MOVENTOR

SKIDDOMETER

MAKES EVERY RUNWAY SAFER

SKIDDOMETER BV11

MARKET LEADING CONTINUOUS FRICTION MEASURING EQUIPMENT – WITH OVER 50 YEARS OF EXPERIENCE

LATEST INNOVATION IN FRICTION MEASUREMENT

What you get:

1. IMPROVED SAFETY

- A four-wheel drive vehicle provides more efficiency and safety for the operator
- The worst possible conditions will not compromise operation or safety
- High ground clearance from the measuring wheel prevents unwanted impacts
- The safe pick-up vehicles provide an unobstructed view
- Objective tool for runway condition evaluation (ICAO GRF)
- Detect non-visible contaminants, such as ice under snow
- Prevent Slippery Wet situation

2. ECONOMIC AND ENVIRONMENTAL FRIENDLINESS

- Long life-cycle, environmentally friendly materials, no hydraulics, and compatible with electric vehicles.
- Utilization of rental, existing and electric vehicles is possible
- Get precise information on when to take necessary maintenance actions and optimize the use of chemicals
- Timely decisions for rubber removal or runway re-surfacing
- Water tank capacity up to 2000 litres reduces refilling time

3. UNBEATABLE TECHNOLOGY

- Well proven Skiddometer BV11 and the Skiddometer Touch Screen Computer
- One electric actuator on independent reference wheel allows installation on almost any pickup truck with no major modifications required
- Quick release option for the Skiddometer system to remove it
- Seamlessly integrated self-wetting system with an electric water pump
- ICAO, EASA and FAA listed unit.

The Skiddometer BV11 VI (Vehicle Integration) is the latest innovation in friction measurement. Friction measurements are taken to a whole new level – making decisions has never been this simple! The BV11 VI is a necessary tool to assess runway condition objectively, and optimize maintenance actions.

The 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 BV11VI can be equipped with self-wetting system for maintenance measures for checking surface structure and rubber build-up.

THE MOST RELIABLE AND ACCURATE

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.

The Skiddometer BV11 trailer is a cost-effective way to improve runway safety and create savings from maintenance actions timing. The trailer can be easily stored when not in use.

1. UNBEATABLE TECHNOLOGY

- Reliability in all weather conditions: no batteries required, no complicated and failure-prone 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
- Objective tool for runway condition evaluation according to ICAO GRF
- Detect non-visible contaminants such as ice under snow
- Low center of gravity for maximized towing stability

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 and optimizing the use of chemicals
- Precise information on need to remove built-up rubber
- Timely decisions for rubber removal or runway re-surfacing

OPTIONS FOR RUNWAY FRICTION TESTING EQUIPMENT

1. UNBEATABLE TECHNOLOGY

The Skiddometer Touch Screen Computer has been developed in close collaboration with international airport customers to maximize the user experience when operating the friction tester and recording measuring data.

This innovative touch screen computer takes friction measuring to a whole new level by utilizing the latest commercial tablet computer technology. It comes with software that is designed to work seamlessly with any Android-based tablet currently available on the market. The Web Service, together with the Touch Screen Computer, makes this system the most modern and advanced available. CAN-based communication ensures easy integration of additional equipment, making the friction testing equipment a multi-purpose machine.

The Skiddometer Touch Screen Computer offers several advantages, including:

- The easiest interface on the market, making it simple for anyone to operate
- Screen size can be customized according to tablet selection
- Real-time GPS with a map view to ensure accurate data recording
- Screen display and printouts that comply with ICAO and FAA standards, ensuring that the collected data is reliable and accurate
- Unlimited measuring data storage on memory and Skiddometer Web Service, that is accessible via any web browser
- Seamless Global Runway Reporter integration, which provides an all-in-one solution for runway reporting
- The ability to print out data using an external printer, both in and outside the vehicle, making it easy to share and distribute data.

THE SKIDDOMETER 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 effortlessly. The web service allows also access to raw data, analysis tools and automated reports, such as trend analysis and runway visualization.

CONTAMINANT AND TEMPERATURE SENSOR

According to ICAO GRF, Surface contaminant type, depth, temperature and dew point combined with friction values are critical information for airports to ensure safe runway operation conditions. It also generates savings for runway maintenance to optimize cleaning and de-icing.
The Skiddometer BV11 CFME system can be equipped with a surface contaminant, temperature and dew point sensor. It's a great addition to determine surface conditions safely. The sensor information can be seen and saved individually or together with friction information on measuring software

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

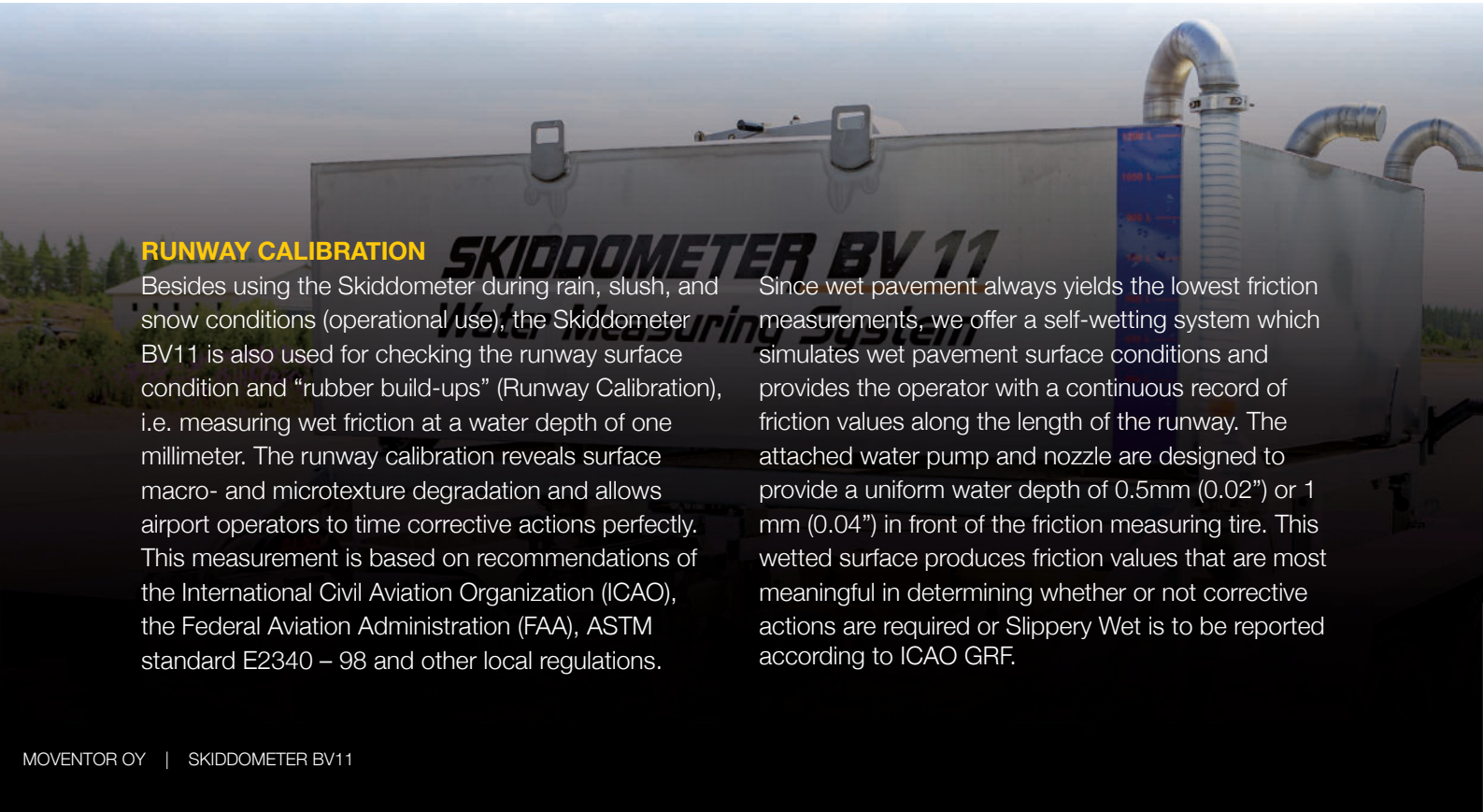
WMS SELF-WETTING SYSTEM

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, two-axle, low center of gravity, braked construction
- Service free robust construction
- Can be used to transport Skiddometer BV11 for longer distances, e.g. between different airports.



RUNWAY CALIBRATION

Besides using the Skiddometer during rain, slush, and snow conditions (operational use), the Skiddometer BV11 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. The runway calibration reveals surface macro- and microtexture degradation and allows airport operators to time corrective actions perfectly. This measurement is based on recommendations of the International Civil Aviation Organization (ICAO), the Federal Aviation Administration (FAA), ASTM standard E2340 – 98 and other local regulations.

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 0.5mm (0.02") or 1 mm (0.04") 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 or Slippery Wet is to be reported according to ICAO GRF.

WATER ONBOARD SELF-WETTING SYSTEM

COST EFFICIENCY AND CUSTOMISABILITY

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

- Its robust electric 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.

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

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

Moventor Oy

Moventor Oy 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 BV11friction 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 Kangasala, Finland. Moventor is committed to providing you products and services that increase the value and effectiveness of your business.

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