



# VIKING HWS - HOT WATER SUIT Durability and comfort in combination

The Viking Hot Water Suit (HWS) features a suit made from a unique rubber based material – Viking VSN material. It has a core of black EPDM/natural rubber, which is covered with stretch Armatex Nylon on both sides. Technically it is a vulcanized rubber suit, but without the vulcanized "style" appearance. Primary advantages of the VSN material are that the body is thin, flexible and very hard wearing, but most importantly, does not shrink when constantly dried in an industrial dryer. The suit is fitted with a tube system on the inside for dispersion of the hot water, covering torso, arms and legs. On/off valve on the outside of the right leg has a maximum working pressure of 40 bar. Lower front legs and knees are covered with black rubber reinforcements for additional durability.

## **VSN - UNIQUE GARMENT MATERIAL**

A flexible and stretchy knitted Armatex Jersey Nylon covers both sides of a mid-ply of black NR/EPDM rubber. Material construction is in that sense a trilaminate material comprising qualities as outstanding flexibility, comfort and durability. It has an average material weight of 1100 g/m². As such, it has the comfort of compressed neoprene combined with the durability of vulcanized rubber. The material is totally non-compressible which means no loss of buoyancy or insulation while diving. A special advantage of using VSN material for a Hot Water Suit application is its ability to withstand shrinking when constantly being exposed to the heat from industrial dryers.

Stitched seams are covered both on outside and inside of the suit. The outside seams are covered with a durable elastic nylon ribbon whereas the inside seams are pre-treated with a special rubber solution for both reinforcement and protection prior to vulcanization. Together it creates a very tough and hardwearing seam.





### **SUIT DESIGN**

The Viking Hot Water Suit has been developed and tested in conjunction with commercial divers in the North Sea along with commercial equipment supply companies. It is available in one model only with a vertical centre zip made of non-corroding plastic/nylon which is covered by a zip flap. The tubing system for the hot water dispersion is designed to cover all vital parts of the body, front and back side of torso along with arms and legs. Both arms and legs are "open" without cuffs or seals at the ends so hot water can flush through the suit from the inside and out. The loose fitting collar is made of soft neoprene. The HWS also has two neoprene pockets positioned on the front thighs to carry items like tools and bolts.

#### REINFORCEMENTS

Viking HWS has black rubber reinforcements with anti-slip surface covering the lower front legs and knees.

#### **HOT WATER VALVE**

The on/off valve is unique to Viking HWS and has a maximum WP of 40 bar. It is positioned for easy access on the lower right hip.

#### STANDARD SUIT SIZE RANGE

The Viking HWS series is available in nine standard sizes:

- · Small (SML)
- Small Tall (TSM)
- Medium (MED)
- Medium Tall (MET)
- Large (LGE)
- Large Tall (LGT)
- X-Large (EXL)
- Laige Iaii (Lai
- XX-Large (XXL)
- X-Large Tall (EXT)

For detailed size measurements, please see the Viking HWS size chart (available on the Viking website, www.trelleborg.com/vikingdiving).





**HOT WATER SUIT VALVE** 



**HOT WATER SUIT GLOVE** 



**HOT WATER SUIT BOOT** 

### **INCLUDED WITH EACH DELIVERY**

Each suit is delivered in a bag together with a user manual.

#### **ACCESSORIES**

5mm neoprene boots and 5-finger gloves are available as standard accessories for the Viking Hot Water Suit. Both gloves and boots are equipped with a long shaft and can be fastened to the suit with Velcro patches. Tubing from the inside of the suit extends out through the arms and legs thereby keeping both hands and feet of the diver warm.

#### **CHEMICAL RESISTANCE**

Although the Viking HWS offers the same outstanding chemical protection and resistance in the suit material as the Viking Pro 1000, it is not recommended to dive in contaminated waters with "open" arms, legs and neck.

For Viking permeation data please see separate documentation; "Diving in Contaminated Water, 3rd Edition: Chemical and Biological Tests of Viking Dry Suits and Accessories", which is available on the Viking website, www.trelleborg.com/vikingdiving.

## REFERENCES

The Viking dry diving suits are in world-wide use by leading hazmat, rescue and fire teams, military armed forces, law enforcement agencies as well as in the commercial diving industry. Some of our well-known Viking customers include:

New York City Fire Department • Brandweer Amsterdam • Madrid Council • Hong Kong Fire Services Department • National Fire and Rescue Administration (BOMBA) Malaysia • US Navy EOD • Royal Dutch Navy • French Navy • Swedish Navy Clearance Divers • KNM Tordenskjold, Military Dive School Norway • South Korean Navy • Taiwan Navy Rescue Team • New York Police Department • Detroit Police Underwater Recovery Team • FBI • The National Counter Terrorist Unit Sweden • Japan Police Headquarters • Australian Police Rescue Divers • Royal Canadian Mounted Police • Swedish Coast Guard • Environmental Protection Agency (US) • National Oceanic and Atmospheric Administration (US) • Skanska AS, Norway

