



MMV Digital Length Measuring Gauge



INSTRUCTION MANUAL

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Identification Data

Model	MMV
Serial Number	
Controller Number	EL302
Software Number	
Model Year	2009

Dimensions

Measuring length	0 to xxx"
Working height	Approximately 36"

Technical support and Spare Parts

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Document Number of the Manual	See footer on front page
Version	See footer on front page
Date	
Last changings	

1. Product Description



MMV Digital Length Measuring Gauge

Fig.	Description	Fig.	Description
1	Adjustable V-bracket	5	Pipe loaded
2	Steel end stop	6	Digital Readout
3	Movable carriage with handle	Figures 1 – 6 are located on page 5.	
4	Moving steel V-stop		

1.1 Operating Procedure

- Adjust V-brackets to the length of the piece to be measured
- Put piece to be measured onto the V-brackets so that it touches the end steel stop
- Slide the movable steel stop gently to the end of the piece to be measured by using the handle
- Release the handle and read exact length from the display
- Move steel stop with handle away and remove the measured piece

1.2 Single parts of the MMV measuring machine



Fig 1. Movable V-bracket

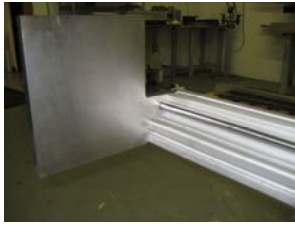


Fig 2. Stationary steel end stop



Fig 3. Movable carriage with cable track, handle and linear encoder

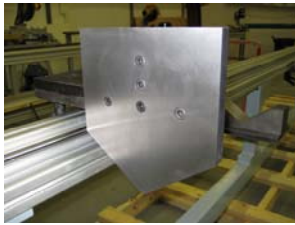


Fig 4. Moving steel V-stop



Fig 5. Moving steel V-stop with pipe loaded



Fig 6. Digital Readout with 0.0002" resolution

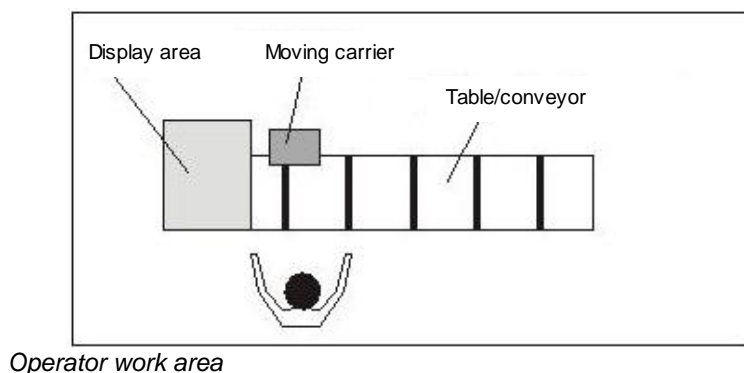
1.3 Intended Use

The only acceptable use for the MMV is as a length measuring gauging system. Never place any material on the conveyor except the piece to be measured. Any other use is not intended and is a misuse of the MMV gauging system.

Raw material with cross section Up to 7inch diameter materail

Note: Loads over 150lbs should be supported with stands underneath the V-blocks for supporting any excessive momentary loads

1.4 Work Area



When the machine is powered on, the only acceptable operator location in the work area is standing in front of the control stand on the opposite side of the table (version MMT) or of the V-brackets (version MMV)

1.5 Danger Zones

- The area between the moving steel stop and the fixed steel end stop face plate

1.6 Technical Specifications

General Data

Machine size	
Weight	
Power supply	115 V AC 60 Hz Input power 24 V DC Operating power
Current	Max 0.5 A
Fuse Digital readout	500 mA, slow-blow fuse 20 x 5 mm
Operating Temperature	+ 5° C to + 45° C (41°F to 113°F)
Repeatability	Encoder = +/- 0.0002", system at +/-0.005"

2. Basic Safety Hints

2.1 Read and follow all hints inside the Instruction Manual

Basic requirements for the correct use of the gauging system are the knowledge of the basic safety hints and the safety precautions.

This instruction manual contains the most important safety hints.

2.2 Owner Obligations

The owner agrees to only allow the measuring gauge to be used by qualified and trained persons who:

- Have been instructed in the general safety rules and precautions
- Have been instructed in the correct use of the measuring gauge
- Have read and understood the safety chapters and caution hints of this instruction manual.

2.3 Operator Obligations

All persons working with this length-measuring gauge agree to the following before starting to work:

- Agree to follow the general safety rules.
- Agree to read and understand the safety chapters and caution hints of this instruction manual.

2.4 Warranty and Liability

Hymark Ltd Co (henceforth Hymark), warrants this product for a period of twelve (12) months from the date of shipment. During the warranty period, under authorized return component parts to Hymark freight prepaid, the company will repair, or at its option, replace any part found to be defective in material or workmanship, without charge to the owner for parts, service labor, or associated customary shipping costs.

This same protection will extend to any subsequent owner during the warranty period. It does not apply to damage caused by accident, misuse, fire, flood or acts of God, or from failure to properly install, operate, or maintain the product in accordance with the printed instructions provided.

This warranty is in lieu of any other warranties, expressed or implied, including merchantability or fitness for a particular purpose, which are expressly included. The owner agrees that Hymark's liability with respect to this product shall be set forth in this warranty, and incidental or consequential damages are expressly excluded

Hymark is not liable in part or in whole for any personal or equipment damage caused by of the following:

- Unintended use of the gauge
- Improperly mounting, installing, maintaining or operating the gauge.
- Operating the machine when the safety devices are damaged or not properly installed or if the safety or protection devices are not working properly.
- Disregarding the hints, notes and warnings concerning the transportation storing mounting installing using or maintaining the machine.
- Changing the construction or assembly of the machine.
- Replacing the original motor with a stronger motor or changing the load bearing components of the machine.
- Not monitoring the machine parts that wear.
- Improper repair or replacement.
- Acts of God or damage caused by impact of materials not involved in machine operation.

2.5 Measuring Gauge Design Changes

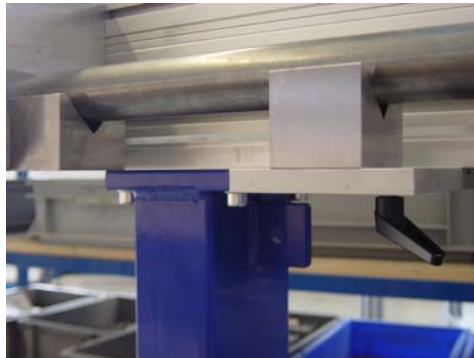
- Do not change any mechanical or electrical components of the machine without written manufacturer permittance.
- Replace all non-working or damaged electrical components and machine parts immediately.
- Use only original parts and equipment from the manufacturer.
- There is no warranty or liability if parts and equipment from different suppliers are used.

3.1 Installation procedure **Note: your machine may arrive assembled or nearly assembled**

1. Mount leg-supporting bar with hex bit socket screws to each leg (casters may need to be added to fully assembled units when removed from crate).



2. Mount aluminum extrusion with hex bit socket screws on top of each leg

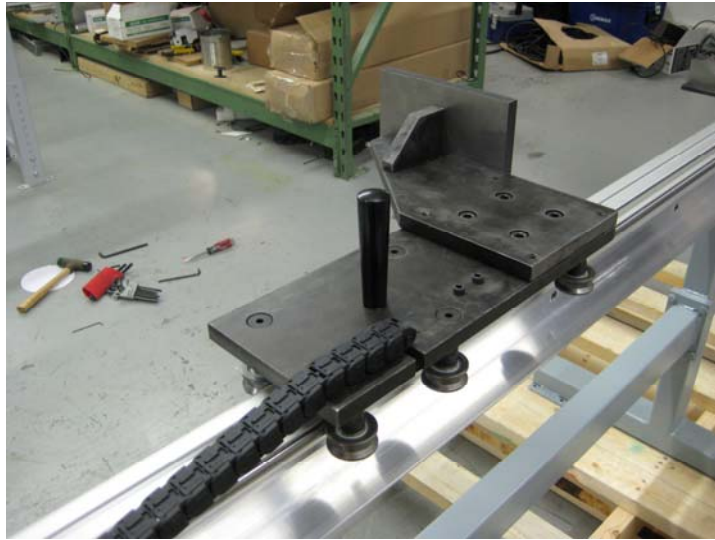


3. Mount extrusion with top mounting plate for the Readout to the aluminum extrusion by using hex bit socket screws.

Note the display may be mounted to the support leg structure (model dependant).



4. Mount black handle to the movable steel stop by using a M10 wrench



5. Fix Digital Readout to top mounting plate by using 4 pcs M4 screw nuts already mounted to the screws at the bottom plate of the readout
6. Plug in power cable and measuring system cable with 9pin d-connector to the back of the Digital Readout
7. Turn power on by using the power switch on the backside of the Digital Readout
8. Datum the Digital Readout every time after turning power off and on (see "Set Datum" procedure inside this manual)

Setting Datum (zeroing)



☞ Turn power on

☞ Either place a known standard between the movable steel stop and the fixed end stop or simply move the movable steel stop gently toward the fixed end stop until contact is reached. For best results, it is recommended to use a known standard with value of at least 0.0002" (For example purposes, we will use a standard of 4.0000")

☞ When the contact is reached with standard meeting fixed and movable stops

☞ Press "X" button, Display shows:

						0

☞ Using the keypad, type in "4.0000" (our example standard length)

☞ Press "ENTER" button to datum the Readout to Zero and to return to operating mode", display shows:

		4.	0	0	0	0

*A full display manual is provided with the machine as well as a CD and RS232 cables for download when option is applicable.

4. Maintenance

4.1 Maintenance Requirements

Maintenance jobs as described in this chapter may only be done by authorized and trained personal.

4.2 Lubricants and Detergents

- ☞ Use commercially available detergents.
- ☞ Don't use any acids or alkaline solutions
- ☞ Don't use any high pressure water jet cleaners

5. Spare Parts

Item	Qty	Part Number
Magnetic tape	1	MT50
Digital readout	1	EL302
Linear encoder	1	SME5-L-1-5-I-L5

6. General technical information on MMV

- The **repeatability** is defined as the capability of a machine to get back to an actual position, which was reached under the same conditions within the given tolerances. It refers to the average position variation according to VDI/DSQ3441. Please note that among other items such as temperature, load, velocity, deceleration and the direction of movement will influence the repeating accuracy.

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