Hydraform blocks can vary in length due to the following two reasons.

1) Under filling the mould / chamber : One full-length block is 10 litres of soil cement mix before compaction. Normally one cubic metre of mix should produce 100 – 108 block per cubic metre. When measuring out the mix it is important to ensure the wheelbarrow being used or the buckets are levelled every time, ensuring the same quantity of soil and cement are being used. Length may be intentionally varied when producing half blocks or special length blocks. 5 litres of soil put into the chamber will give a half block of approx 110-120mm length. Never produce a block with a length of less than 100mm or 4 litres of soil, this may cause damage to the top arm and cylinder during compaction of the soil cement mix.

2) Moisture content: The moisture content within the soil cement mix can vary the length of the blocks. Usually if there is too little water in the mix the blocks will be too long and not well compacted. If there is too much water in the mix the blocks could be too short and will have small cracks in them. It is important that you establish the ideal block length for a given soil type. To do this prepare a mix of soil and cement and a little water (The first mix should be slightly dry).

- Mix thoroughly and produce a block.
- Measure the 1st block.
- Add water to the mix and mix thoroughly again, produce a 2nd block and note the length. The block length will reduce as the moisture content is increased.
- Repeat the process adding more water to each mix and make new blocks noting the length.
- Finally fine crack will begin to show on the bottom of the block, this indicates there is too much moisture and the mix is too wet. Note the length of the block for this mix.
- The best average length would be a little longer than the block length when fine cracks start to show. Assuming this length is 230mm instruct the machine operator to manufacture blocks in the range of 225mm – 235mm. Give the operator a steel rod of length 235mm with a marking at 225mm. The average block length should always be between the upper marking and lower marking.
- If the soil is a little dry the block will be longer than the average length, the operator then simply adds a little water to the mix and continues producing blocks.
- The steel rod gives a visual and easy check for the operator to check and maintain the moisture content of all blocks being produced.

Note that if you are getting more than 100 – 108 blocks from one cubic metre of mix, then there are 2 possibilities for this error.
The operator may not be filling the chamber fully with the required 10 litres of soil per block. The hopper will automatically level the chamber when the soil hopper is pulled back after filling.
Secondly the operator might not be returning the bottom ram to the very bottom during block manufacture. The ram must go all the way to the bottom before making every block.
Also ensure the quantities of soil being mixed is in fact the same every time. The person mixing the soil may heap the soil on some mixes and then under fill the wheelbarrow on other mixes.

Consistency in mixing and moisture is the key to good block quality.