



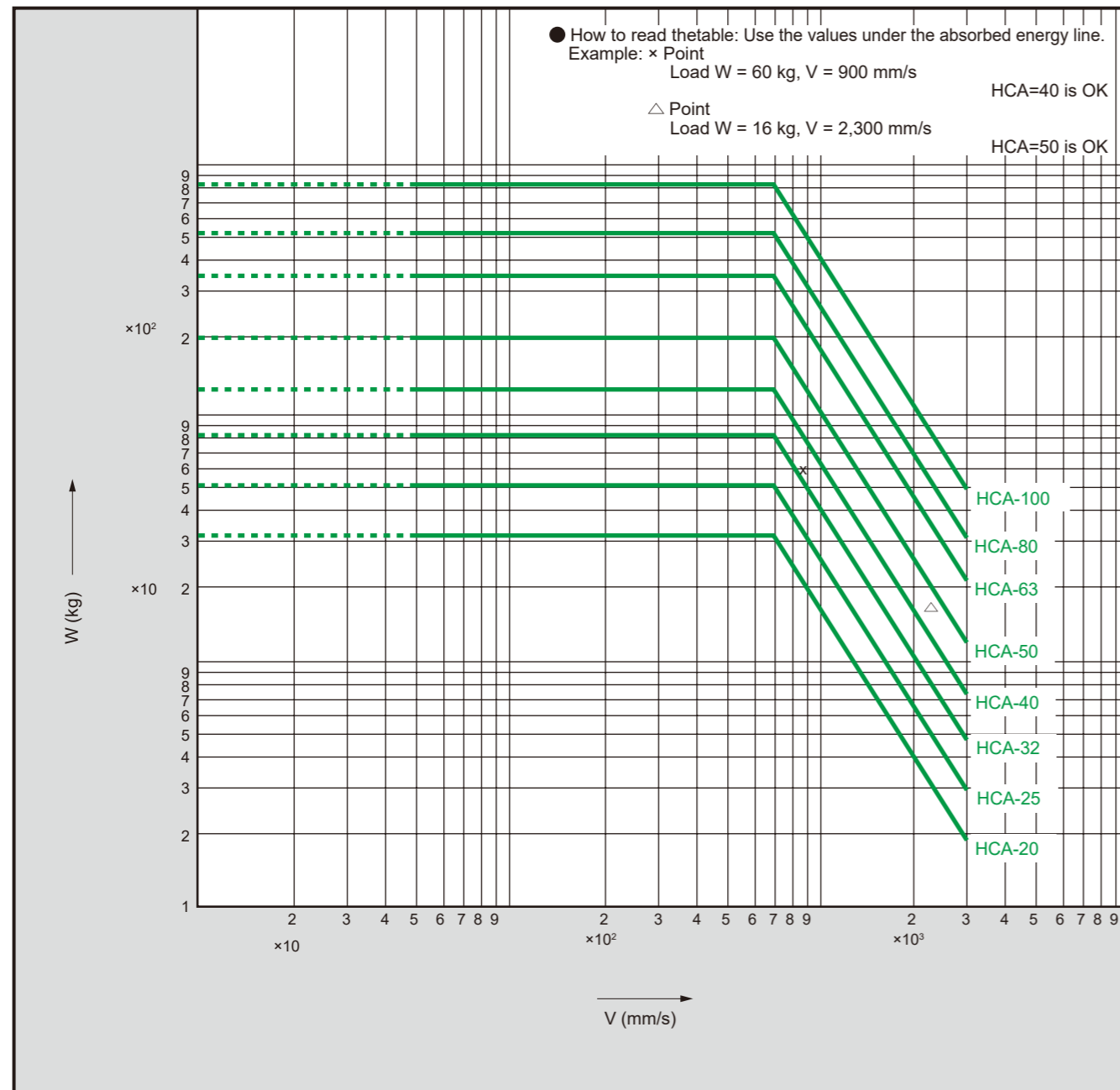
To Use This Product Safely

Be sure to read this before use. For general cylinder information, see Intro 41, and for Cylinder Switches, see P. 1512.

Step 2 High-Speed Cylinders Model Selection

Determine the model from the following table based on the relationship between load W and Max speed V.

High-Speed Cylinders Absorption Energy List



Note: Please be careful when reading the graph as it is a log-log scale.

For example, when the load W=16 kg and the maximum speed is 2300 mm/s, the △ mark indicates that HCA-40 cannot be used, and HCA-50 should be selected.

Individual Precautions: High Speed Cylinder HCA Series

Design / Selection

CAUTION

■ Avoid using the product so as to apply lateral load to the Piston Rod of the cylinder. If a lateral load is applied, the desired speed cannot be obtained, and the bearing part will wear unevenly, significantly reducing performance.

■ Cushion
 The air cushion absorbs kinetic energy that the piston generates by using air compressibility and prevents the piston and cover from colliding at the stroke end. Therefore, note that it is not a function for reducing the piston speed near the stroke end.

■ Consider the system selection guide of the cylinder only as a guideline, as it may vary depending on the operating conditions (Operating Pressure, travel method and direction of the load and piping length).

■ Operating the cylinder at high speed increases the instantaneous flow rate of the air, allowing drainage to accumulate more easily. Install an air tank to prevent drain from entering the cylinder and prevent pressure loss when passing through the oil mist filter.

■ The Max speed for the working piston is 3000 mm/s, which is not the average speed.

■ The Cylinder Body restriction is designed for a speed of 3000 mm/s and over, and should not be constricted by piping, valves, or speed controllers.

■ If started with the exhaust side at atmospheric pressure, the rod may extend suddenly, which is dangerous. Apply pressure to the exhaust side at startup.

■ If the cushion specifications (allowable absorption energy) are exceeded, install a separate shock absorbing device.

For precautions regarding mounting, installation, adjustment, operation, and maintenance, please refer to the CKD Equipment Product Site(<https://www.ckd.co.jp/kiki/en/>) → 'model No.' → [Instruction Manual](#).