

ENGINEERED FOR ALKALINE ELECTROLYZERS

Engineered for the

hydrogen value chain.

BVK Hydrotech engineers single, double and multi-end knitted mesh on single-needle and double-needle machines purpose-built for green hydrogen. Materials: Nickel 201/202, titanium, stainless steel and specialty alloys. Wire 0.05 to 0.30 mm. Designed for electrolyser stacks, GDLs and elastic elements.

SINGLE-PIECE DIAMETER · CAPABILITY

2.2 m

Single-piece up to 2.2 m diameter

Stack-fit · GDL-ready · Elastic Element

INDUSTRIES SERVED

Alkaline Electrolysers

Ni Elastic Elements · separators

Fuel Cells & H₂ Storage

GDL · Electrode supports · vent guards

WHAT THE MESH DELIVERS

Stack-grade porosity,

Electrolyser-ready.

01 Multi-alloy range

Ni 201/202 · Ti · SS for Alkaline.

02 Stack-conformable

GDL layers · Elastic Elements.

03 Performance-tuned

Porosity, conductivity per cell maximized.

APPLICATIONS

Gas diffusion layer (GDL) / PTL

Electrolyser stack core

BoP filter elements

H₂ purification · drying skids

YOUR APPLICATION EXPERT

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THREE KNIT TYPES.

Engineered for the hydrogen stack.



KNIT TYPES · STACK APPLICATIONS

Low Density – Single Wire



Voltra Lite

Open GDL · Elastic Elements

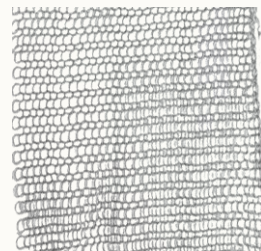
Medium Density – Double Wire



Voltra +

Separator

High Density – High Density



Voltra Max

Dense GDL · Electrode support

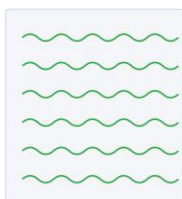
Parameter	Range	Notes	Axis	H ₂ outcome
Material	Ni · Ti · SS	Alkaline + PEM	Wire input	Corrosion
Wire diameter	0.05–0.30 mm	Per end	Wire input	Conductivity
Wires per needle	1 / 2 / 3+	Single-double-multi	Wire input	GDL density
Needle gauge	Single / Double	Stitch tunable	Machine	Pore size
Piece size	Up to 2.2 m dia.	Corrugation 4–10 mm	Output	Stack-fit

MACHINE & WIRE SET STACK FIT

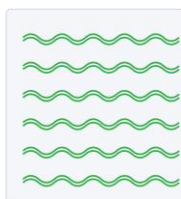
KNIT GEOMETRY PRINCIPLE

Machine + wire + ends-per-needle = density, porosity, conformability

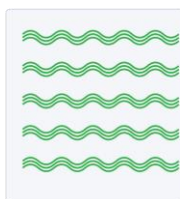
SINGLE END



DOUBLE END



MULTI END



Wire chemistry & diameter

Ni 201/202 · Ti · SS - selected per alkaline or PEM cell chemistry.

Wires per needle

Single / double / multi-wire - sets GDL density and conductivity.

Machine setup

Needle gauge & stitch length - pore-size and stack-cell fit.

Reproducible result

ASTM B164, ISO 9044, DSIR-RDI compliant - ISO 22734-ready QMS.

WHY THE MESH WORKS · KEY ADVANTAGES

- Mechanical conformability
- Gas & liquid permeability
- Corrosion resistance - alkaline & PEM
- Surface area - catalyst loading
- Excellent conductivity - electrons
- High porosity - reactant flow
- Stack-tunable - porosity per cell

Standards

ASTM B164

ISO 9044

DSIR-RDI

ISO 22734-ready

Certifications

AS9100

IATF 16949

ISO 9001

ISO 14001

ISO 45001



WMW Industries Ltd | A BVK Group Company
Weaving Since 1963 | Headquartered in Jaipur

Indian Agility. German Precision. Performance Engineered.