

● HUNCH AUTOMATION – OGF5400 SERIES

THERMAL MASS FLOW

OGF5400 · PRECISION MEASUREMENT INTELLIGENCE

The most advanced insertion-type thermal mass flow meter available — combining AI filtration, Wi-Fi connectivity, and $\pm 1\%$ accuracy across an extraordinary 100:1 turndown ratio.

 [REQUEST QUOTATION](#)

[↓ FULL SPECIFICATIONS](#)

HUNCH AUTOMATION PRIVATE LIMITED · WWW.HUNCHAUTOMATION.COM.PK

±1%

ACCURACY

100:1

TURNDOWN RATIO

230

M/S MAX
VELOCITY

DN400

MAX PIPE SIZE

50K

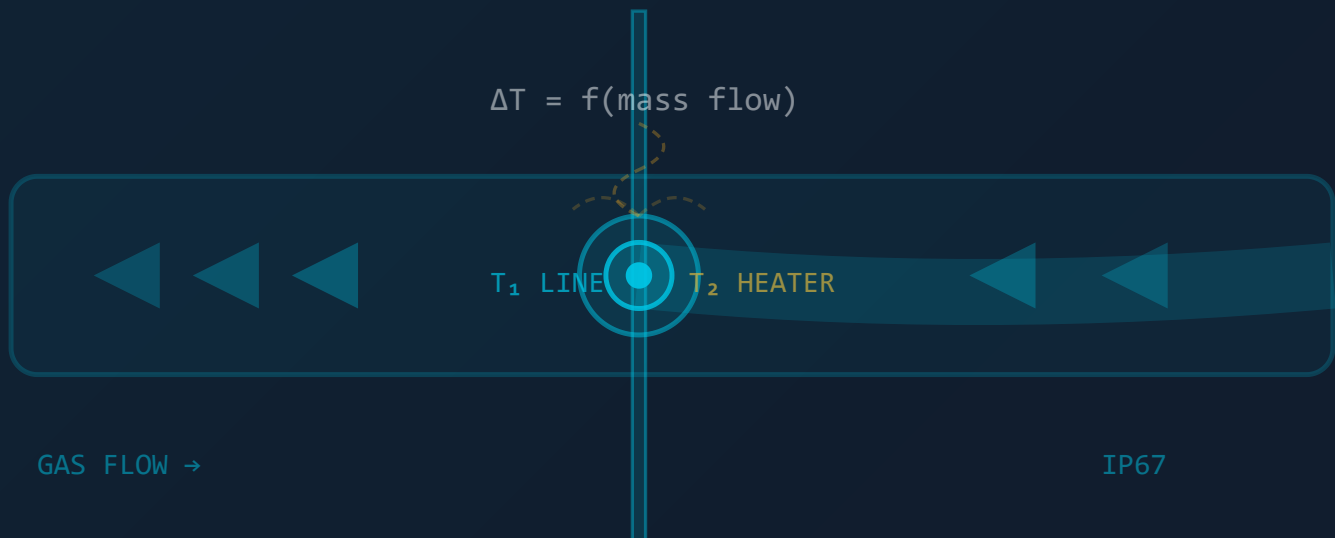
DATA RECORDS

— HOW IT WORKS

Calorimetric Precision

The OGF5400 measures true mass flow without pressure or temperature compensation — because physics does the work for you.

◆ THERMAL DISPERSION PRINCIPLE - LIVE



VELOCITY

51.5 m/s

ΔT

25.0 °C

POWER

97 mW

01 HEATED SENSOR – NO COMPENSATION NEEDED

A precision heater element is cooled by the flowing gas. The degree of cooling is directly proportional to the gas mass — eliminating the need for separate pressure or temperature correction instruments.

02 AI TENSORFLOW FILTRATION ALGORITHM

Embedded TensorFlow AI library processes raw sensor data through trained neural filtering, eliminating noise and delivering $\pm 1\%$ reading accuracy even under turbulent or pulsating flow conditions.

03 K-FACTOR GAS CORRECTION

A built-in gas conversion coefficient K-Factor corrects flow readings for any gas density — from compressed air to nitrogen, oxygen, natural gas, CO₂ and more. One meter serves all applications.

04 INSERTION DESIGN – DN15 TO DN400

Hot-tap insertion probe installs on any pipe size from ½" up to 16" without cutting the pipe or stopping production. Installation takes minutes, not days.

— SMART DISPLAY & INTERFACE

**See Everything.
Instantly.**

A 2.2" color TFT display and Android app put complete flow intelligence at your fingertips — on the device and in your pocket.



ANDROID APP — ZERO HARDWARE NEEDED

Configure, calibrate and monitor via your Android phone over Wi-Fi HTTPS. Change ranges, K-factors, engineering units, Modbus settings and more — no laptop, no cables, no specialist tools.



CLOUD & LOCAL SERVER LOGGING

Seamlessly streams all tags to your local or cloud server via HTTP/MQTT. Get your data online within minutes of installation. Real-Time Clock ensures no record gaps, ever.



4GB SD CARD – 50,000+ RECORDS

On-board data logging with user-defined intervals and time stamps. Export reports directly from your Android phone or download as a file — no PC software required.



OTA FIRMWARE UPDATES

Over-The-Air firmware updates via the Android app. Your meter always runs the latest intelligence — no on-site engineer visits or downtime required.



MODBUS RS485 – DIRECT PLC/SCADA

Built-in Modbus RS485 with Master/Slave auto-switching. Connect directly to any PLC, DCS, SCADA or OPC server. Holding register tags include flow, totalizer, temperatures and power.

TECHNICAL SPECIFICATIONS

Built to Industrial Grade

Every component selected for harsh industrial environments — IP67 probe, IP65 housing, dual-core AI processor, and military-grade Alloy C-276 sensors.



FLOW PERFORMANCE

Measuring Range

0 ~ 230 m/s

Accuracy

±1% of reading

Turndown Ratio	100 : 1
Response Time	450 ms (Auto)
Calculation	mW Power Curve
AI Integration	TensorFlow
ADC Resolution	16 Bit · 15 Bits (4 ch)
ADC Response	16 ms (Auto)

TEMPERATURE SENSORS

Line Temp. Sensor	PT-1000
Line Temp. Range	0 ~ 130 °C
Line Temp. Accuracy	±0.5% reading
Heater Sensor	PT-100
Heater Temp. Range	0 ~ 260 °C
Heater Accuracy	±0.5% reading
Sensor Material	316L + Alloy C-276
Media Temperature	Ambient ~ 90 °C

MECHANICAL & PROBE

Shaft Material	SS 304 / 316L
Shaft Length	304 mm
Shaft Diameter	16 mm
Probe IP Rating	IP 67
Fitting Type	Fast Ferrule / ½" NPT
Media Pressure	0.01 ~ 16 Bar

Housing Material

Al Diecast Epoxy

Housing IP Rating

IP 65



COMMUNICATION

Wi-Fi Protocol

HTTPS / MQTT / HTTP

App Platform

Android App

Industrial Comms

Modbus RS485

Mode Switching

Master/Slave Auto

Firmware Update

OTA (Over-The-Air)

Cloud Server

Local + Remote



ELECTRONICS

Processor

32-bit Dual Core MCU

AI Engine

TensorFlow Lite

Display

2.2" TFT Color LCD

Data Storage

4 GB SD Card

Records

50,000+

Clock

Real Time Clock (RTC)

Power Supply

100-250V AC / 15-24V DC



ENVIRONMENTAL

Operating Temp.

0 ~ 70 °C

Relative Humidity

0 ~ 90% RH

Housing Protection

IP 65

Probe Protection

IP 67

Wiring Entry

Glands J13.5 × 2

Connections

Detachable Jacks

Pipe Size Range

DN 15 ~ DN 400

— FLOW CAPACITY

Every Pipe Size. One Meter.

From ½" compressed air sub-metering to 16" main supply lines — the OGF5400 covers the full range of industrial pipe sizes.

INCH	DN	NM ³ /H	NM ³ /MIN
½"	12	105	1.75
1"	25	420	7.00
2"	50	1,681	28.01
3"	75	3,782	63.03
4"	100	6,724	112.06
5"	125	10,506	175.10

INCH	DN	NM ³ /H	NM ³ /MIN
6"	150	15,129	252.15
8"	200	26,896	448.26
10"	250	42,025	700.41
12"	300	60,516	1,008.6
14"	350	82,369	1,372.81
16"	400	107,584	1,793.06

△ Standard flows at 25 °C and 50 mBar. Actual capacities vary with gas type and conditions.



COMPRESSED AIR (DRY/WET)

Primary application — main & sub-metering of compressed air systems

STANDARD



NATURAL GAS

Building supply, utility, industrial process gas metering

K-FACTOR



NITROGEN (N₂)

Inert gas purging, pneumatics, food processing

K-FACTOR



OXYGEN (O₂)

Medical, industrial cutting, combustion enhancement

K-FACTOR



CO₂ GAS

Food & beverage carbonation, fire suppression, greenhouse

K-FACTOR



SNG & HOT AIR

Synthetic natural gas, HVAC ducting, drying processes

CUSTOM

— SMART CONNECTIVITY

Connected From Day One

The OGF5400 is the only thermal mass flow meter in its class with built-in Wi-Fi, Android App, Cloud SCADA, Modbus RS485 and OTA updates — all standard.



ANDROID APP

Complete configuration, monitoring, calibration and diagnostics from your smartphone. No laptop, no cables, no proprietary software required.

WI-FI HTTPS



CLOUD SERVER

Stream all tags to any local or cloud server via HTTP or MQTT protocol. Online monitoring and reporting available within minutes of installation.

HTTP / MQTT



MODBUS RS485

Industrial-grade Modbus with Master/Slave auto-switching. Direct integration with any PLC, DCS, SCADA, OPC Server or data logger.

PLC / SCADA



OTA UPDATES

Over-The-Air firmware updates delivered via the Android app. Future algorithm improvements and new features deployed without site visits.

OVER-THE-AIR



SD CARD LOGGING

4GB on-board SD card stores 50,000+ records with Real Time Clock timestamps. Export reports from phone or download as file. Zero data loss.

4GB · RTC



UNIVERSAL POWER

Accept 100-250V AC or 15-24V DC input — works anywhere in the world with any available power source. Stable SMPS regulation ensures accurate readings.

AC / DC INPUT

MODBUS REGISTER MAP

Direct PLC Integration

Standard Modbus RS485 register map — plug into any PLC, SCADA or DCS without custom programming or special drivers.

PARAMETER	DATA TYPE	ADDRESS
Flow Rate	Swapped Long	0X02
Totalizer	Swapped Long	0X04
Device ID	Swapped Long	0X06
Line Temperature	Swapped Long	0X08
Heater Temperature	Swapped Long	0X0A
Power (mW)	Swapped Long	0X0C

Function Code: 03 or 04

Register Type: Holding Register

Baud Rate: 9600 (configurable)



PLC SYSTEMS

Siemens, Allen Bradley, Schneider, Mitsubishi — any brand with RS485 Modbus



SCADA SOFTWARE

WinCC, Ignition, Wonderware, iFix — read live flow and totalizer directly



OPC SERVERS

Kepware, Matrikon, Cogent — seamless OPC DA/UA integration via Modbus gateway



DATA LOGGERS

Connect to any RS485 data logger for standalone standalone recording and reporting



FUSION SYSTEM

Native integration with HUNCH FUSION BMS — full flow metering within combustion control

— APPLICATIONS & INDUSTRIES

Measures What Matters

From factory compressed air to utility gas distribution — the OGF5400 is trusted across the most demanding industrial environments.



COMPRESSED AIR DRY



COMPRESSED AIR
WET



NITROGEN GAS



NATURAL GAS



OXYGEN GAS



AIR DUCTING HVAC



SNG GAS



HOT AIR PROCESSING



CO₂ GAS

INDUSTRIES SERVED

CHEMICAL PROCESSING

TEXTILES

POWER PLANTS

STEEL REROLLING

PHARMACEUTICALS

GAS DISTRIBUTION

HOUSING SOCIETIES

SUB METERING

HOTELS

FOOD & BEVERAGE

AUTOMOTIVE

HVAC





— INTELLIGENCE

AI-Powered Accuracy

The only thermal mass flow meter in its class with embedded TensorFlow AI — delivering lab-grade accuracy in the harshest field conditions.

◆ AI PROCESSING ENGINE – LIVE

Processor	32-bit Dual Core MCU
AI Framework	TensorFlow Lite
ADC Resolution	16 Bit High Speed
Sample Rate	16 ms Auto
Noise Filtering	AI Algorithm Active
Accuracy	±1% Reading

Signal Clarity		97%
Noise Rejection		99%
Measurement Accuracy		±1%
Turndown Covered		100:1

TENSORFLOW NEURAL FILTERING


Embedded TensorFlow Lite processes raw sensor signals through trained neural network models, eliminating noise, vibration interference and pipeline turbulence effects — delivering stable, accurate readings in conditions where conventional meters fail.

AUTO-ADAPTIVE CALIBRATION CURVES

Calibrated on a 2" reference line, the exponential mW power curve automatically scales to any installed pipe size. Just change the line size setting — the AI handles the rest with no re-calibration required.

K-FACTOR MULTI-GAS INTELLIGENCE

Built-in gas conversion intelligence corrects flow readings for any gas density. Switch between compressed air, nitrogen, natural gas, oxygen, CO₂ and more — from your Android phone, instantly.

 **450MS RESPONSE – FASTEST IN CLASS**

450ms auto response time captures even rapid flow transients. The 16ms ADC sampling ensures no flow event goes unrecorded – critical for compressor efficiency analysis and leak detection.

— READY TO MEASURE?

Stop Estimating. Start Measuring.

Every cubic metre you can't measure is money you can't account for. Contact HUNCH Automation for a free consultation and site-specific recommendation.

 **REQUEST QUOTATION**

 **TALK TO AN ENGINEER**

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