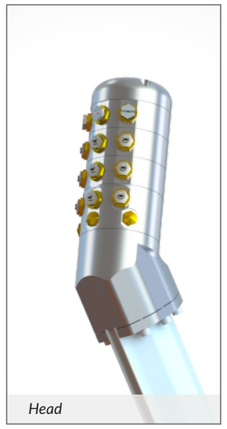
VIRGA LANCE - ENHANCES NATURE

Based on years of experience, we have created a product that aspires to be the best in its class from the very first day. It was inspired by the nature unusual phenomenon of virga - precipitation that evaporates over the ground. Virga SUPERSNOW, unlike the natural one, allows atomized water droplets freely falling on the ground to transform into a layer of snow with a unique structure, thus creating ideal conditions on the slopes.



Head

VIRGA lance head

The most important design element The lance is equipped with a number of solutions that make VIRGA a device that guarantees the highest quality of produced snow for years.

Self-cleaning system of nucleation nozzle filters based on using the inlet holes to take dust and other impurities into the water nozzles along with the water stream, thereby protecting the filters and nucleation nozzles from contamination.

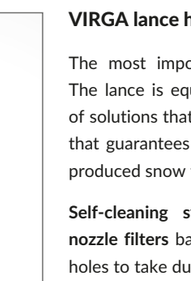
Heating support by water is made possible by the fact that the nucleation and each water section are filled by water during operation, so the heat extracted from the liquid is used to increase the temperature of the aluminum body.

Water assembly heated by flowing water. Water from the filter chamber must flow through each section of the water unit before it reaches the head. The constantly flowing water heats the water parts and valves and prevents icing.

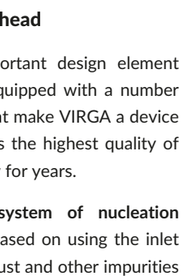
The innovative design of the nucleated water filter created from bronze is characterized primarily by a smaller number of parts, which in turn affects the lower probability of leakage outside the filter.

Lance performance depending on head configuration

Single-valve head V1

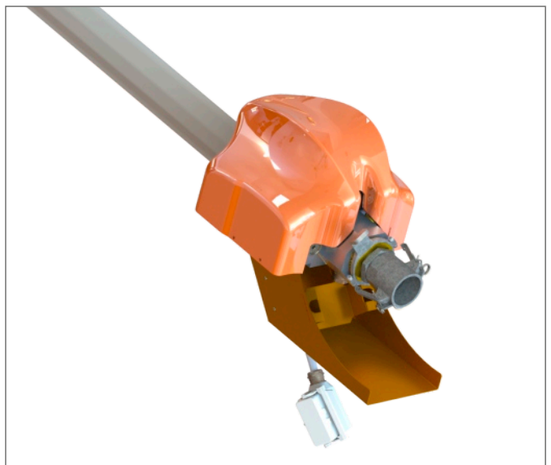


Two-valve head V2



Three-valve head V3

Head type	V1	V2	V3
Max. water flow	85 l/min	180 l/min	330 l/min



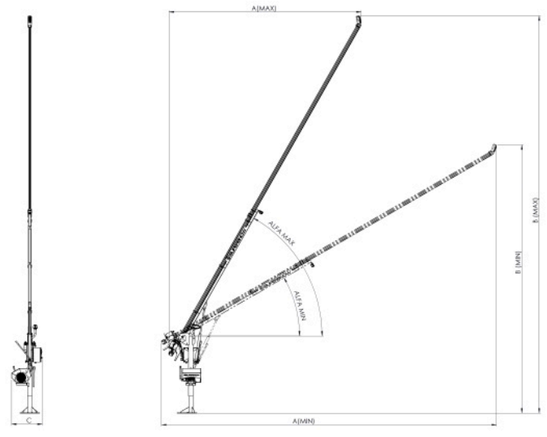
Water and valve assembl

Water and valve assembly

The general idea in designing this valve block was to take advantage of the heat and pressure of the water that is supplied to the device.

Advantages of the design:
- Reducing energy consumption - using thermal energy from water
- Using the energy (pressure) of water to control valves.

VIRGA lance profile lengths



L [m]	Alpha min [degrees]	Alpha max [degrees]	B min [m]	B max [m]	A min [m]	A max [m]
10	30	60	7,45	11	8,45	4,7
8			6,45	9,3	6,75	3,8
6			5,45	7,5	4,9	2,8

PERFORMANCE PARAMETERS

Number of water sections	4
Number of adjustment steps	8
Number of nucleation sections	1
Number of water jets	12
Number of nucleation nozzles	3
Working water pressure	15-50 bar
Maximum water flow	330 l/min
Maximum airflow	205 l/min
Operating air pressure (central air)	7 bar
Snow production	55 m^3/h

WEIGHT/DIMENSIONS

Weight of 10 m profile with head and water unit	90 kg
Weight of 8 m profile with head and water unit	78 kg
Weight of 6 m profile with head and water unit	66 kg
Swivel base weight	32 kg
Base weight per foundation	27 kg
Weight of base for foundation well	41 kg
Lance support profile	40 kg
Compressor with mounting plate	55 kg
Electrical box	20 kg
Hydraulic cylinder	20 kg
Head height above ground for lance with profile 10 m	11 m
Head height above ground for lance with profile 8 m	9,3 m
Head height above ground for lance with profile 6 m	7,5 m

ELECTRICAL PARAMETERS

Nominal power consumption (central air)	**0,35 kW**
• control system	0,35 kW
Nominal power consumption (with reciprocating compressor)	**1,85 kW**
• control system	0,35 kW
• reciprocating compressor	1,5 kW
Heating	**360 W**

OTHER PARAMETERS

Water jets	of stainless steel
Nucleating nozzles	made of brass and stainless steel
Filter type	slotted filter
Water filter slot	300 µm
Standard electrical plug	16A 5 pin
Snow density range	330-870 g/l
Wet thermometer temperature at the start of operation	-1,5
Profile tilt range	30°-60°
Range of rotation	0°-360°
Snowmaking distance	~15m