

**MOVENTOR**

MAKES  
EVERY  
RUNWAY  
SAFER

**SKIDDOMETER BV11**



**SKIDDOMETER**

# SKIDDOMETER BV11

# – BE SURE, BE SAFE

## SKIDDOMETER BV11<sub>VI</sub> – VEHICLE INTEGRATION – LATEST INNOVATION IN FRICTION MEASUREMENT

what you get:

### 1. UNBEATABLE TECHNOLOGY

- Well proven Skiddometer BV11 and the Skiddometer Touch Screen Computer
- One electric actuator and independent reference wheels allows installation on almost any pickup truck
- No major modifications needed to the vehicle, can be transferred from vehicle to vehicle
- Quick release for Skiddometer system to remove the system for maintenance or periods when not needed
- Seamlessly integrated self-wetting system with electrical water pump
- ICAO, EASA and FAA listed unit.

### 2. IMPROVED SAFETY

- A four-wheel drive provides more efficiency and safety for the operator
- Worst possible conditions will not compromise operation or safety
- High ground clearance from measuring wheel prevents unwanted impacts
- Good visibility from cabin and safe pick-up vehicles
- Ensure that the flight control and pilots have the correct friction information for landing and takeoff (enough runway to make the aircraft come to a complete stop before the runway ends).

### 3. BETTER ECONOMY AND ENVIRONMENTAL FRIENDLINESS

- Long life cycle, environmental friendly material selections, no hydraulics and possibility for electrical vehicles increases the environmental friendliness
- Utilization of rental, existing and electric vehicles is possible
- Precise information on when to take necessary actions to remove snow, ice etc.
- Precise information on the surface structure of the runway and whether it needs to be improved
- Large water tanks up to 2000 litres reduces refilling time between measures.

The Skiddometer BV11<sub>VI</sub> (Vehicle Integration) is the latest innovation in friction measurement. Its proven measuring technology has been adapted to use an electric lift system with the Skiddometer BV11 and the Skiddometer Touch Screen computer, to provide seamless vehicle integration.

This new simple patent pending construction allows the Skiddometer unit to be installed easily on almost any brand of pickup truck available on the market without major modifications to the vehicle itself. Even with the seamless integration to the vehicle, the vehicle systems stay untouched keeping the OEM warranty valid.

Friction measurement can take place during the worst possible weather conditions safely, and now any vehicle can be used to perform the measurement, including safe four-wheel drives designed for such conditions. Besides the operational measures, the Skiddometer BV11<sub>VI</sub> can be equipped with self-wetting system for maintenance measures for checking surface structure and rubber build-up.





# SKIDDOMETER BV11 – THE MOST RELIABLE AND ACCURATE

All airports with turbojet traffic should own or have access to a CFME.

**Skiddometer BV11 is the most reliable and accurate system for determining runway surface friction values and can also be used for measuring surface micro- and macrotexture.**

The Skiddometer CFME system is designed for easy towing with any vehicle. It incorporates features and improvements gained from more than thirty years of experience. The product's proven life cycle cost is the lowest in the market. Only a few of the Skiddometer's parts are exposed to wear, so maintenance and calibration are only needed once a year. The trailer is designed to last for decades and all models can be updated with current parts and the latest computer system.



## what you get:

### 1. UNBEATABLE TECHNOLOGY

- Reliability in all weather conditions: no batteries required, no complicated and failure sensitive hydraulic or pneumatic systems
- Simple, robust and practical design with measuring and reference wheels in line: redirecting reference wheel's power to measuring wheel provides reduced drag and better stability
- The easiest calibration check on the market, confirmed with one button operation
- Accurate data validation
- Unique self zero adjustment.

### 2. IMPROVED SAFETY

- Determine friction values, so corrective action can be taken
- Fast, continuous, accurate and reliable friction measurements for the entire length of the runway.

### 3. ADDING VALUE TO YOUR BUSINESS

- Aircraft can take more payload when friction is at a certain level (landing and take-off)
- Precise information for scheduling maintenance such as snow and ice removal etc.
- Precise information on need to remove built-up rubber
- Constant detailed information on the condition of the runway surface.



# SKIDDOMETER BV11 OPTIONS FOR RUNWAY FRICTION

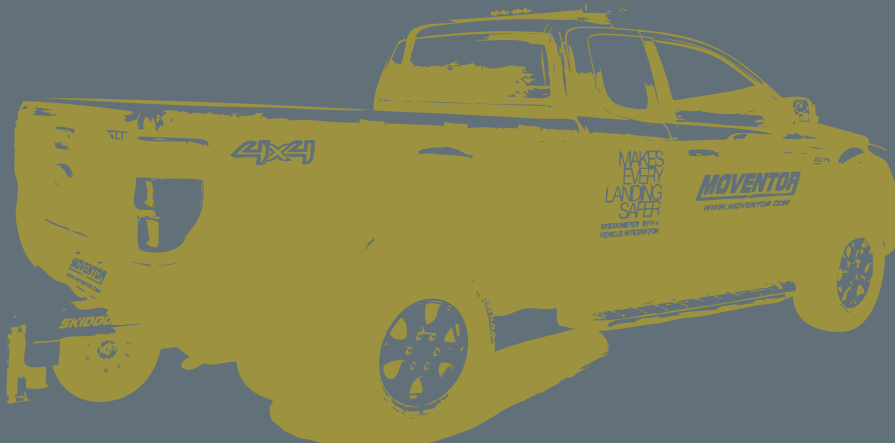
## THE SKIDDOMETER TOUCH SCREEN COMPUTER

The Skiddometer Touch Screen Computer is used to record measuring data. It has been developed in close co-operation with several international airport customers, following the success story of older MI-series computers.

The touch screen computer takes friction measuring to whole new level. It utilizes usage of commercial tablet computers. Software is designed to be used on any Android based tablet on the market. Together with the Web Service, Touch Screen Computer is the most modern system available. CAN based communication allows easy integration of additional equipment and makes friction testing equipment to a multi purpose machine.

### The computer has many advantages:

- Easy to use, large screen
- GPS with map view
- Screen display and printouts follow ICAO and FAA standards
- Unlimited measuring data saved on memory and Skiddometer Web Service accessible via web browser
- Global Runway Reporter compatible
- Printouts can be made from external printer in or outside the vehicle.





# CTION TESTING EQUIPMENT

## THE SKIDDOMETER WEB SERVICE

When using Touch Screen Computer together with Skiddometer BV11 friction measuring equipment you are granted an access to web service. All measuring information can be uploaded to a server and access is done by web browser. This makes transferring information between all airport parties, such as maintenance, traffic control, tower, etc., easy. All parties have access to the measuring information quickly and effortless.



## SURFACE CONTAMINANT AND TEMPERATURE SENSOR

Surface contaminant type, depth and temperature combined with friction values are critical information for airports to ensure safe landing conditions. It's also important for runway maintenance to optimize cleaning and de-icing.

The Skiddometer CFME system can be equipped with surface contaminant and temperature sensor. It's a great addition to determine surface conditions. Temperature information can be seen and printed together with friction information on measuring computer.



## WIRELESS COMMUNICATION

Skiddometer BV11 can be equipped with wireless communication. Then usage of cable between the trailer and computer is unnecessary and makes attaching the trailer easier for the user. Only hook up the trailer to tow ball and start measuring. Communication can be selected between Bluetooth and WiFi whichever is the most suitable option for the user. Power comes from on-board battery. The wireless communication doesn't prevent using traditional cable communication and power supply.





# SKIDDOMETER BV11

# SELF-WETTING SYSTEMS

## SKIDDOMETER BV11 WMS SELF-WETTING SYSTEM – RELIABILITY FOR LONG RUNWAYS

For regular runway calibration with a trailer-based Skiddometer BV11, we offer the WMS Water Measurement System. The WMS system is totally self-contained and offers maximum flexibility, as any vehicle can be used for towing. The stainless steel water tank is built from multiple compartments to prevent sloshing. Its capacity is sufficient to make the longest runway measurements with a single run.

### FEATURES AND BENEFITS

- The most advanced self-wetting system on the market
- Its robust pumping system automatically provides an always correct uniform water depth of 1 mm (0.04 inches)
- The stainless steel tank's volume can be suited and optimized for customer needs
- Extremely stable, low center of gravity construction
- Service free robust construction
- Can be used to transport Skiddometer BV11 for longer distances, e.g. between different airports.



### RUBBER BUILD-UP

Since wet pavement always yields the lowest friction measurements, Skiddometer should routinely be used on wet pavement, providing the "worst case" measurements for the runway. Removing built up rubber is costly, and requires the runway to be

closed down for the cleanup. Friction values measured on a wet surface are the most useful for determining the need for corrective action. According to agreed procedures, a uniform water depth of 1 mm in front of the friction measuring tire should be used.



# SKIDDOMETER BV11 WATER ONBOARD SELF-WETTING SYSTEM – PRECISE CONTROL WITH ANY VEHICLE

The Water Onboard system has the pump mounted on the towed Skiddometer BV11, and water tank in the tow vehicle. The water tank is a 1,000-liter flexible plastic water sack placed in the vehicle.

## FEATURES AND BENEFITS

- The robust pumping system automatically provides an always correct uniform water depth of 1 mm (0.04 inches)
- A cost effective solution which can be added to any Skiddometer BV11
- The water tank can be suited to customer needs.



## RUNWAY CALIBRATION

Besides using the Skiddometer during rain, slush, and snow conditions (operational use), the Skiddometer is also used for checking the runway surface condition and “rubber build-ups” (Runway Calibration), i.e. measuring wet friction at a water depth of one millimeter. This measurement is based on recommendations of the International Civil Aviation Organization (ICAO), the Federal Aviation Administration (FAA), and ASTM standard E 1960 – 98.

Since wet pavement always yields the lowest friction measurements, we offer a self-wetting system which simulates wet pavement surface conditions and provides the operator with a continuous record of friction values along the length of the runway. The attached water pump and nozzle are designed to provide a uniform water depth of 1 mm (0.04 inches) in front of the friction measuring tire. This wetted surface produces friction values that are most meaningful in determining whether or not corrective actions are required.



The Skiddometer BV11 Continuous Friction Measuring Equipment (CFME) is approved and recommended by the International Civil Aviation Organization (ICAO), the Federal Aviation Administration (FAA) and meets the regulations set by the European Aviation Safety Agency (EASA).



Similar systems on the market are still comparison tested with the Skiddometer, originally launched in 1968.

Moventor is an assessed and certified manufacturer meeting the requirements set in ISO 9001 Quality and ISO 14001 Environmental Management Systems.

# CONTACT US TODAY!

## Moventor Oy Inc.

Moventor Oy Inc. is an international, modern, strongly growing and developing manufacturing company specialized in the friction measurement and airport equipment businesses. Our core business areas include developing, manufacturing, delivering and servicing Skiddometer BV11 friction testing and Global Runway Reporter software systems around the world and representing EHR Fahrzeugtechnik Cleaning Systems in the Scandinavian region.

Moventor's head office and factory are located in Ylöjärvi, Finland. Moventor is committed to providing you products and services that increase the value and effectiveness of your business.

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