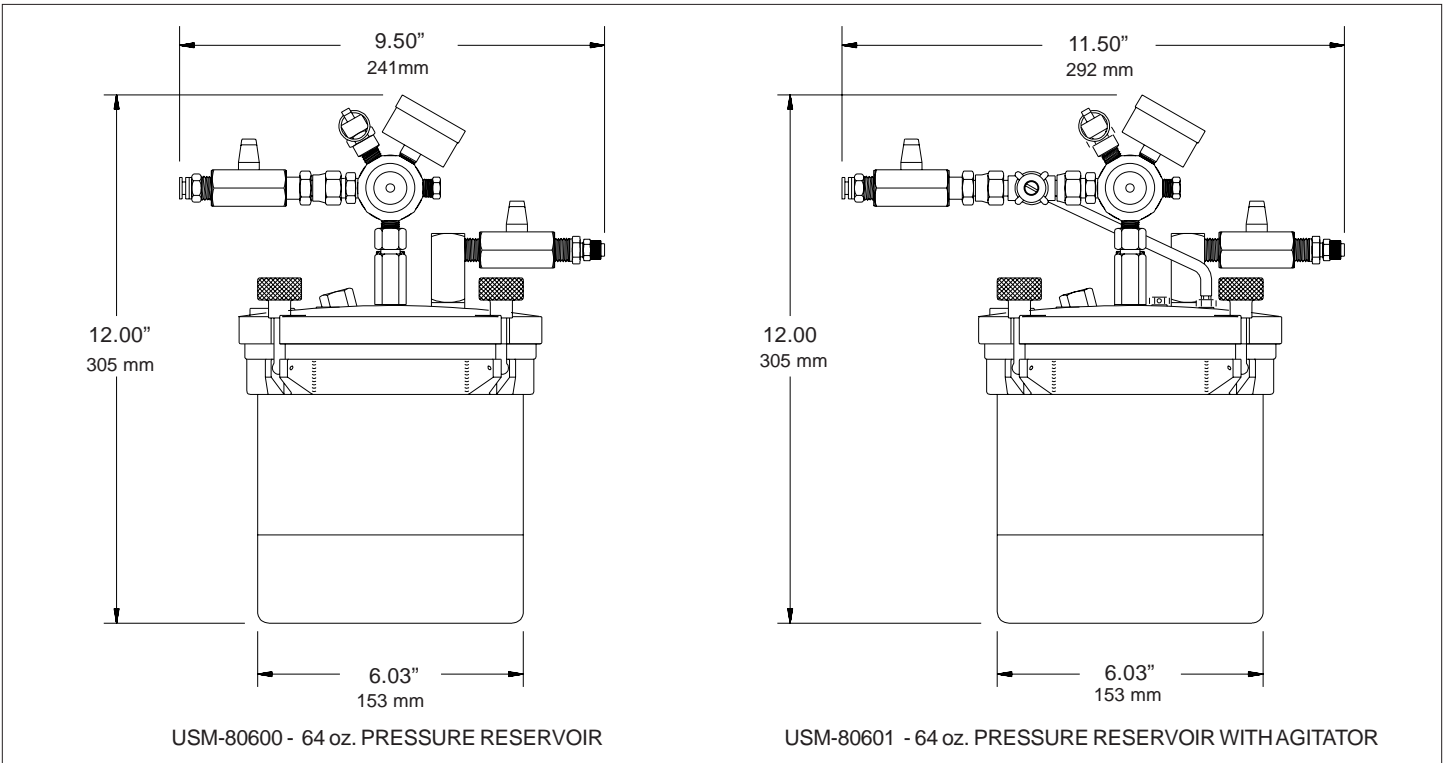


MODEL SHOWN: USM-80601

Universal's USM-80600 Pressure Reservoirs are used to increase the ink supply pressure to the USMR-20AF markers. Higher supply pressure allows more ink to flow into the atomizing air stream in a given time interval. The use of a pressure reservoir enables shorter duration triggering signals to be used and results in a faster reaction time for the marker. The pressure reservoirs are also recommended in applications requiring higher ink volume delivery. For most applications, tank pressure is set to 2-3 psi.

The USM-80600 is a 64oz. capacity unit complete with pressure regulator, gauge and disposable liner. The USM-80601 is also a 64oz. capacity unit with pressure regulator, gauge, disposable liner and includes a pneumatically operated ink agitation system which keeps pigmented inks in uniform suspension during use. Disposable liners are available for both units.

UNIVERSAL PRESSURE RESERVOIRS	
MODEL NO.	DESCRIPTION
USM-80600	64 OZ. PRESSURE RESERVOIR
USM-80601	64 OZ. PRESSURE RESERVOIR WITH AGITATOR
USM-80356	12 PAK REPLACEMENT DISPOSABLE CAN LINERS

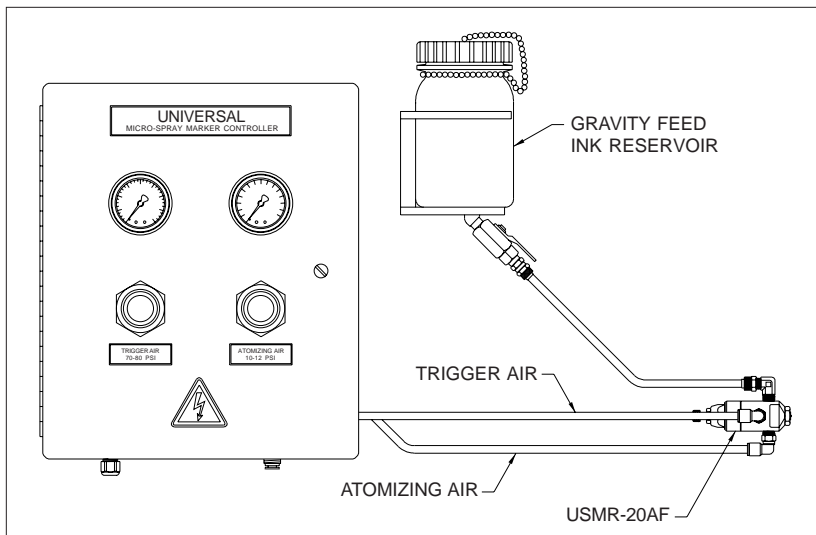
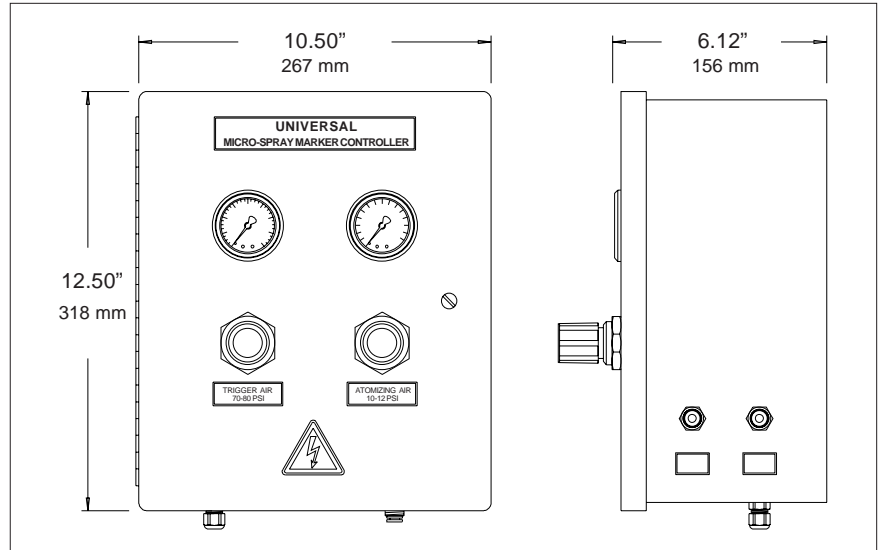


MICRO-SPRAY MARKERS *USM-103DS, USM-104DS, USM-105DS* SERIES CONTROLLERS

Universal USM-103DS, USM-104DS & USM-105DS Micro-Spray Marker Controllers have been designed to control the function of one or more USMR-20 Series Micro-Spray Markers in spot or stripe marking applications. These control systems contain the required pneumatic pressure regulators, gauges & solenoids to operate the Micro-Spray Markers using signals supplied by an external PLC. The only difference between the three models is the operating voltage of the solenoids.



USM-103DS, USM-104DS & USM-105DS



Operating signals for the Atomizing Air and Trigger Air solenoids must be supplied by an external PLC. All models require a source of clean, dry 80 - 100 psi compressed air.

The USM-103DS, USM-104DS & USM-105DS model controllers are designed for the control of a single Micro-Spray Marker. Multiple Marker Controllers are available.

UNIVERSAL MICRO-SPRAY MARKER CONTROLLERS	
STOCK NO.	DESCRIPTION
USM-103DS	MICRO-SPRAY MARKER PNEUMATIC CONTROLLER - WITH 115 VAC DUAL SOLENOID
USM-104DS	MICRO-SPRAY MARKER PNEUMATIC CONTROLLER - WITH 12 VDC DUAL SOLENOID
USM-105DS	MICRO-SPRAY MARKER PNEUMATIC CONTROLLER - WITH 24 VDC DUAL SOLENOID

Note: Special function controls, including those with Programmable Logic Controllers, are available upon request. Contact our Engineering Department for details.

The following is a partial listing of the pneumatic and electrical control components we stock for automatic marking system installations. These components are typically used in conjunction with Micro-Spray Marker applications.



If you need assistance in selecting the proper control components please contact our Engineering Department.

PNEUMATIC PRESSURE REGULATORS	
STOCK NO.	DESCRIPTION
USM-LPR1	PRECISION PNEUMATIC PRESSURE REGULATORS 0-15 PSI
USM-LPG1	PRECISION PNEUMATIC PRESSURE GAUGE 0-30 PSI
USM-SPR1	STANDARD PNEUMATIC PRESSURE REGULATORS 0-125 PSI
USM-SPG1	STANDARD PNEUMATIC PRESSURE GAUGE 0-160 PSI
USM-RMB1	MOUNTING BRACKET FOR PRESSURE REGULATORS

SOLENOID VALVES	
STOCK NO.	DESCRIPTION
USM-SOL1	3-WAY SOLENOID VALVE - 115 VAC COIL
USM-SOL2	3-WAY SOLENOID VALVE - 12 VDC COIL
USM-SOL3	3-WAY SOLENOID VALVE - 24 VDC COIL

SCANNERS	
STOCK NO.	DESCRIPTION
MRM-ATC-DS1	ATC DIFFUSE BEAM SCANNER TD-ON & TD-OFF SELECT

TUBES & FITTINGS	
STOCK NO.	DESCRIPTION
USMR-TK1	TUBE & FITTING KIT FOR SINGLE SOLENOID SYSTEM. KIT CONTENTS: 6FT. NATURAL POLY TUBE FOR RESERVOIR, 12 FT. POLY AIR TUBE, PUSH TYPE TUBE FITTINGS FOR STANDARD & PRECISION REGULATORS & A SOLENOID VALVE.
USMR-TK2	TUBE & FITTING KIT FOR DUAL SOLENOID SYSTEM. KIT CONTENTS: 6FT. NATURAL POLY TUBE FOR RESERVOIR, 20 FT. POLY AIR TUBE, PUSH TYPE TUBE FITTINGS FOR STANDARD & PRECISION REGULATORS & DUAL SOLENOID VALVE.
CT-02	1/4" O.D. NATURAL POLY TUBE FOR INK RESERVOIR
CT-02R	1/4" O.D. NATURAL POLY TUBE FOR INK RESERVOIR - 100 FOOT. ROLL
CT-03	1/4" O.D. BLACK POLY TUBE FOR PNEUMATIC CONNECTIONS
CT-03R	1/4" O.D. BLACK POLY TUBE FOR PNEUMATIC CONNECTIONS - 100 FOOT ROLL

The Evolution 1 is a large character, high resolution ink jet printer with a print resolution of 300 DPI. This compact system delivers bold, highly legible, fully formed characters at production line speeds of up to 200 feet per minute. Hewlett Packard Inkjet technology, coupled with an efficient, affordable, maintenance free design makes this system very competitive with contact coders.



MODEL SHOWN: DD-EV1-STC

Shown with Controller, Ink Cartridge, Print Head Module & Bracketry.

This system comes equipped with a touch screen controller with a LCD graphics display, tactile keypad for message entry, print head module, breakaway mounting bracketry and two character heights, 1/2" and 7/32" in Arial style font. (Ink cartridge is sold separately)

Other features include: Programmable line speed, Print direction, Print delay, Inter-character spacing, Inverted printing and Multiple language prompts in English & Spanish.



Selecting the character heights is accomplished through the font key on the touch screen controller. Print one line of text using 1/2" high characters or two lines of text using 7/32" high characters, 24 characters per line.

Your Evolution 1 printer can be customized to fit each individual user requirement. Alternate character heights, font styles, logos, graphic bitmap images and software packages can be supplied on Data Flash Card media and easily loaded into the print head module.

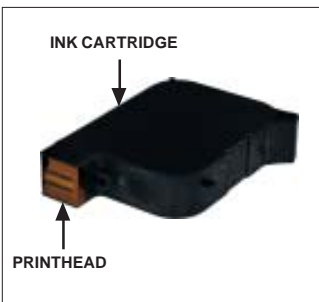
There is no menu or variable input for a barcode. You can only print a barcode as a Bitmap image. If the barcode needs changes, a new barcode bitmap image must be created and loaded onto a Data Flash Card then downloaded into the module.

For applications requiring a font size other than standard, Alternate Font heights are available in Arial style, in character heights of 1/8" & 3/32". Please note that there can only be two different size fonts resident in the printer at one time. It is also important to know that which ever size font you use, a two line code still takes up 1/2" of vertical space, there is just more space between lines. If your application requires the lines of text to have more or less spacing between them, the print heads can be staggered to achieve this.

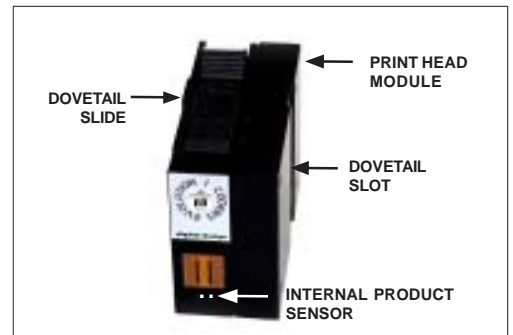
7/32" high fonts, 2 lines of text, 1/16" space between lines.

1/8" high fonts, 2 lines of text, 1/4" space between lines.

3/32" high fonts, 2 lines of text, 5/16" space between lines.



The print head is an integral part of the ink cartridges, when you replace the ink cartridge you are also replacing the print head. No maintenance down time or costly field service to keep your system running like new.



The Print Head Module, which houses the ink cartridge, is designed with a dovetail slot on one side and a dovetail slide on the other. This design allows you to easily slide multiple print head modules together. Built into the print head module is a product sensor to detect the presence of a carton or product.



The mounting bracket will hold up to 4 separate print head modules at once using a small RS 485 data cable to connect each module together allowing the touch screen controller to network all of the print heads. When using multiple print heads, each print head module has a discreet address so you can identify them for message entry. The touch screen controller is capable of controlling up to 32 individual printhead modules. A different cable is used to connect the modules to the printers on the next production line in the manufacturing area.

Breakaway Mounting Bracketry was designed to protect the print head from harm should a carton moving down a conveyor or case taper come through skewed or off center. The adjusting rod holding the print head will turn away or “breakaway” from the line moving the print head out of harms way as soon as the carton comes in contact with it. Once the misaligned carton passes, a detent in the assembly allows you to pivot the rod back into position without any further adjustment.



Technical Specifications

Disposable Ink Cartridges:

Ink capacity for both porous & non-porous ink cartridge is 42 cc’s with a low ink monitoring system.

4500 Series - Porous Ink Colors: Black, Dark Blue, Cyan, Red, Green and Yellow.

Approximate Yield per Cartridge:

1/2” high fonts - yield - 450,000 characters
 7/32” high fonts - yield - 2.1 million characters.

1/8” and 3/32” characters are alternate fonts.

1/8” high fonts - yield - 5.6 million characters
3/32” high fonts - yield - 8.6 million characters.

4711 series - Non-Porous Ink Colors: Black.

Approximate Yield per 4711 Ink Cartridge:

1/8” high fonts - yield - 3.75 million characters

Power Required:

110-240 VAC, & 50-60 Hz 0.5A

Environmental Specifications:

50F - 104F (10C - 40C).
 Up to 80% RH non-condensing.

Physical Dimensions:

Controller: 4.125” W x 8.750” L x 1.500” D.
 Print Head Module: 1.750” W x 4.500” L x 3.00” T.

EVOLUTION 1 INK JET PRINTER & PRINT HEAD MODULE WITH MOUNTING BRACKETRY	
STOCK NO.	DESCRIPTION
DD-EV1-STC	EVOLUTION SINGLE HEAD COMPLETE SYSTEM - FOR 110 VAC 60 Hz - INCLUDES A CONTROLLER WITH 2 LINE X 16 CHARACTER LCD, TACTILE KEYPAD, A HIGH RESOLUTION PRINT HEAD MODULE, COMPLETE MOUNTING BRACKET AND INTERNAL PRODUCT SENSOR.
DD-EV1-STC-220	EVOLUTION SINGLE HEAD COMPLETE SYSTEM - FOR 220 VAC 50 Hz - INCLUDES A CONTROLLER WITH 2 LINE X 16 CHARACTER LCD, TACTILE KEYPAD, A HIGH RESOLUTION PRINT HEAD MODULE, COMPLETE MOUNTING BRACKET AND INTERNAL PRODUCT SENSOR.
DD-EV1-AHD-BKT	EVOLUTION ADD-ON PRINT HEAD MODULE WITH MOUNTING BRACKET - INCLUDES A PRINT HEAD MODULE, POWER SUPPLY & MOUNTING BRACKET. (NO COMMUNICATION CABLE SUPPLIED)
DD-EV1-AHD	EVOLUTION ADD-ON PRINT HEAD MODULE - INCLUDES A PRINT HEAD MODULE, POWER SUPPLY AND 6 INCH COMMUNICATION CABLE.

The Evolution 2 is a large character, high resolution ink jet printer with a print resolution of 300 DPI. This compact system delivers bold, highly legible, fully formed characters at production line speeds of up to 200 feet per minute. Hewlett Packard Inkjet technology, coupled with an efficient, affordable, maintenance free design makes this system very competitive with contact coders.

This system comes equipped with a touch screen controller with a LCD graphics display, tactile keypad for message entry, print head module and breakaway mounting bracketry.

Four character heights in Arial font style, 1/2", 7/32", 1/8" & 3/32". Selecting the character heights is accomplished through the font key on the touch screen controller. Print a one line message in 1/2" characters, two lines in 7/32", three lines in 1/8" and four lines in 3/32" characters, 48 characters per line. (Ink cartridge is sold separately)



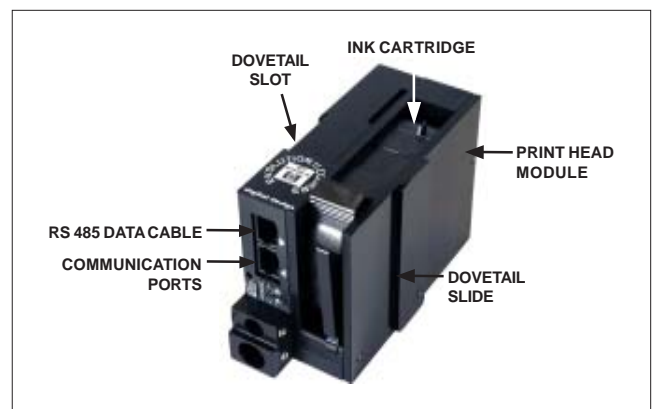
The features included with this system:

- Expanded Message length
- Programmable line speed and print direction
- Inter-character spacing
- Auto message repeat
- Password protection
- Variable time and date formats
- Message storage of up to 100 messages in the controller
- Sequential numbering
- Shift coding
- Date offset
- Product counter
- Multiple language prompts in English and Spanish

MODEL SHOWN: DD-EV2-STC
Controller, Ink Cartridge,
Print Head Module & Bracketry.

Also included are Eight Barcode Symbologies: 1 2 of 5, Code 39, UPC-A, UPC-E, 128 B, 128 C, EAN 8 & EAN 13. With the Evolution 2, you can select a barcode format from a menu, type in the specific barcode parameters, insert time, date and sequential numbering if needed and print. If the barcode you require is not part of this standard package, the specific format can be supplied to you on a Data Flash Card.

The Print Head Module, which houses the ink cartridge, is designed with a dovetail slot on one side and a dovetail slide on the other. This design allows you to easily slide multiple print head modules together. Built into the print head module is a product sensor to detect the presence of a carton or product.



The print head is an integral part of the ink cartridges. When you replace the ink cartridge you are also replacing the print head keeping the system running like new without maintenance down time and costly field service.

The mounting bracket will hold up to 4 separate print head modules at once using a small RS 485 data cable to connect each module together allowing the touch screen controller to network all of the print heads. When using multiple print heads, each print head module has a discreet address so you can identify them for message entry. The touch screen controller is capable of controlling up to 32 individual printhead modules. A different cable is used to connect the modules to the printers on the next production line in the manufacturing area.



Breakaway Mounting Bracketry was designed to protect the print head from harm should a carton moving down a conveyor or case taper come through skewed or off center. The adjusting rod holding the print head will turn away or "breakaway" from the line moving the print head out of harms way as soon as the carton comes in contact with it. Once the misaligned carton passes, a detent in the assembly allows you to pivot the rod back into position without any further adjustment.

Technical Specifications

Disposable Ink Cartridges:

Ink capacity for both porous & non-porous ink cartridge is 42 cc's with a low ink monitoring system.

4500 Series - Porous Ink Colors: Black, Dark Blue, Cyan, Red, Green and Yellow.

Approximate Yield per 4500 Ink Cartridge:

- 1/2" high fonts - yield - 450,000 characters
- 7/32" high fonts - yield - 2.1 million characters.
- 1/8" high fonts - yield - 5.6 million characters
- 3/32" high fonts - yield - 8.6 million characters.

4711 series - Non-Porous Ink Colors: Black.

Approximate Yield per 4711 Ink Cartridge:

- 1/8" high fonts - yield - 3.75 million characters

Power Required:

110-240 VAC, & 50-60 Hz 0.5A

Environmental Specifications:

50F - 104F (10C - 40C).
Up to 80% RH non-condensing.

Physical Dimensions:

Controller: 4.125" W x 8.750" L x 1.500" D.
Print Head Module: 1.750" W x 4.500" L x 3.00" T.

EVOLUTION II INK JET PRINTERS & PRINT HEAD MODULES WITH MOUNTING BRACKETRY	
STOCK NO.	DESCRIPTION
DD-EV2-STC	EVOLUTION SINGLE HEAD COMPLETE SYSTEM - FOR 110 VAC 60 Hz - INCLUDES A CONTROLLER WITH 4 LINE X 16 CHARACTER LCD, TACTILE KEYPAD, A HIGH RESOLUTION PRINT HEAD MODULE, COMPLETE MOUNTING BRACKET AND INTERNAL PRODUCT SENSOR.
DD-EV2-STC-220	EVOLUTION SINGLE HEAD COMPLETE SYSTEM - FOR 220 VAC 50 Hz - INCLUDES A CONTROLLER WITH 4 LINE X 16 CHARACTER LCD, TACTILE KEYPAD, A HIGH RESOLUTION PRINT HEAD MODULE, COMPLETE MOUNTING BRACKET AND INTERNAL PRODUCT SENSOR.
DD-EV2-AHD	EVOLUTION ADD-ON PRINT HEAD MODULE - INCLUDES A PRINT HEAD MODULE, POWER SUPPLY AND 6 INCH COMMUNICATION CABLE.
DD-EV2-AHD-BKT	EVOLUTION ADD-ON PRINT HEAD MODULE WITH MOUNTING BRACKET - INCLUDES A PRINT HEAD MODULE, POWER SUPPLY & MOUNTING BRACKET. (NO COMMUNICATION CABLE SUPPLIED)

The 4500 porous ink cartridges used in the Evolution 1 and Evolution 2 Ink Jet printers are genuine Hewlett Packard cartridges with ink that was specially formulated exclusively for the Evolution systems. The print head driver design uses a smaller droplet of ink to achieve the same dark black print at 300 DPI resolution as a standard HP ink cartridge would at 600 DPI. The reservoir in the ink cartridge holds 42 cc's of ink and is available in a variety of colors: black, dark blue, cyan, green, red, yellow and UV readable ink.

Approximate Yield Per Cartridge:

- 1/2" high fonts - yield - 450,000 characters
- 7/32" high fonts - yield - 2.1 million characters.
- 1/8" high fonts - yield - 5.6 million characters
- 3/32" high fonts - yield - 8.6 million characters.



4500 POROUS INK CARTRIDGES

4500 POROUS SERIES PRINT SAMPLES



Zoomed in view of text

PRINTING ON AN EGG CARTON



PRINTING ON A CARDBOARD BOX



PRINTING ON TREATED WOOD

EVOLUTION PRINTER POROUS INK CARTRIDGES	
STOCK NO.	DESCRIPTION
DD-4500BK6	BLACK POROUS INK CARTRIDGES - 6 PACK
DD-4500RD6	RED POROUS INK CARTRIDGES - 6 PACK
DD-4500GR6	GREEN POROUS INK CARTRIDGES - 6 PACK
DD-4500BL6	BLUE POROUS INK CARTRIDGES - 6 PACK
DD-4500YW6	YELLOW POROUS INK CARTRIDGES - 6 PACK
DD-4500CY6	CYAN POROUS INK CARTRIDGES - 6 PACK
DD-4500UV6	UV READABLE POROUS INK CARTRIDGES - 6 PACK

The 4711 black non-porous ink cartridge is available for the Evolution 1 & Evolution 2 systems. This non-porous ink cartridge is a genuine Hewlett Packard cartridge with specially formulated non-porous ink exclusively for the Evolution systems. The 4711 ink has a superior color density and a greater throw distance which enables the printer to sit idle for longer periods of time between print cycles. The dry time for the non-porous ink cartridge on most surfaces is 2 seconds. Adhesion of the ink is very good on a wide variety of non-porous surfaces, for example: HDPE, PE, coated chipboards, packaging films, frosted glass, foils, metal cans, hard plastic, mylar & stainless steel as long as there is no oil present. The reservoir in the ink cartridge holds 42 cc's of ink and is available in black only. To preserve the life of the ink, place the ink cartridge in the cartridge clip provided when the system is not running.

Note: The 4711 ink requires different energy settings, than the 4500 ink, in order to fire the ink. These changes are made using the touch screen controller. Please follow the instructions provided with every 4711 ink cartridge.

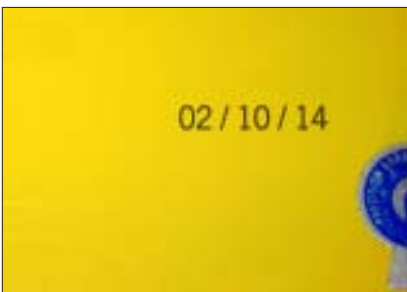


4711 NON-POROUS INK CARTRIDGE

4711 NON-POROUS SERIES PRINT SAMPLES



PRINTING ON PLASTIC



PRINTING ON MYLAR



PRINTING ON ALUMINUM

EVOLUTION PRINTER NON-POROUS INK CARTRIDGE	
DD-4711BK	BLACK NON-POROUS INK CARTRIDGE (SOLD INDIVIDUALLY, NOT IN A 6-PACK)

The Evolution 1-LX Printer is a high resolution, large character ink jet printer using Lexmark™ Inkjet technology. This efficient, affordable, maintenance free design prints 20% more printable characters from a greater print distance at production line speeds of up to 200 feet per minute. The LX series printers deliver bold, highly legible, fully formed characters at 300 and 600 DPI making this system very competitive with contact coders.

This system comes equipped with a touch screen controller with a LCD graphics display, tactile keypad for message entry, print head module, breakaway mounting bracketry and two character heights, 1/2" and 7/32" in Arial style font. Print one line using 1/2" high characters or two lines using 7/32" high characters, 24 characters per line. The controller is also capable of controlling up to 32 individual printhead modules. Ink cartridge is sold separately.



MODEL SHOWN: DD-EV1-LX-STC
Controller, Ink Cartridge,
Print Head Module & Bracketry.

Other features include:
Programmable line speed, print direction and print delay.
Inter-character spacing.
Inverted printing.
Multiple language prompts in English & Spanish.

Alternate Font heights are available, in character heights of 1/8" & 3/32" in Arial style. Font styles, logos, graphic bitmap images and software packages can be supplied on Data Flash Card media and easily loaded into the print head module, however, there can only be two different size fonts resident in the Evolution 1-LX printer at one time.

The Evolution 1-LX system can be customized for the users requirements by adding any of the 5 software packages available to provide just the features you need. You can only print a barcode as a Bitmap image. This bitmap image is created in any graphics program and saved as a 2-bit black and white image and then loaded onto a Data Flash Card and downloaded into the module. There is no menu or variable input for a barcode so if any changes are required, a new barcode bitmap image must be created.

It is also important to know that which ever size font you use, a two line code still takes up 1/2" of vertical space, there is just more space between lines. If your application requires the lines of text to have more or less spacing between them, the print heads can be staggered to achieve this.

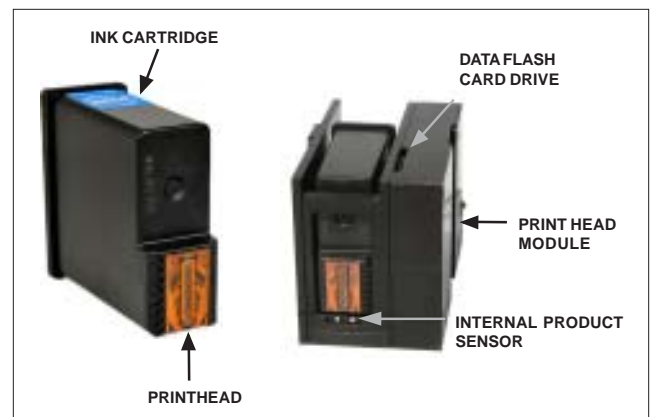
(7/32" high fonts, 2 lines of text, 1/16" space between lines.)

(1/8" high fonts, 2 lines of text, 1/4" space between lines.)

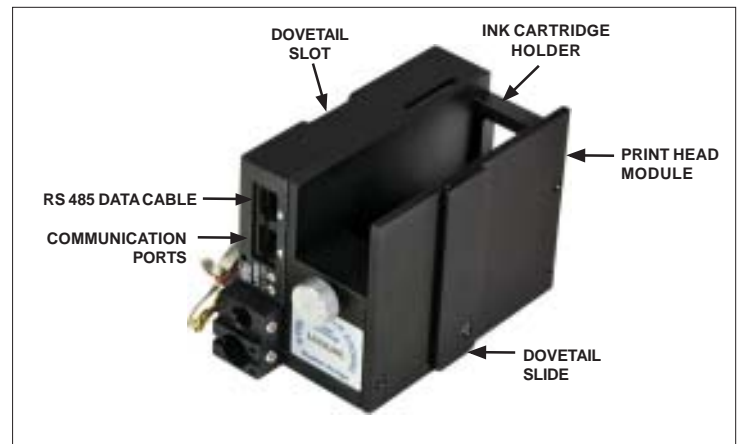
(3/32" high fonts, 2 lines of text, 5/16" space between lines.)



The print head is an integral part of the ink cartridges, when you replace the ink cartridge you are also replacing the print head. No maintenance down time or costly field service to keep your system running like new.



The Print Head Module, which houses the ink cartridge, is designed with a dovetail slot on one side and a dovetail slide on the other. This design allows you to easily slide multiple print head modules together. Built into the print head module is a product sensor to detect the presence of a carton or product.



The mounting bracket will hold up to 4 separate print head modules at once using a small RS 485 data cable to connect each module together allowing the touch screen controller to network all of the print heads. When using multiple print heads, each print head module has a discreet address so you can identify them for message entry. The touch screen controller is capable of controlling up to 32 individual printhead modules. A different cable is used to connect the modules to the printers on the next production line in the manufacturing area.

Breakaway Mounting Bracketry was designed to protect the print head from harm should a carton moving down a conveyor or case taper come through skewed or off center. The adjusting rod holding the print head will turn away or "breakaway" from the line moving the print head out of harms way as soon as the carton comes in contact with it. Once the misaligned carton passes, a detent in the assembly allows you to pivot the rod back into position without any further adjustment.



Technical Specifications

Disposable Ink Cartridges:

Ink capacity for porous ink cartridge is 42 cc's with a low ink monitoring system.

Power Required:

110-240 VAC, & 50-60 Hz 0.5A

Physical Dimensions:

Controller: 4.125" W x 8.750" L x 1.500" D.
Print Head Module: 2.50" W x 4.00" L x 3.00" H.

Environmental Specifications:

50F - 104F (10C - 40C).
Up to 80% RH non-condensing.

EVOLUTION 1-LX-STC INK JET PRINTER & PRINT HEAD MODULE WITH MOUNTING BRACKETRY	
STOCK NO.	DESCRIPTION
DD-EV1-LX-STC	EVOLUTION SINGLE HEAD COMPLETE SYSTEM - FOR 110 VAC 60 Hz - INCLUDES A CONTROLLER WITH 2 LINE X 16 CHARACTER LCD, TACTILE KEYPAD, A HIGH RESOLUTION PRINT HEAD MODULE, COMPLETE MOUNTING BRACKET AND INTERNAL PRODUCT SENSOR.
DD-EV1-LX-STC-220	EVOLUTION SINGLE HEAD COMPLETE SYSTEM - FOR 220 VAC 50 Hz - INCLUDES A CONTROLLER WITH 2 LINE X 16 CHARACTER LCD, TACTILE KEYPAD, A HIGH RESOLUTION PRINT HEAD MODULE, COMPLETE MOUNTING BRACKET AND INTERNAL PRODUCT SENSOR.
DD-EV1-LX-AHD-BKT	EVOLUTION ADD-ON PRINT HEAD MODULE WITH MOUNTING BRACKET - INCLUDES A PRINT HEAD MODULE, POWER SUPPLY & MOUNTING BRACKET. (NO COMMUNICATION CABLE SUPPLIED)
DD-EV1-LX-STC-AHD	EVOLUTION ADD-ON PRINT HEAD MODULE - INCLUDES A PRINT HEAD MODULE, POWER SUPPLY AND 6 INCH COMMUNICATION CABLE.

The Evolution 2-LX Printer is the second high resolution, large character ink jet printer in the LX series. This unit also uses Lexmark™ Inkjet technology to deliver bold, highly legible, fully formed characters at 300 and 600 DPI. The Evolution 2-LX is efficient, affordable & maintenance free, printing 20% more printable characters from a greater print distance at production line speeds of up to 200 feet per minute. The complete system comes with a touch screen controller with a LCD graphics display, tactile keypad for message entry, print head module, breakaway mounting bracketry and 4 character heights. Print one line of 1/2", two lines of 7/32", three lines of 1/8" or 4 lines of 3/32" characters in Arial style font, 48 characters per line.

The most exclusive feature on the Evolution 2-LX printer is the ability to print mixed-raster messages. This means that you can print two different size fonts on the same line. The system has two modes, a single line and a two-line mode. The single line mode allows you to print 1/2" characters followed by 2, 3 or 4 lines of either 7/32", 1/8" or 3/32" size text. The two line mode allows you to print a half height message of one line of 7/32" followed by 4 lines of smaller text. You can replace the default fonts with alternate fonts but only 4 different font styles can be resident at one time.



The other features included:

Expanded Message length

Message storage of up to 100 messages in the controller

Programmable line speed print delay & print direction

Inter-character spacing

Inverted printing

Auto message repeat

Password protection

Variable time and date formats

Sequential numbering & Lot counter

Shift coding

Date offset

Product counter

Eight barcode symbologies

Multiple language prompts are English, Spanish, French & German

All of the Optional Software packages available for the Evolution I-LX printer are built into the EV 2-LX system as standard features. The eight barcode symbologies include 1 2 of 5, Code 39, UPC-A, UPC-E, 128 B, 128 C, EAN 8 & EAN 13, which are the most common barcodes. These can be formatted and entered onto the message through the controller as either full height or half height barcodes. Graphics & logos can be created by the user in any graphics program capable of producing a Bitmap file and either downloaded directly into the print head or installed by a Data Flash card. **The Data Flash Card** is used to supply optional software packages, logo's, and alternate fonts for installation in the print head module and can be easily installed in the field. The Flash Card can only be used in one print head module at a time. If the same information is required in more than one print head, you must purchase a separate Flash Card for each print head required for your application.

The one Optional Software Package available for the Evolution 2-LX printer is the 2D barcode symbology designed to generate and print data matrix symbologies. This can be ordered with the original system or field upgraded via flash card,

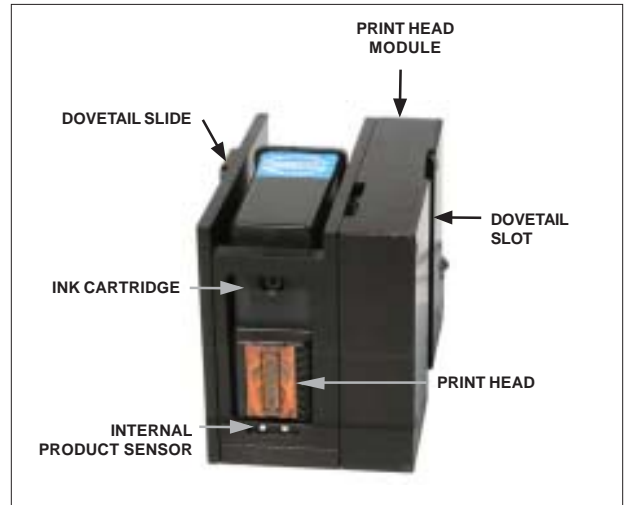
Evolution Data Matrix technical specifications:

1. Version: ECC200
2. Recognition of barcodes that are up to 60% damaged
3. Area-efficient matrix.
4. Programmable size of the matrix: up to 1/2" x 1/2".
5. Encoding message in the matrix: up to 48 alpha-numeric characters.
6. Characters, numbers and text data may be encoded.



The print head is built into the ink cartridge so when you replace the ink cartridge you are also replacing the print head. This feature keeps your system running like new while eliminating maintenance down time and added cost for field service.

The print head module, which houses the ink cartridge, is designed with a dovetail slot on one side and a dovetail slide on the other to easily slide multiple print head modules together. The add-on print head is used to print additional lines of text or product information on the carton or product. Built into the print head module is a product sensor to detect the presence of each carton or product.



The mounting bracket will hold up to 4 separate print head modules at once using a small RS 485 data cable to connect each module together allowing the touch screen controller to network all of the print heads. When using multiple print heads, each print head module has a discreet address so you can identify them for message entry. The touch screen controller is capable of controlling up to 32 individual printhead modules. A different cable is used to connect the modules to the printers on the next production line in the manufacturing area.

Breakaway Mounting Bracketry was designed to protect the print head from harm should a carton moving down a conveyor or case taper come through skewed or off center. The adjusting rod holding the print head will turn away or "breakaway" from the line moving the print head out of harms way as soon as the carton comes in contact with it. Once the misaligned carton passes, a detent in the assembly allows you to pivot the rod back into position without any further adjustment.

Technical Specifications

Disposable Ink Cartridges:

Ink capacity for porous ink cartridge is 42 cc's with a low ink monitoring system.

Power Required:

110-240 VAC, & 50-60 Hz 0.5A

Physical Dimensions:

Controller: 4.125" W x 8.750" L x 1.500" D.
Print Head Module: 2.50" W x 4.00" L x 3.00" H.

Environmental Specifications:

50F - 104F (10C - 40C).
Up to 80% RH non-condensing.

EVOLUTION 2-LX-STC INK JET PRINTER & PRINT HEAD MODULE WITH MOUNTING BRACKETRY	
STOCK NO.	DESCRIPTION
DD-EV2-LX-STC	EVOLUTION SINGLE HEAD COMPLETE SYSTEM - FOR 110 VAC 60 Hz - INCLUDES A CONTROLLER WITH 2 LINE X 16 CHARACTER LCD, TACTILE KEYPAD, A HIGH RESOLUTION PRINT HEAD MODULE, COMPLETE MOUNTING BRACKET AND INTERNAL PRODUCT SENSOR.
DD-EV2-LX-STC-220	EVOLUTION SINGLE HEAD COMPLETE SYSTEM - FOR 220 VAC 50 Hz - INCLUDES A CONTROLLER WITH 2 LINE X 16 CHARACTER LCD, TACTILE KEYPAD, A HIGH RESOLUTION PRINT HEAD MODULE, COMPLETE MOUNTING BRACKET AND INTERNAL PRODUCT SENSOR.
DD-EV2-LX-AHD-BKT	EVOLUTION ADD-ON PRINT HEAD MODULE WITH MOUNTING BRACKET - INCLUDES A PRINT HEAD MODULE, POWER SUPPLY & MOUNTING BRACKET. (NO COMMUNICATION CABLE SUPPLIED)
DD-EV2-LX-STC-AHD	EVOLUTION ADD-ON PRINT HEAD MODULE - INCLUDES A PRINT HEAD MODULE, POWER SUPPLY AND 6 INCH COMMUNICATION CABLE.



4550 POROUS INK CARTRIDGES

The 4550 porous ink cartridges are genuine Lexmark™ ink cartridges. These ink cartridges were designed to deliver a bold print of 300 or 600 DPI at a greater print distance plus a 20% increase in the number of printable characters.

The reservoir in the ink cartridge holds 42 cc's of ink. Sold in packages of 6, the 4550 ink is only available in Black.

4550 POROUS SERIES PRINT SAMPLES



PRINTING ON AN EGG CARTON



PRINTING ON A DISPLAY BOX



EV 2-LX MIXED RASTER PRINT

The Evolution 1 & 2 LX Series has a unique printer feature to achieve a 600 DPI without an encoder and extend the life of the ink cartridge. The LX print head contains columns of nozzles which are controllable through the software.

The user now has the ability to choose a sequence of columns to fire ink throughout the run. For example, choose column 5, which is a combination of columns 1 & 2, which are both 300 DPI, to achieve a bold print @ 600 DPI. Pick column 7 or 8 and 1,2,3 & 4 will fire ink consecutively which will extend the life of the ink cartridge.

- 1 = column 1 @ 300 DPI
- 2 = column 2 @ 300 DPI
- 3 = column 3 @ 300 DPI
- 4 = column 4 @ 300 DPI
- 5 = columns 1 & 2 - BOLD PRINT @ 600 DPI
- 6 = columns 3 & 4 - BOLD PRINT @ 600 DPI
- 7 = column 1, 2, 3, & 4 automatically change each print cycle @ 300 DPI
- 8 = column 1 & 2 and 3 & 4 automatically change each print cycle @ 600 DPI

EVOLUTION EVI & EVII-LX-STC PRINTER POROUS INK CARTRIDGES	
DD-4550BK	BLACK POROUS INK CARTRIDGES - 6 PACK

Software Packages

A series of Software Packages have been developed for the Evolution 1 & Evolution 1-LX Ink Jet Printers. These packages give the end user the flexibility to add only what they need for a particular application. Each system is capable of having a variety of optional font styles and character heights downloaded into the print head. The Software Packages can operate independently or as a group making Evolution 1 Printers a full featured system. The Evolution 2 & Evolution 2-LX Ink Jet Printers come complete with all of the software package features, alternate fonts plus 8 barcode symbologies.

Software Package No. 1 - Software Features:

Message Storage, Automatic Message Repeat and Password Protection.

Message Storage allows the user to store up to 50 messages in the touch screen controller. The stored messages include the text and the operating parameters such as line speed and print registration.

Automatic Message Repeat is designed for those applications where a continuously repeating message is required. The distance between message repeats can be programmed through the controller to give varying distances of up to 20 inches.

Password Protection gives a supervisor the ability to store a password into the controller to prevent unauthorized changes of the message and the operating parameters of the system.

Software Package No. 1.5 - Software Features:

Extended Message Length and Expanded Memory.

Extended Message Length expands the message lengths. 1/2" characters expand from one line of 24 characters to one line of 48 characters. 7/32" characters expand from two lines of 24 characters per line to 48 characters.

Expanded Memory allows the user to store up to 99 messages, as opposed to 50, which includes both the text and operating parameters stored in the Touch Screen Controller.

Software Package No. 2 - Software Features:

Sequential Numbering, Variable Date Formats, Variable Time Formats, and all of the features in package 1 and 1.5.

The **Sequential Numbering** option is a user defined counter which can start at zero or any number you enter up to a maximum of 9 digits. Example: 0000 (start) 9999 (end and resets to 0000)

Variable Date Formats can be represented in a numerical (01/01/05), alphabetical (Jan 01, 2005) and Julian date format (05001). The formats can be arranged to print Month/Day/Year, or Day/Month/Year. The ability to print only the month and year, and other combinations, are totally programmable. Delimiters (: / .) are selectable.

With the **Variable Time Formats** package, Military style time numbering in hours and minutes (14:45) can be entered into the message for more precise production tracking. Time can be printed as hour and minutes, hours only or minutes only. Delimiters (: / .) are selectable.

Software Package No.3 - Software Features:

Shift Coding, Date Offset, Product Counter, and all of the features in package 1, 1.5 and 2.

Shift Coding allows the user to break the work day into 6 or less individual shifts. To identify each shift you can print either a single number or alpha character to identify each shift.

The **Date Offset** feature was designed so you could automatically rollover the expiration date. The user can program in up to 999 days and the printer will automatically advance the date by that value.

The **Product Counter** gives you the ability to count the number of products you have printed within a specific programmed time period.

Logo Download Software Package:

The Logo Download Software Package gives the user the ability to download a BMP or Bitmap file directly to the print head module from the Data Flash Card. A bitmap file is simply an image file containing anything from multiple lines of text, logos, intricate graphics or barcodes. Logos can be created by the user in any graphics program that is capable of producing a 2-bit black and white image in Bitmap (BMP) format. A standard feature on the Evolution 1 and Evolution 2 printers is the ability to print up to three images in either the one line mode or the two line mode. Bitmap files can also be custom ordered and supplied on a Data Flash Card ready to be downloaded into the print head module.

1/2" high single line, logos and text image:



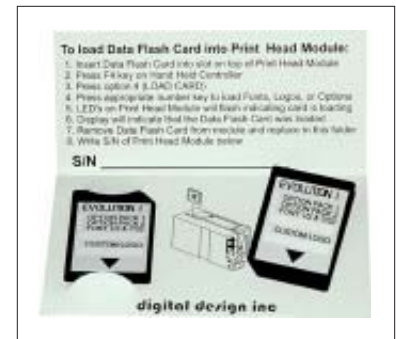
1/2" high single line, barcode image:



0123456789

The Data Flash Card:

The Data Flash Card is used to supply software packages, logo's, barcodes and alternate fonts for installation in the print head module and can be easily installed in the field. The Flash Card can not be used in more than one print head module. If the same information is required in more than one print head, you must purchase a separate Flash Card for each print head required for your application.



EVOLUTION PRINTER SOFTWARE PACKAGES & FLASH CARD MEDIA

STOCK NO.	DESCRIPTION
DD-EV1-SW1	SPECIAL SOFTWARE PACKAGE NO. 1
DD-EV1-SW15	SPECIAL SOFTWARE PACKAGE NO. 1.5
DD-EV1-SW2	SPECIAL SOFTWARE PACKAGE NO. 2
DD-EV1-SW3	SPECIAL SOFTWARE PACKAGE NO. 3
DD-EV1-PGM	LOGO DOWNLOAD PACKAGE
DD-EV1-LOGO	CUSTOM LOGO CARD
DD-EV1-FONT	ALTERNATIVE FONT CARD
DD-AT45DCB002	2MB DATA FLASH CARD

INTRODUCTION:

Inks can be formulated in an infinite number of ways to meet specific application requirements. The inks listed in this catalog are standard formulations which are intended to cover most marking applications. Although the application recommendations made in this catalog are based on tests conducted by Universal, the customer should conduct performance tests for their specific application to ensure that the inks selected meet their specific application requirements, or contact our Engineering Department and let Universal test mark your specific application for you. In all cases, Universal inks are formulated for industrial use only!

Universal utilizes two basic solvent types in the manufacture of inks, glycol and alcohol. Glycol solvent is used in ink for marking on porous surfaces such as cardboard and dries through absorption. Alcohol solvents are used in inks for marking on Non-Porous surfaces such as metal and plastic and dry through evaporation of the solvents. The blend of alcohols in these inks determine the speed by which the solvents evaporate or dry. In addition to solvent variations, some inks are pigmented, which contain ground solids to impart color to the ink and some are dye type which contain liquid color. It is important to thoroughly understand the characteristics of the various inks prior to making a selection for a particular application. The type of ink selected must be compatible with both the material being marked and the applicator with which the ink will be applied. Inks designed for non-porous surfaces can be used on porous surfaces if faster drying times or weather resistance is required but this increases ink costs and may require different application equipment.

DRYING CHARACTERISTICS

Universal stenciling and marking inks dry in one of two ways. Porous surface inks dry through absorption into the material being marked, leaving the pigment or dye color in the material fibers. Corrugated cartons and kraft paper are good examples of porous surfaced materials. Since inks are not capable of being absorbed into a non-porous surface, such as metal or plastic, non-porous inks dry through evaporation of the ink solvents, leaving the dye or pigment on the surface of the material. Some amount of resin or "binder" is added to the formulation to bind the pigment or dye to the surface once the solvents have dissipated. The amount and type of resin used in the formulation determines the ability of the ink to resist chipping, peeling, weathering and subsequent solvent resistance. It is also important to note that the ambient temperature and humidity in the area where inks are applied can have a dramatic affect on the drying characteristics of inks. Generally speaking, the warmer the ambient temperature and the lower the humidity, the faster the inks will dry

FADE RESISTANCE

In applications where resistance to fading is required, generally only pigmented inks will perform satisfactorily. Most dye type inks will fade rapidly when exposed to direct sunlight for prolonged periods. Since pigmented inks contain layers of finely ground solids when applied, they are much more resistant to fading and will perform somewhat like an exterior paint. For fade and weather resistance, it is generally recommended to use a non-porous pigmented ink even on porous surface materials. The additional amount of resin in these ink formulations help to hold the pigments in place under exposure to water spray and abrasion.

APPLICATION METHODS

Since there are so many types of inks available from various suppliers, it is important to understand the effect different ink solvents can have on the materials used in the ink applicators. In the case of the foam rubber materials used in the production of stencil rollers, pads and coding rollers, the type of foam used, whether synthetic or natural rubber, will determine its compatibility with specific solvents. There are far too many factors to consider to list them all within the context of this article but we strongly recommend that you consult with our Customer Service or Engineering Departments for specific recommendations if you have any doubt about applicator/ink compatibility.

Product Compatibility: JR. Roller - Type D Pad Systems - PBFR Roller Unit

Type D roller ink is specially formulated for stenciling on non-porous surface materials such as steel drums, pipes, metals, glass, plastics, concrete and most painted surfaces. This ink dries in approximately 60 seconds in normal ambient temperatures. Type D is an alcohol base, pigmented ink and stenciled impressions are very opaque and exhibit excellent color density on dark surfaces. This ink offers excellent resistance to fading and adverse weather conditions which makes this ink perfect for stenciling parking lot wheel stops, street signs, curbs and garbage receptacles.

Type D Stencil Inks can be used in Press Button Fountain Rollers but it is only recommended in high volume stenciling applications and the units should be cleaned with Type D Solvent before prolonged storage.



UNIVERSAL TYPE D STENCIL INK		
STOCK NO.	DESCRIPTION	STANDARD PACKAGING
IU-D1PT	TYPE D BLACK - PINT	12/CASE
IU-D1QT	TYPE D BLACK - QUART	12/CASE
IU-D1GL	TYPE D BLACK - GALLON	4/CASE
IU-D2QT	TYPE D NO LEAD RED - QUART (SIMILAR TO PMS COLOR 199)	12/CASE
IU-D2GL	TYPE D NO LEAD RED - GALLON (SIMILAR TO PMS COLOR 199)	4/CASE
IU-D3NLQT	TYPE D NO LEAD GREEN - QUART (SIMILAR TO PMS COLOR 340)	12/CASE
IU-D3NLGL	TYPE D NO LEAD GREEN - GALLON (SIMILAR TO PMS COLOR 340)	4/CASE
IU-D4QT	TYPE D LIGHT BLUE - QUART (SIMILAR TO PMS COLOR 2995)	12/CASE
IU-D4GL	TYPE D LIGHT BLUE - GALLON (SIMILAR TO PMS COLOR 2995)	4/CASE
IU-DD4QT	TYPE D DARK BLUE - QUART (SIMILAR TO PMS COLOR 301)	12/CASE
IU-DD4GL	TYPE D DARK BLUE - GALLON (SIMILAR TO PMS COLOR 301)	4/CASE
IU-D5NLQT	TYPE D NO LEAD YELLOW - QUART (SIMILAR TO PMS COLOR YELLOW)	12/CASE
IU-D5NLGL	TYPE D NO LEAD YELLOW - GALLON (SIMILAR TO PMS COLOR YELLOW)	4/CASE
IU-D6QT	TYPE D WHITE - QUART	12/CASE
IU-D6GL	TYPE D WHITE - GALLON	4/CASE
IU-DSQT	TYPE D SOLVENT - QUART	12/CASE
IU-DSGL	TYPE D SOLVENT - GALLON	4/CASE

Special Applications:

Type D Inks can also be used in Universal Non-Porous Coders when the application requires a heavily pigmented, opaque and weather resistant mark. Since Non-porous Coders apply a very thin film of ink to the surfaces being marked, the Type D Inks will dry in approximately 10-12 seconds at 75 Degree F. when applied with these coders.

Product Compatibility: JR. Roller & Type D Pad Systems Formulated for Cold Temperature Applications

Type M roller ink is an extremely fast drying version of the Type D ink for non-porous surfaces. This pigmented, alcohol base ink dries approximately twice as fast as Type D ink and is recommended only for use with Roll-A-Stencil Jr. roller and pad applicators when extremely fast drying characteristics are required. Formulated for stenciling on metal, glass, plastics, concrete, and most painted surfaces where opaque marks and weather resistance is required.

Type M ink is specifically intended for stenciling applications in cold weather conditions where the drying times of standard non-porous roller inks are retarded by the low temperatures. This ink can be used in normal ambient temperatures but it will dry out very rapidly on the rollers and pads under these conditions.



UNIVERSAL TYPE M STENCIL INK		
STOCK NO.	DESCRIPTION	STANDARD PACKAGING
IU-M1PT	TYPE M BLACK - PINT	12/CASE
IU-M1QT	TYPE M BLACK - QUART	12/CASE
IU-M1GL	TYPE M BLACK - GALLON	4/CASE
IU-M2QT	TYPE M NO LEAD RED - QUART (SIMILAR TO PMS COLOR 199)	12/CASE
IU-M2GL	TYPE M NO LEAD RED - GALLON (SIMILAR TO PMS COLOR 199)	4/CASE
IU-M3NLQT	TYPE M NO LEAD GREEN - QUART (SIMILAR TO PMS COLOR 340)	12/CASE
IU-M3NLGL	TYPE M NO LEAD GREEN - GALLON (SIMILAR TO PMS COLOR 340)	4/CASE
IU-M4QT	TYPE M LIGHT BLUE - QUART (SIMILAR TO PMS COLOR 2995)	12/CASE
IU-M4GL	TYPE M LIGHT BLUE - GALLON (SIMILAR TO PMS COLOR 2995)	4/CASE
IU-M4DQT	TYPE M DARK BLUE - QUART (SIMILAR TO PMS COLOR 301)	12/CASE
IU-M4DGL	TYPE M DARK BLUE - GALLON (SIMILAR TO PMS COLOR 301)	4/CASE
IU-M5NLQT	TYPE M NO LEAD YELLOW - QUART (SIMILAR TO PMS COLOR YELLOW)	12/CASE
IU-M5NLGL	TYPE M NO LEAD YELLOW - GALLON (SIMILAR TO PMS COLOR YELLOW)	4/CASE
IU-M6QT	TYPE M WHITE - QUART	12/CASE
IU-M6GL	TYPE M WHITE - GALLON	4/CASE
IU-MSQT	TYPE M SOLVENT - QUART	12/CASE
IU-MSGGL	TYPE M SOLVENT - GALLON	4/CASE

Special Applications:

Type M Inks can also be used in Universal Non-Porous Coders when the application requires a heavily pigmented, opaque and weather resistant mark. Since Non-porous Coders apply a very thin film of ink to the surfaces being marked, the Type M Inks will dry in approximately 5-7 seconds at 75 Degree F. when applied with these coders.

Product Compatibility: Porous Hand Printers - Mini-Coders - Midsize Coders - Conveyor Line Printers

You can spend thousands of dollars on sophisticated printing systems and still suffer from poor performance if you don't use a good quality coder ink. Universal #1150 coder ink is not a conventional rubber stamp ink with a new label ... it was specially formulated for optimum performance with Porous Hand Printers and all Porous Roll Coding Systems.

This glycol and dye base ink will never dry out your ink rolls even in the hottest environment but will dry almost instantly on cartons or other porous surfaces. Since glycol base inks do not evaporate at room temperature like water base inks you'll get far more impressions per gallon with #1150 ink. The dye colorants used in these inks are noncorrosive and will not damage your equipment.



UNIVERSAL #1150 CODER INK		
STOCK NO.	DESCRIPTION	STANDARD PACKAGING
IU-C1PT	#1150 BLACK - PINT	12/CASE
IU-C1QT	#1150 BLACK - QUART	12/CASE
IU-C1GL	#1150 BLACK - GALLON	4/CASE
IU-C2PT	#1150 RED - PINT (SIMILAR TO PMS COLOR 185)	12/CASE
IU-C2QT	#1150 RED - QUART (SIMILAR TO PMS COLOR 185)	12/CASE
IU-C2GL	#1150 RED - GALLON (SIMILAR TO PMS COLOR 185)	4/CASE
IU-C3PT	#1150 GREEN - PINT (SIMILAR TO PMS COLOR 354)	12/CASE
IU-C3QT	#1150 GREEN - QUART (SIMILAR TO PMS COLOR 354)	12/CASE
IU-C3GL	#1150 GREEN - GALLON (SIMILAR TO PMS COLOR 354)	4/CASE
IU-C4PT	#1150 DARK BLUE - PINT (SIMILAR TO PMS COLOR 293)	12/CASE
IU-C4QT	#1150 DARK BLUE - QUART (SIMILAR TO PMS COLOR 293)	12/CASE
IU-C4GL	#1150 DARK BLUE - GALLON (SIMILAR TO PMS COLOR 293)	4/CASE
IU-C9PT	#1150 VIOLET - PINT (SIMILAR TO PMS COLOR 2765)	12/CASE
IU-C9QT	#1150 VIOLET - QUART (SIMILAR TO PMS COLOR 2765)	12/CASE
IU-C9GL	#1150 VIOLET - GALLON (SIMILAR TO PMS COLOR 2765)	4/CASE

Universal #1150 Coder Inks are also available in our patented 4 oz. disposable Reservoir Ink Cartridges. These cartridges automatically re-ink your coding rolls during the printing operation and are designed for use with all Universal Porous and Non-Porous Coders.

**Product Compatibility: Non-Porous Hand Printers - Mini-Coders
Midsize Coders - Conveyor Line Printers**

Universal #100 ink is an alcohol and dye base ink designed for printing on non-porous surfaces such as metal, plastic, glass, rubber, waxed and varnished cartons, etc. This ink dries in approximately 2 seconds at 75 degree F. ambient temperatures when applied with Universal Non-Porous Coders. The Universal #100 inks listed below are for use only on XF Neoprene and Neoprene Rolls. **DO NOT USE #100 INK ON MICROCELL ROLLS.**



Please consult our Customer Service Department for application recommendations for Universal #100 inks.

UNIVERSAL #100 CODER INK		
STOCK NO.	DESCRIPTION	STANDARD PACKAGING
IU-CN1PT	#100 BLACK - PINT	12/CASE
IU-CN1QT	#100 BLACK - QUART	12/CASE
IU-CN1GL	#100 BLACK - GALLON	4/CASE
IU-CN2PT	#100 RED - PINT (SIMILAR TO PMS COLOR 1945)	12/CASE
IU-CN2QT	#100 RED - QUART (SIMILAR TO PMS COLOR 1945)	12/CASE
IU-CN2GL	#100 RED - GALLON (SIMILAR TO PMS COLOR 1945)	4/CASE
IU-CN3PT	#100 GREEN - PINT (SIMILAR TO PMS COLOR 3308)	12/CASE
IU-CN3QT	#100 GREEN - QUART (SIMILAR TO PMS COLOR 3308)	12/CASE
IU-CN3GL	#100 GREEN - GALLON (SIMILAR TO PMS COLOR 3308)	4/CASE
IU-CN4PT	#100 DARK BLUE - PINT (SIMILAR TO PMS COLOR 294)	12/CASE
IU-CN4QT	#100 DARK BLUE - QUART (SIMILAR TO PMS COLOR 294)	12/CASE
IU-CN4GL	#100 DARK BLUE - GALLON (SIMILAR TO PMS COLOR 294)	4/CASE
IU-CN5NLPT	#100 PIGMENT NO LEAD YELLOW - PINT	12/CASE
IU-CN5NLQT	#100 PIGMENT NO LEAD YELLOW - QUART	12/CASE
IU-CN5NLGL	#100 PIGMENT NO LEAD YELLOW - GALLON	4/CASE
IU-CN6PT	#100 PIGMENT WHITE - PINT	12/CASE
IU-CN6QT	#100 PIGMENT WHITE - QUART	12/CASE
IU-CN6GL	#100 PIGMENT WHITE - GALLON	4/CASE
IU-CN9PT	#100 VIOLET - PINT (SIMILAR TO PMS COLOR 2755)	12/CASE
IU-CN9QT	#100 VIOLET - QUART (SIMILAR TO PMS COLOR 2755)	12/CASE
IU-CN9GL	#100 VIOLET - GALLON (SIMILAR TO PMS COLOR 2755)	4/CASE
IU-CNSQT	#100 SOLVENT - QUART	12/CASE
IU-CNSGL	#100 SOLVENT - GALLON	4/CASE

Note: Yellow & White #100 inks contain pigment, all other colors are dye base.

Universal #100 Coder Inks are also available in our patented 4 oz. disposable Reservoir Ink Cartridges. These cartridges automatically re-ink your coding rolls during the printing operation and are designed for use with all Universal Non-Porous Coders. Although Universal #100 inks are appropriate for most non-porous printing applications, unusual environmental considerations or materials may call for the application of nonstandard inks. The unique design of the Universal Non-Porous Inking System enables it to use a wide variety of special dye and pigment based inks which are not normally compatible with code printing systems.

RESERVOIR INK CARTRIDGES

INK CARTRIDGES, POROUS, NON-POROUS & EMPTY

Our patented Reservoir Inking System can be used on all of our on line Coders to automatically **re-ink** the ink rolls during the printing operation. When the ink content of the roll begins to deplete, simply install a disposable ink cartridge and your ink roll will be re-inked automatically with no ink mess or down time. Unlike gravity feed systems that continue to feed ink when the conveyor line shuts down, our system feeds ink only when the machines are actively printing. In addition, our Reservoir Inking System automatically adjusts the amount of ink being applied to the size of the dies being used.

POROUS CODER INK CARTRIDGES, #1150 INK

Universal Porous Mini-Coders have a machined port designed to accept the Reservoir Ink Cartridges. Porous Midsize Coders & Conveyor Line Printers require the use of our Reservoir Roll Covers which have a threaded port to accept the Ink Cartridges.



UNIVERSAL POROUS RESERVOIR INK CARTRIDGES - #1150 INK		
STOCK NO.	DESCRIPTION	STANDARD PACKAGING
IU-C14	#1150 BLACK - 4 OZ. CARTRIDGE	20/CASE
IU-C24	#1150 RED - 4 OZ. CARTRIDGE	20/CASE
IU-C34	#1150 GREEN - 4 OZ. CARTRIDGE	20/CASE
IU-C44	#1150 DARK BLUE - 4 OZ. CARTRIDGE	20/CASE
IU-C94	#1150 VIOLET - 4 OZ. CARTRIDGE	20/CASE

NON-POROUS CODER INK CARTRIDGES, #100 INK

All of our Universal Non-Porous Coders have a Non-Porous Inking System designed to accept the Reservoir Ink Cartridges. Our #100 inks are for use only in the Non-Porous Coders because the ink dries too fast for machines with conventional inking systems. Other dye and pigment base non-porous inks are available for special printing applications.

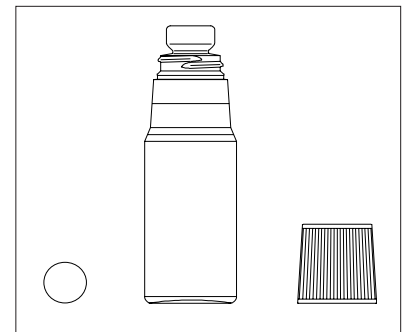


UNIVERSAL RESERVOIR INK CARTRIDGES - #100 INK		
STOCK NO.	DESCRIPTION	STANDARD PACKAGING
IU-CN14	#100 BLACK - 4 OZ. CARTRIDGE	20/CASE
IU-CN24	#100 RED - 4 OZ. CARTRIDGE	20/CASE
IU-CN34	#100 GREEN - 4 OZ. CARTRIDGE	20/CASE
IU-CN44	#100 DARK BLUE - 4 OZ. CARTRIDGE	20/CASE
IU-CN5NL4	#100 NO LEAD YELLOW - PIGMENTED - 4 OZ. CARTRIDGE	20/CASE
IU-CN64	#100 WHITE - PIGMENTED - 4 OZ. CARTRIDGE	20/CASE
IU-CN94	#100 VIOLET - 4 OZ. CARTRIDGE	20/CASE

EMPTY INK CARTRIDGES

Universal Non-Porous Printers have the unique ability to handle a wide variety of special application inks, so we offer our patented Reservoir Ink Cartridges empty. The IU-CE4 cartridge assembly consists of three separate parts; the 4 oz. bottle, ball and cap. After the bottle is filled with ink, the ball is snapped into the socket and the cap is installed. Recommended for alcohol & glycol base inks only.

UNIVERSAL RESERVOIR INK CARTRIDGES - EMPTY	
STOCK NO.	DESCRIPTION
IU-CE4	EMPTY 4 OZ. RESERVOIR INK CARTRIDGE ASSEMBLY



Note: These cartridges are not compatible with ketone or petroleum base inks and cannot be refilled after use. Once the ball is snapped into the socket of the 4 oz. bottle it cannot be removed without damaging the ball and socket.

Please contact Customer Service for application recommendations.

CUSTOM INK ROLLS

Along with our standard line of coding rolls, Universal manufactures custom ink rolls for all types of conveyor line printers, coders, marking machines, postage meters, etc. Using three standard materials, Microcell, XF Neoprene & Neoprene, our Custom Ink Roll Department can offer our customers, custom manufactured ink rolls, usually at a lower cost than the original equipment manufacturer and deliveries are normally 72 hours or less. Our custom ink rolls can be shipped dry or pre-inked. Pre-inked rolls can be used as disposables but all of the standard materials used by Universal in the manufacture of ink rolls are re-inkable for better marking economy.



If you require a special roll material or a special core or bushing material for your marking application, we can manufacture a custom roller from a variety of different types of materials to any specification required. Contact our Engineering Department for assistance on your specific application.

Universal Stenciling & Marking Systems, Inc.



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Business Hours • 8:00 to 5:30 • Monday - Thursday

E-mail: sales@universal-marking.com ~ Website: www.universal-marking.com