

M C P S E R V E R

N O C O D E

C L O U D H O S T E D

Gas Measurement Station Designer MCP.

Build AGA-compliant station layouts and meter configurations.

Gas Measurement Station Designer MCP provides engineering tools to design gas measurement stations following AGA Report No. 3, 7, and 9 standards. Your AI client can select optimal meter technology, calculate necessary upstream and downstream pipe lengths, design physical station layouts, and establish specific calibration protocols for precision.

A+ Quality Score 100/100

aga

gas-flow

metering

industrial-design

engineering-tools



The connectivity layer between AI and the world's software.

Vinkius sits between AI and every application. All communication passes through Vinkius Cloud via the Model Context Protocol (MCP) — with governance, observability, and security at every layer.

Your AI Connections Run Through Vinkius Cloud

The world's largest
managed MCP catalog

Vinkius is the connectivity layer where AI connects to the software your business already runs. We handle the hosting, the security, the credentials, the uptime — you get agents that actually do things.

We operate the world's largest managed MCP catalog. Major SaaS platforms, CRMs, databases, and cloud providers — running, monitored, production-ready. This MCP server is hosted and maintained by the Vinkius Cloud for AI Agents.

The agent doesn't manage credentials, doesn't manage uptime, doesn't manage security. Vinkius does.

— Architecture principle

Four Pillars of the Vinkius Runtime

01 — Security by design

Credentials stay encrypted at rest via AES-256. The AI agent never touches raw keys — they're injected into a sandboxed V8 isolate at runtime. Actions are logged, and connections have an emergency kill switch.

03 — Deterministic observability

Eight immutable metrics per endpoint: request volume, p95 latency, error rate, active connections, cost attribution. A live payload feed logs every tool call with mutation detection.

02 — Built on MCP Fusion

This MCP server was built with **MCP Fusion**, the open-source framework (Apache 2.0) that powers the entire Vinkius catalog. Schema-as-firewall strips undeclared fields, compiled PII redaction runs at zero overhead, and cryptographic lockfiles produce git-diffable audit trails.

04 — Autonomous operations

Servers are deployed, monitored, and patched autonomously. New capabilities and security patches ship weekly. Zero-downtime deployments ensure continuous availability across all managed MCP servers.

AES-256

Encryption at rest

Ed25519

PKI vault signatures

24h TTL

Ephemeral session keys

V8 Isolate

Sandboxed execution

One Token. Instant Access.

Every MCP server on Vinkius is accessed through a **Connection Token**. Tokens are generated in the cloud dashboard and produce a unique MCP endpoint URL. Paste this URL into any MCP-compatible client — no SDK required.

A single token can serve **multiple AI clients simultaneously**, or you can issue separate tokens per client for granular access control. Each token tracks its own request count, last activity timestamp, and can be individually enabled or revoked.

MCP ENDPOINT`https://edge.vinkius.com/{token}/mcp`

Claude



Cursor



VS Code



Windsurf



Grok



Gemini

Security Is the Architecture

Security in Vinkius is not a feature — it's the foundation of the runtime. The gateway enforces multiple independent protection layers between AI agents and third-party APIs.

01 — Ed25519 PKI Vault

Every workspace has an Ed25519 Master Key. Session keys are generated ephemerally (24h TTL) and signed by the Master Key. Credentials never leave the vault boundary.

02 — V8 Isolate Sandboxing

Tool code runs inside isolated-vm V8 isolates with 64 MB memory caps and per-request timeouts. No filesystem access, no network access except through the SSRF-guarded fetch bridge.

03 — SSRF Guard

All outbound HTTP requests are DNS-resolved and validated before execution. Private IP ranges (10.x, 172.16-31.x, 192.168.x, AWS metadata 169.254.x) are blocked at the network layer.

05 — Cryptographic Audit Trail

Every request is signed into a SHA-256 hash chain with Ed25519 signatures. Events form a tamper-proof, SIEM-exportable forensic record.

04 — DLP & PII Redaction

A ResponseGuard pipeline intercepts every tool response. Configurable redaction patterns strip sensitive fields (emails, SSNs, card numbers) before data reaches the AI agent.

06 — Honeypot Trap System

Phantom credentials are injected into isolated environments. If a honeypot is used outside Vinkius infrastructure, the server is quarantined instantly.

Emergency Kill Switch

EU AI Act Art. 14(1)
Compliant

The kill switch is an **emergency halt** mechanism — not a simple toggle. When triggered, it executes three actions atomically:

01 — Server deactivated

The MCP server is immediately taken offline across the entire cluster.

02 — All tokens revoked

Every connection token is invalidated. Total lockout — reconnection blocked until new tokens are issued.

03 — WebSocket connections killed

Active connections terminated via Redis pubsub broadcast. Propagates to every runtime node in the cluster.

Full Visibility. Zero Guesswork.

The Vinkius cloud dashboard includes a full MCP Governance suite — real-time analytics and security controls for production AI operations.

Control Plane

KPI dashboard with request volume, latency, success rate, token consumption, and AI-generated operational briefings.

FinOps

Cost tracking per tool, payload compression savings, budget optimization signals, and consumption trends.

Firewall & DLP

PII redaction activity, sensitive data protection counters, and security event timeline.

Agent Activity

Which AI clients are connecting, how often, and what they're doing — real-time session tracking.

Tool Health

Slowest and most error-prone tools, with actionable root-cause insights and performance baselines.

Incident Log

Error trends, failure rates, status-code breakdowns, and forensic audit trail access.

Get started at cloud.vinkius.com — connect your AI agent in under 60 seconds.

Gas Measurement Station Designer MCP

4 tools available

Cloud-hosted on Vinkius

You can now handle complex gas station design directly through your AI client. This MCP follows AGA standards, specifically Report No. 3, 7, and 9, to ensure your designs meet industry requirements for accuracy and stability. Instead of manually checking tables for pipe lengths or meter types, you can ask your agent to run the math for you. It handles the heavy lifting of determining how much straight pipe you need to avoid turbulence and which meter technology fits your specific flow and pressure constraints. Once the math is done, the MCP helps you map out the physical station configuration, including where to place pressure and temperature measurement points. It also helps you stay compliant by defining the exact calibration steps needed to keep your equipment accurate over time. It's a specialized engineering toolkit that turns your AI into a technical design partner.

Core Capabilities

01 — Standard Compliance

Your agent uses AGA Report No. 3, 7, and 9 standards to validate all designs.

02 — Flow Stability Math

The AI calculates the exact straight pipe lengths needed to prevent turbulence.

03 — Hardware Selection

Your agent identifies the best meter technology based on your flow and pressure data.

04 — Layout Planning

The MCP generates physical station layouts including measurement point locations.

05 — Precision Maintenance

The AI defines calibration protocols to keep your measurement accuracy on track.

One Click on Vinkius — From Prompt to Execution

Available at vinkius.com/en/ai-agent-connect/gas-measurement-station-designer — connect your AI agent in three steps.

- 01 Connect your preferred MCP-compatible client to Vinkius.
- 02 Provide your flow, pressure, and temperature data to your AI agent.
- 03 Ask the agent to perform specific tasks like selecting a meter or calculating pipe lengths.
- 04 Receive technical specifications and layout plans directly in your chat interface.

Connect your AI client to Vinkius to access these engineering tools instantly.

Built For

This MCP is built for engineers working with gas flow and metering systems. You can hand off technical calculations and layout drafting to your AI agent.

Gas Engineers

Use the MCP to automate AGA-compliant calculations and station designs.

Instrumentation Technicians

Get specific calibration protocols and meter placement instructions.

Project Designers

Generate station configurations and pipe length requirements for project planning.

What Changes When You Connect

- 01 Reduces manual calculation errors by using AGA standard formulas.
- 02 Speeds up station design by automating pipe length and layout requirements.

- 03

Ensures meter selection matches specific flow and accuracy constraints.
- 04

Standardizes calibration procedures across different measurement stations.

Real-World Applications

New Station Design

Design a complete gas measurement station from scratch using AGA standards.

Compliance Auditing

Verify that current station layouts and calibration steps meet AGA requirements.

Retrofitting Existing Lines

Calculate new run lengths when adding different meter technologies to existing pipes.

Flow Optimization

Determine the necessary upstream and downstream distances to ensure stable flow for a specific meter.

4 Tools Available

#	TOOL	DESCRIPTION
01	design_station_configuration	This tool generates a complete station layout specification. It includes the necessary placement for pressure and temperature measurement points.
02	calculate_meter_run_length	Use this to find the required length of straight piping. It ensures you have enough distance for stable flow before and after the meter.
03	determine_calibration_protocol	This tool specifies the exact verification and calibration steps you need to follow. It helps you maintain your target accuracy levels.
04	select_meter_technology	This tool picks the right meter type for your project. It evaluates physical constraints and accuracy requirements to find the best fit.

See It in Action

Real prompts you can use once this MCP is connected to your AI agent through Vinkius Cloud.

U What meter should I use for a flow rate of 500-1500 m³/h with high accuracy requirements?



An Ultrasonic meter is recommended for high accuracy within that flow range.

U Calculate the meter run length for an Orifice meter with a 6-inch pipe and no flow conditioner.



For a 6-inch pipe using an Orifice meter without a flow conditioner, you need 20 diameters of upstream length and 5 diameters of downstream length.

U Design a station configuration for an Ultrasonic meter operating at 50 bar and 40 degrees Celsius.



The station configuration includes specific placement for pressure and temperature transmitters to ensure accurate gas density calculations at 50 bar and 40°C.

Frequently Asked Questions

01 Which AGA standards does this MCP follow?

The MCP uses AGA Report No. 3, 7, and 9 for all design and selection tasks.

02 Can I use this with Claude or Cursor?

Yes, you can use this MCP with any MCP-compatible client including Claude, Cursor, and Windsurf.

03 Does it help with physical station layouts?

Yes, the `design_station_configuration` tool provides complete layout specifications, including measurement point locations.

04 How does it handle meter selection?

The `select_meter_technology` tool evaluates your specific flow and accuracy needs against physical constraints to recommend the best meter.

05 Do I need to host the MCP myself?

No, Vinkius hosts and manages the MCP for you. You just connect your client and start working.

Go Live in 60 Seconds

Get your connection token from cloud.vinkius.com, then paste the endpoint URL into any MCP-compatible client.

YOUR MCP ENDPOINT

`https://edge.vinkius.com/[TOKEN]/mcp`

CLIENT	WHERE TO CONFIGURE
 Claude AI	Profile → Customize → Connectors → "+" → Add custom connector → Paste endpoint
 Cursor	Settings → Features → MCP Servers → "+ Add New MCP Server" → Type: SSE → Paste endpoint
 VS Code	Ctrl/Cmd+Shift+P → "MCP: Add Server" → add <code>"gas-measurement-station-designer": { "url": "..." }</code>
 Windsurf	MCP Settings → <code>mcp_settings.json</code> → Add endpoint URL
 ChatGPT	Settings → Tools & plugins → Add MCP server → Paste endpoint
 Gemini	Extensions → Add MCP Server → Paste endpoint URL

ASK AN AI ABOUT THIS

Let your preferred AI explain this MCP server

-  Ask ChatGPT 
-  Ask Claude 
-  Ask Perplexity 
-  Ask Gemini 
-  Ask Grok 

READY TO CONNECT

Gas Measurement Station Designer is live on Vinkius Cloud.

Get your connection token, paste it into your AI agent, and
start building. No SDK. No deployment. Just results.

Start at cloud.vinkius.com →

vinkius.com · support@vinkius.com

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DOCUMENT INFORMATION

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Server ID	01a09c3d-3f96-712e-8eb1-33f8d13167ba
Platform	Vinkius Cloud for AI Agents
Endpoint	<code>https://edge.vinkius.com/{token}/mcp</code>

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