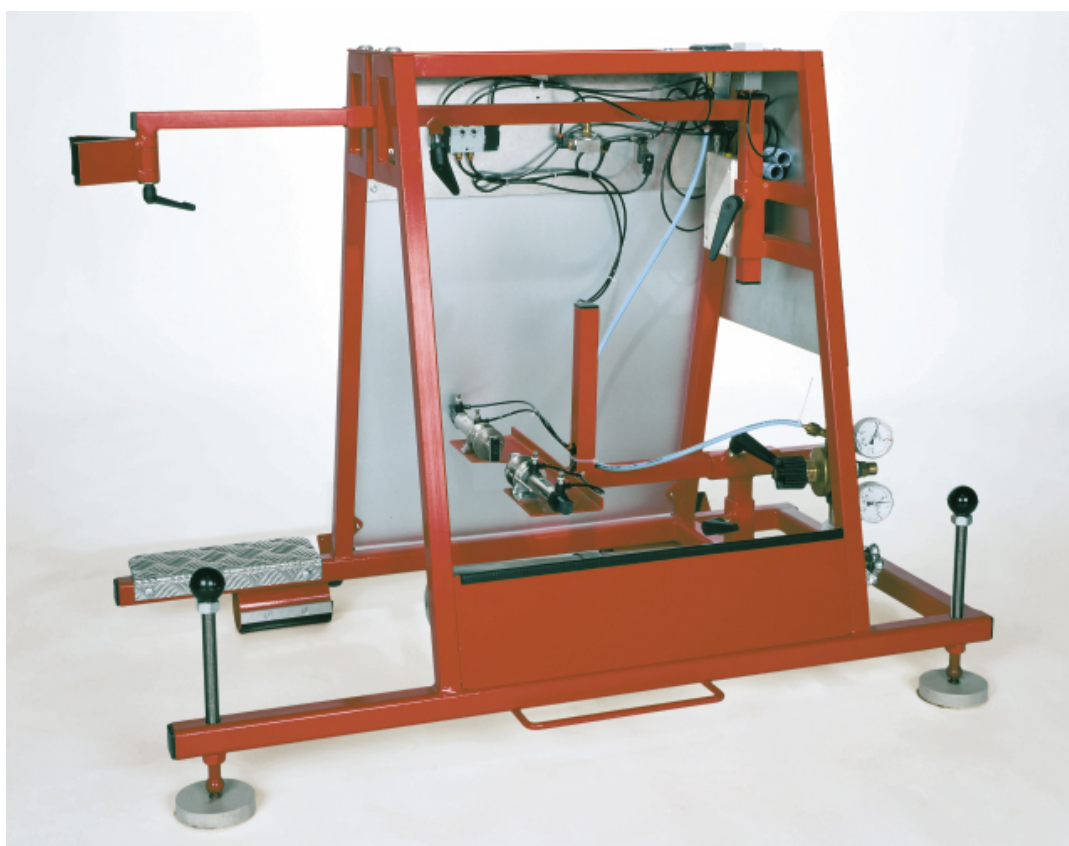


CYCLING TRACK

STARTING GATE SYSTEM



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Version 1.1

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CAUTION

- ❑ **Protect the equipment against splashing, rain and excessive sun rays.**
- ❑ **Never use the device if it is damaged or insecure.**
- ❑ **The information contained within this document may be modified without warning.**
- ❑ **Swiss Timing LTD cannot be held responsible for errors within this document nor for any subsequent nor consequential damages (including loss of profit) arising from its provision, nor performance or use of products described herein, which will be covered by another guarantee, contract or other legal document.**



This symbol indicates that this product should not be disposed with household waste. It has to be returned to a local authorized collection system. By following this procedure you will contribute to the protection of the environment and human health. The recycling of the materials will help to conserve natural resources (valid in the EU member states and in any countries with corresponding legislation).

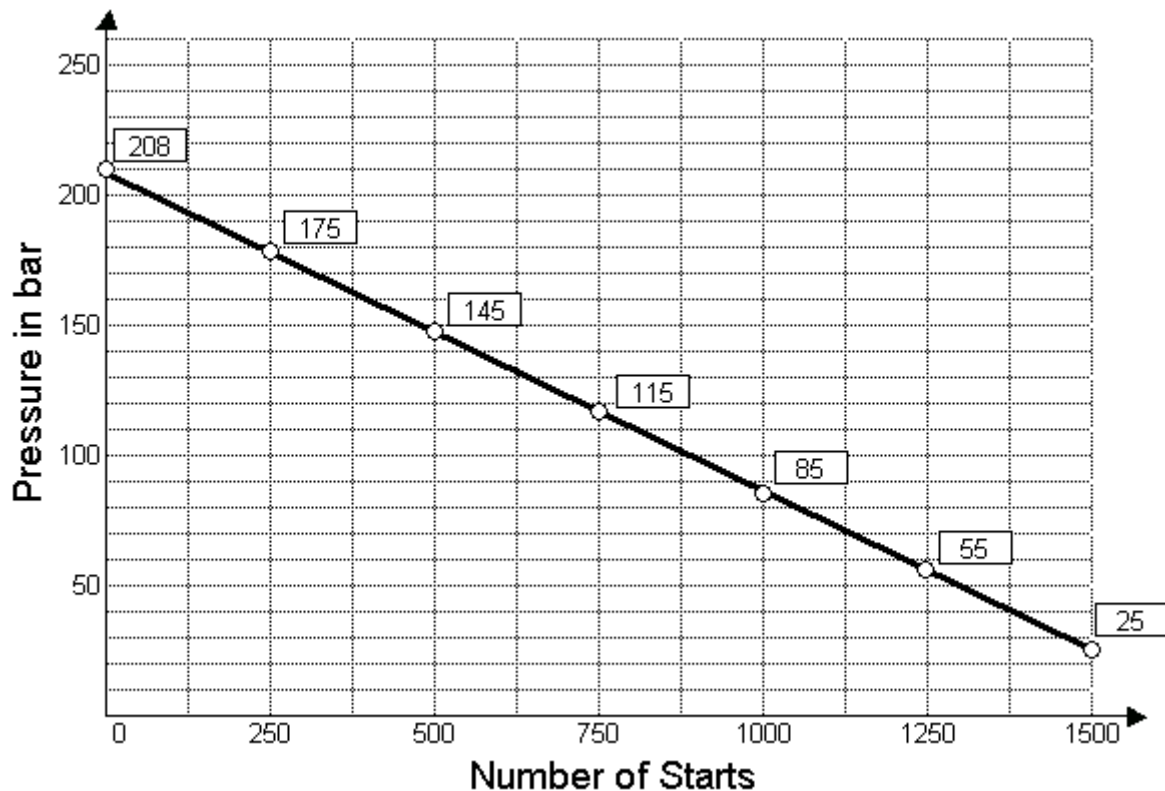
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1 INTRODUCTION

1.1 Testing Conditions

- 1 3.8 litre bottle of technical grade Nitrogen at 208 bar pressure
 - Set the second stage relief valve pressure to 6 bar
 - Set the working pressure after buffer air receiver to 4.5 bar
 - The simulated rim width is 17.4 mm
 - Closing the device every 20 seconds (10 seconds for opening and 10 seconds for closing)
 - Resulting number of starts with 3 bar remaining pressure in the bottle: 1678 starts
- **Diagram with a 3.8 litre bottle at 200 bar**



1.2 Changing the Starting Blocks Batteries

The first step is to insert new 1.5 V batteries in the control cabinet of the starting blocks (delivered in the installation case). The control cabinet controls the electropneumatic gate of the device. New batteries have a lifespan of several months, which is enough for the whole time of the competition.

1.3 Pressurizing the Starting Blocks

IMPORTANT: The Pressurized gas bottles must be handled with care. Their relatively high pressure (180 to 200 bar) can be dangerous. Never tighten the cocks and fittings with force.

Four bottles of technical grade nitrogen are available for 2 starting blocks. 2 bottles will probably be sufficient, if the cocks are well closed for breaks longer than one hour, and during the night.

1. Mount the pressure-reducing valve on the nitrogen bottle (do not misplace the plastic disc). Use the tools from the installation case – a 32 mm wrench is needed.
2. Mount the blue hose in the fitting of the pressure-reducing valve. Press it in firmly. This system is self locking. To remove the hose, press the red ring in the opposite direction of its recess.
3. Carefully open the nitrogen bottle, checking the primary pressure gauge which indicates the pressure in the bottle (180 to 200 bar). Then use the black plastic cock to set the working pressure to 5 to 6 bar, indicated on the other pressure gauge. Open the small knurled brass cock to pressurize the whole pneumatic system. It is recommended to perform a few opening/closing sequences of the piston before clamping a bicycle wheel (4 to 5 sequences).

1.4 Connecting the Starting Blocks

1. Plug in the banana plugs of the cable coming from the starting clock into the appropriate sockets (see diagram). This cable transmits the opening impulses.

IMPORTANT: If the starting clock fails for any reason, the starting blocks can be connected directly to the starting gun.

1.5 Setting the Starting Block Level

1. Place the starting block at its intended location and loosen and tighten its legs to adjust its level. A spirit level is mounted on the front side of the starting block. If needed, a spare spirit level can be found in the installation case. Make sure that the starting block is perpendicular and tighten all the nuts. The articulated legs adapt perfectly to the incline of the tracks.

1.6 Clamping a Bicycle into the Starting Blocks

It is possible to adjust all positions, height, length for both, clamping the wheel, as well as holding the saddle tube.

1. To begin the adjustment, the cyclist must not be on the bicycle.
2. Retract the clamping system to the back and adjust the length and height of the saddle tube support. Tighten well.
3. Bring forward the clamping system (including the pistons) and clamp the rear wheel of the bicycle at its rim, just behind the tire. Never clamp the pistons on the tire (to avoid risk of puncturing the tire).

1.7 SST-048 Starting Clocks

These starting clocks are used to set the starting time for kilometer races and pursuits. At zero time, they generate an impulse which simultaneously opens the 2 starting blocks. Then they change automatically to lap counters to the number preset on the lap counter units.

2 INSTALLING THE STARTING CLOCK

Take the starting clock out of its case and place it on its feet.

1. Connect the central control panel (AST-080) to the SST-048 starting clock (all cables and sockets are identified)
2. Connect the starting cable between the starting clock and the starting block.
3. Connect the small lap counter control panel (AST-081). The correct number of laps must be preset (for example 16 laps: set the multiswitches to position 16).
4. Connect the timing equipment and the lamp control (red/green) to the START socket on the central control panel (all required cables are provided).
5. Power up the system with the main switch on the back of the starting block. A red control lamp goes on. The power supply can handle any voltage between 110 V and 250 V AC, without any further setting. The central control panel is also powered from here.

3 USING THE SYSTEM

The central control panel is used by the starter.

1. Set the count-down time (for example 50 seconds) with the multiswitches (which would read 050 in the example).
2. Press the <CLEAR><SET> buttons. The starter of the race presses the <START> button at the appropriate moment. The countdown can be stopped at any time by pressing this button. The time stops. In order to resume the countdown, press the <START> button again.

Lap counter

3. Five seconds after reaching zero, the display changes to a lap counter. The officials using this counter can decrement the number by 1 by pressing the green <1 LAP> button, and clear the display by pressing the red button.
4. When the race is terminated, the starter resumes at step 2.
5. At the end of the day/competition, disconnect the starting clocks.

