

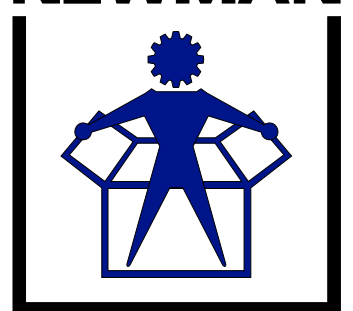
Labelling Systems: When is an Accessory a Necessity?



By

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In its simplest format, a labelling system applies a label securely to a product or container; everyone understands this straightforward concept. For example, in the food industry it could be a label that combines nutritional information with cosmetic appeal and branding to a can of beans. The label will include batch specific information such as 'best before' and 'use-by' date. It's important the correct label is applied to the product and in such a way as to be readable and look good i.e. not skewed or creased.

In the pharmaceutical sector, the application of labels to products is more regulated. Apply the wrong label and a product might cause considerable harm or even death to the person mistakenly taking it. There can also be a lot of information to be included on a label for a pharmaceutical product yet the actual container is often small, resulting in a variety of different label types being used such as leaflet labels and hanging labels. Lastly, labels for a single product will require different information, from a code per batch through to individual identification for each and every label; in many cases that information needs to be validated. The wrong information on the label can be a costly mistake and could be highly dangerous to consumers.

It's important that any labelling system is easy to use, reliable and ensures high-quality application of labels. However, where identification of a label is critical to an industry, as in the case of the

pharmaceutical sector, then a basic labelling machine is not enough; system accessories will be required to meet the needs of that industry and its stringent regulations. 'Accessories' is almost a misleading term – these system add ons are often 100% essential – but I refer to them as such as these are selected in each case based on application requirements and customer preference. In such instances accessories aren't there to 'promote and decorate' a container, but provide the critical identification of the contents of that container.

There are many labelling system accessories readily available that will enable you to comply with regulations and standards, provide security/validation throughout the labelling process and increase line efficiency. Which are suitable very much depends on the specific requirements of the application and the degree of automation required, so here I will look at the accessories that are available to meet these needs.

The first step is to verify that you are applying the correct label for the product line. It's not just about ensuring Product A has Label A applied, as Label A could come in different versions. For example, we have seen a case where a labelling line was running with English language labels and a German language version of the label was spliced on by the operator by mistake; the information on both was 100% correct for that product, but you can't have German language labels in the UK and vice versa.



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In the pharmaceutical industry label identification is typically achieved by identifying a pharmacode (an industry standard 2D barcode). There are a range of pharmacode readers on the market from those that are referred to as 'read and decode' which ensure the information correlates exactly to what it should be, through to simpler 'show and go' readers which don't go as far as decoding the barcode but instead confirm the pattern of the pharmacode matches.

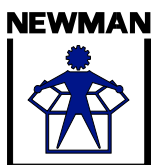
Just as we need to confirm the label being applied is correct, we also need to confirm the container it is being applied to is the correct one. For example this could be the identification of a specific colour container lid or even a small coloured ring on top of an ampoule. The different colours could indicate different strengths of the same drug, so it's vital the colours are correctly identified. This will require the addition of a colour scanning unit on the infeed of the labelling machine. With tableting lines the same can often be achieved by reading a 2D matrix code on the base of the bottle.

As we have already mentioned, the pharmaceutical industry requires different information to be applied to a label, whether it's a batch code and expiry date or a different identification for each and every individual label. Whilst the labels themselves are printed separately (there is an option to have integrated label printing, but this is higher cost and hasn't had much traction in the industry), a printing device will be required to add coding and overprint information to each label.

There are many printer options, from the traditional hot stamp coder, through to thermal transfer coding, laser coding and thermal ink jet printers. The choice of printer will be determined by the following factors: the label material, the amount/variability of content to be printed on the label and the speed of operation.

Just as we have looked at accessories to identify correct labels and correct containers, we also need a suitable means of ensuring the correct information is printed on a label and is legible. Some markets will accept a simple contrast scanner to achieve this, but a full Vision System is the norm. As with pharmacode readers there are a variety of options when it comes to Vision Systems, from 'show and go' systems which look for a pattern match, to OCV (Optical Character Verification)/OCR (Optical Character Recognition) systems which look at each individual character and correctly match them to a database.

When a missing or faulty label has been identified, it needs to be positively rejected and removed from the production line, often at speed. Manufacturers have approached this in different ways. Many have designed their reject systems to remove the label from the web and place it on to a mandrel, but the problem with this is that the rejected labels are placed one on top of the other which makes it impossible to then carry out batch reconciliation. At Newman we approached this differently with our Faulty Label Removal (FLR) System. In the event of missing or 'bad'



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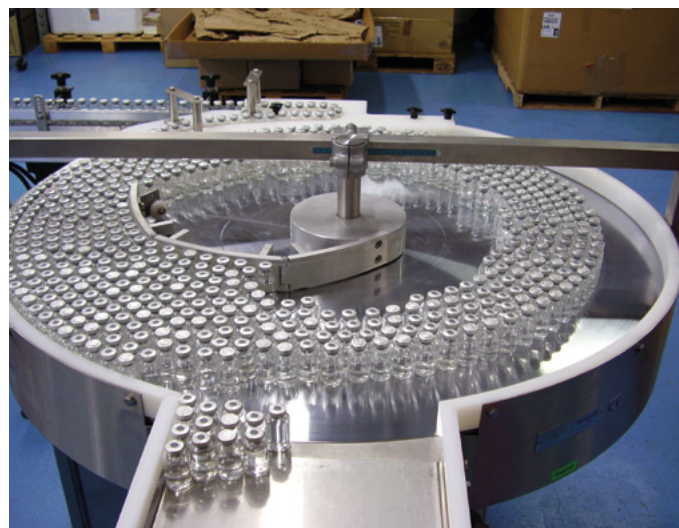
overprint information, bar code or 2D matrix code, the FLR System will securely remove the faulty label from the label web prior to application onto the container. These faulty labels are then transferred to a paper roll for batch reconciliation and inspection. It's fast and efficient.



A missing label on one single container could lead to a total batch product recall. An accessory to identify if the label is on the container following the labelling process is therefore important. The industry standard is to look for luminescence in the label using a UV sensor, although Vision Systems can perform the same task using a different method. It is then common practice to reject containers and/or stop the labelling system in the event that the container itself is out of specification, a faulty label is fitted or no label has been applied.

One accessory that is available at this stage of the process, but that I think should raise a red warning flag, is a vision system to measure label skew. A well designed

labelling system will apply labels precisely and repeatedly and should therefore make such an accessory redundant. This is one example where an accessory can easily be misapplied, adding unnecessary cost and complexity to the labelling system. Looking slightly further afield, there are other accessories that can be applied



further up or down the packaging and labelling line that, whilst not a direct part of the overall labelling system, do have a benefit to the overall process.

For example, a Rotary Feeding or Accumulation Table will provide a buffer between different processes, balancing different machine speeds and enabling machines to be stopped and started without affecting the whole production line. Online transfer of small glass containers such as vials, ampoules



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and cartridges are notoriously difficult to handle due to their dimensions and instability. These types of containers are often manually transferred to the labelling machine on trays, but this is both time consuming and costly. An accessory that is capable of automating this is therefore a welcome one! The traditional automated alternatives available typically utilise a synchronised screw transfer system, but these are prone to container breakage, have high change part costs and involve a lengthy changeover time. At Newman we have our own Container Transfer System (CTS) which avoids the use of synchronised starwheels to feed screws, ensuring container breakage is eliminated, whilst at the same time providing an accumulation buffer between the upstream equipment and the labelling system.

A further recommendation is an accessory that will speed up label reel change-overs and enable them to take place without stopping production. Newman's Easisplice, for example, holds two reels of labels – one acts as the current label supply while the other is positioned to facilitate rapid splicing as soon as the first reel reaches the end. This system enables continuous label feed, thereby eliminating downtime of the labelling system.

Of course, the more accessories you add to your labelling the system the more expense you incur. It's important to identify those that are actually required and the correct specification for each

application. Ultimately, you need to work with a labelling system supplier who has the right level of knowledge and experience in the pharmaceutical sector. They should be able to advise you what accessories you need for compliance and also ones that will prove commercially beneficial to you. They should also be able to seamlessly integrate such accessories into their labelling system, fully validated.

Not all labelling system manufacturers have the experience or skill set to help select and integrate these types of accessories. Newman Labelling Systems has extensive experience here. For example, we have been incorporating Vision Systems into our labelling machine for more than 25 years so we fully understand the strengths and weaknesses of these types of systems. Such manufacturers not only provide quality labelling systems, but also an added value service by recommending suitable accessories to meet needs and budget, whilst steering you clear of those that do not.

Newman Labelling Systems, established for over 70 years, is a leading supplier of specialist pharmaceutical labelling systems. Customers include major global pharmaceutical manufacturers as well as many smaller biotech companies and locally-based manufacturers throughout the world. For more information please go to www.newman.co.uk



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