


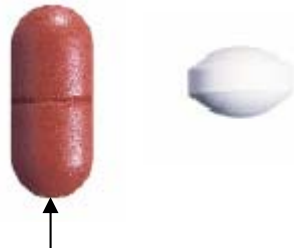



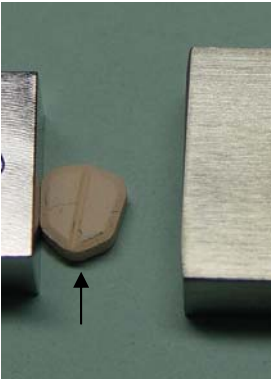
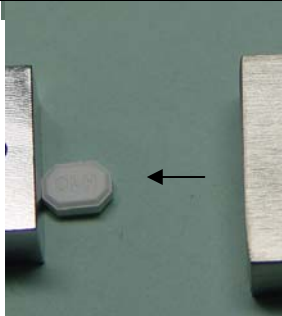


Tablet orientation within a tablet hardness test instrument with and without sample orientation system

	Test Description	force direction and sample shape
1	All round and flat or slightly concave samples are not giving any problem inside any Tablet Hardness Test instrument. No orientation device whatsoever is required.	
2	Tablets having a break line require a validation test to prove that there is no significant difference within the hardness test results if the force is applied in the direction of the break line or any other position	
3	Round but deep concave samples (close to the shape of a ball) cause problems. While moving towards the test station they tend to " <i>stand up</i> " In a manual Hardness Tester we propose that you place such a sample directly to the fixed part of the test station, to avoid any movement of the sample. The WHT ME offers a " LENS " program which moves the sample directly in front of the fixed jaw and waits some milli-seconds to allow the sample to rest in a stable position before the test is done	
4	Oblong tablet, deep concave shape requires special care when testing. For manual equipment it should be placed in the same way as the deep concave sample (3). To be tested within an automated system a sample orientation system, the FLAP device of the WHT ME is required. Having a FLAP system will reduce the amount of incorrectly positioned samples down to about 10-20% compared with a system not having any sample orientation The WHT ME offers a program " ROLLING SAMPLE " which secures the correct positioning for the majority of samples	
5	Oblong shaped tablet; the slight concave shape does not cause major problems in either manual or automated systems. For automated equipment, an orientation device such as the FLAP system within the WHT ME, will reduce the number of incorrectly positioned samples down to about 2-10% compared to a system without any sample orientation	

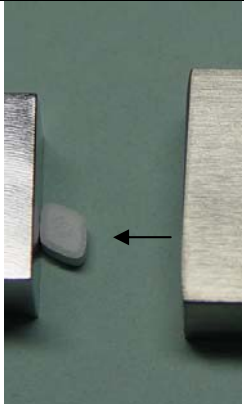
How to position the Tablet within the Hardness Test Station

Test Description		force direction and sample shape
<p>6</p>	<p>Football or Caplet shaped samples can be handled in a manual system in the same way as the deep concave samples (3). For an automated system, again we recommend the use of a sample orientation like the FLAP device. Without the Flap device, the sample tends to turn around which causes incorrect results. If this shape is deep concave one, even manual testing is difficult; the user may need to hold the sample in the correct position</p>	
<p>7</p>	<p>This shape can be tested in a manual instrument like the one described for deep concave samples (3). It is difficult to handle if it is a deep concave (see 6). In an automated system a orientation device like the FLAP system is necessary.</p>	
<p>8</p>	<p>This shape has to be tested manually as it is offering 6 "flat" sides plus break line. Only an operator can place it manually into the correct position. Any automated system will fail as none of them offers a visualisation system which can assist any movable orientation device to drive the sample into the correct position for hardness testing. Using the dimensions (length/width) the software of an automated system is able to select both passed and failed tests but the number of samples you will need to get the requested number of correct results is probably >>100%</p>	
<p>9</p>	<p>This sample has 8 flat sides in total, which is easy to handle in a manual instrument as the operator is able to place it correctly. Its difficult in an automated system as it may be moved using the shorter or the longer side. Again, the software is able to sort pass and fail results but you need approx. + 30 to 50% more samples to get the number of correct results that you requested</p>	

How to position the Tablet within the Hardness Test Station

Test Description

force direction and sample shape

10	<p>This shape can only be tested in a manual system if the hardness has to be tested from the tip to the tip part (longitudinal axis)</p> <p>If it can be done as shown here there is no problem for any automated system even without an orientation system, as long as the 2 parallel sides have the same length</p>	
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If you have different shapes or you are not sure if the sample can be tested as per your requirements, please do not hesitate to send us some samples. We will carry out the tests and inform you of the results and the most suitable instrument.