



Engineered products for the modern industry

Introducing Flokal BV

- 1992. Foundation of company. Providing services to the semiconductor industry in the mass flow and pressure control area's
- As from 1992 till present time Flokal BV became International Company with subdivisions in many countries of the whole world
- Flokal BV is a manufacturer and distributor of products for the modern industry



Flokal's subdivisions worldwide

Portfolio overview 2013

- Mass Flow Meter/Controller (MFM/MFC) production and Services
- Liquid Vapor Controller (LVC) production and Services
- CDG vacuum gauges Services
- Power Supply, Readout Units Services
- Pressure/Vacuum System Services
- Robot Services

Our customers

ABB Switzerland, AMIS Belgium, Angstrom Russia, Apnano Israel, Micro System Switzerland, ASM Belgium, ASM USA, ASM Netherlands, Bosch Germany, Belling China, Nanoscience USA, BodyCoat Netherlands, BP Solar Spain, Cener Spain, Canberra Belgium, Colibrys Switzerland, Centroterm Germany, Cerelics Singapore, China Resources China, Draka Comteq Netherlands, Dimes Netherlands, Dow Netherlands, Draka Spain, Electrovac Germany, Elmos Germany, EM Microelectronics Switzerland, FBFC – International Belgium, FHG Dresden Germany, FHG Furtwangen Germany, Forschungszentrum Julich Germany, GE Healthcare USA, HK Prima China, Hong Kong Gas China, Hong Kong University China, Imec Belgium, IMS Duisburg Germany, LPT Germany, Philips Böblingen Germany, Philips Hamburg Germany, Philips Nijmegen Netherlands, Philips Drachten Netherlands, P-WTS-Co China, Sensoror Norway, Technion Israel, Vishay Germany, X-Fab Germany, Tempres Netherlands, ZMD Germany, OCS Germany, Enterprise Ireland, Instituto Trentino di Cultura Italy, Institut Mikroelktr Stuttgart Germany, KU Nijmegen Netherlands, TU Delft Netherlands, Micro chemical systems Switzerland, Microsens Switzerland, Ocmetic Finland, OTB Netherlands, Semco France, Qualiflow France, Serono Switzerland, VTI Finland, Wonince Singapore, TU Berlin Germany, Universiteit Utrecht Netherlands, AECL Canada, Prema Germany ... and others

Flokal's products and services

MFC F 260

Flow Range F260 (equivalent N2):	from 20 sccm to 5 slm
Control Range:	between 2 and 100% F.S.
Valve Type:	Thermal
Valve Rest Position:	Normally Open only
Accuracy:	+/- 1% of F.S.
Linearity:	+/- 0.5% of F.S.
Repeatability:	+/- 0.3% of F.S.
Step Response Time:	<= 6 sec. typical (SEMI E17-91)
Temperature Range:	between 5 and 40°C
Temperature Coefficient:	< 0.1% F.S. /°C
Maximum Inlet Pressure:	10 bar
Minimum Differential Pressure: _	0.5 bar (0.7 bar with H2)
Maximum Differential Pressure:	3 bar
Pressure Coefficient:	< 0.1% F.S./bar
Wetted Materials:	316 L Stainless steel
Leak Rate: _	< 2.10 ⁻⁹ scc/sec (He)
Seals:	standard_Viton, option Neoprene or kalrez
Fittings:	¼ VCR – ¼ VCO – ¼ Swagelok



Power Input Requirement

Mass Flow Controller: +/- 15 VDC, 150 mA

Mass Flow Meter: +/- 15 VDC, 25 mA

Set Point Signal: from 0 to 5 VDC

Flow Output Signal: from 0 to 5 VDC

Electrical Connector: Card Edge

Liquid Vapour Controller LVC F414

Designed to measure and control the mass flow rate of doping materials by varying the flow of carrier gas through a bubbler containing the source material.

Specification:

- Carrier gas flow range: _____ from 50 sccm to 10 slm
- Vapor flow range: ___ from 12 mg/min to 40 g/min
- Minimum carrier gas flow: _____ 5% F.S.
- Maximum source flow: _____ 40 g/min
- Accuracy: _____ +/- 4% of F.S.
- Linearity: _ +/- 4% of F.S.
- Repeatability: _____ +/- 0.5% of F.S.
- Sensibility to Mounting Position: _ +/- 0.1% of F.S.
- Carrier Gas Response Time: ___ 10 sec. typical
- Gas & ambient temperature range: _____ between 15 and 35°C
_____ up to 40°C on request
- Carrier gas Temperature Coefficient: _____ < 0.1% F.S./C°
- Operating pressure range differential: _____ between 0.6 bar and 3 bar
- Maximum line pressure: _____ 4 bar
- Carrier gases: _____ H₂, He, N₂, O₂, Ar, mixed gas
- Wetted Materials: ___ 316 L Stainless
- Leak Integrity: _____ < 2.10⁻⁹ scc/sec (He)
- Standard Seals: ___ Viton (Kalrez 6375 on request)
- T.C. Filaments: _____ Gold plated tungsten or two wires nickel
- Gas connection: _____ 1/4" VCR, VCO, Swagelok®



FLOKAL B.V.

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MFM/MFC/LVC, Power Supply/Read Out Unit Service

We are an independent organization specialized in the service of Mass Flow Control devices.

Services we provide are:

- ✓ Cleaning
- ✓ Repair
- ✓ Changing gas medium,
- ✓ Changing flow range,
- ✓ Calibration
- ✓ Leak checking
- ✓ Refurbishment.



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CDG services

Pressure gauges calibration service:
Clean (in dedicated calibration clean room)
Repair (use of original parts)
Calibration (high standards)
Distribution (overview of the market)
Objective recommendations



PFEIFFER



Pressure/Vacuum System Services

- CKD/MKS(HPS) Valve and other Valve, Repair/Calibration/Refurbishment
- Controllers/Display AdapTorr® ACX 3200/3400 /2200/AC2/AC4/ACR28 etc. Repair/Calibration/Refurbishment
- Warranty: 6 month standard, but actual life time is the same as CKD or MKS;
- Analysis report with cost estimation before refurbishment;
- Metrological Certificate encloses;



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Robot Services

We specialize in the repair and refurbishment of all wafer handling equipment manufactured by Brooks Automation, Kensington, Genmark , AMAT. If you don't see your brand, please contact us

Our complete Test Procedures verify the workability, repeatability as well as other key areas of robot operations.

We offer 3 different stages of service:

the first stage:

- diagnostics
- repair or replacment of all broken parts
- operational qualification and calibration

the second stage:

- included all items from the first stage
- preventive replacements of all consumables

the third stage:

- included all items from the first and the second satges
- preventive replacement of ALL moving parts:

all motors

all bearings

all timing belts

vacuum circuit

cables that move during operation

- 1 year warranty





Ten (10) good reasons to choose FLOKAL's Service Center

- ✓ More than 20 years experience in Semiconductor Industry
- ✓ Familiar with all manufacturers/brands
- ✓ Independent and certified organization
- ✓ Using primary calibration-standards
- ✓ Spare parts in stock
- ✓ Clean-room facility
- ✓ Each calibration is provided with a calibration certificate
- ✓ Fast turn around
- ✓ Fair, competitive prices
- ✓ The calibration facility

**Thank you very much
for your attention**



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