



**BID 50-127850**

**PURCHASE OF GE PANAMETRICS AT600 ULTRASONIC CLAMP-ON  
FLOWMETER WITH ONSITE START-UP ASSISTANCE & PROGRAMMING  
AT THE WEST BANK WATER PLANT**

**August 28, 2019 @ 11:00 A.M.**

**ATTENTION VENDORS!!!**

**Please review all pages and respond accordingly, complying with all provisions in the technical specifications and Jefferson Parish Instructions for Bidders and General Terms and Conditions. All bids must be received in the Purchasing Department by the bid due date and time.**

**Jefferson Parish Purchasing Department  
200 Derbigny Street, Suite 4400  
Gretna, LA 70053  
Please Email Any Questions To:  
Mark Buttery  
MBUTTERY@JEFFPARISH.NET  
504-364-2810**

DATE: 8/21/2019

INVITATION TO BID  
THIS IS NOT AN ORDER

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BID NO.: 50-00127850

**JEFFERSON PARISH**  
PURCHASING DEPARTMENT  
P.O. BOX 9  
GRETNA, LA. 70054-0009  
504-364-2678

VENDOR:

BUYER: MBUTTERY@jeffparish.net

Bids will be received until 11:00 AM, 8/28/2019 via online at [www.jeffparishbids.net](http://www.jeffparishbids.net) or by hand delivery, USPS mail or other courier service to Purchasing Department, 200 Derbigny Street (General Government Building), Suite 4400, Gretna, LA 70053. For convenience, bidders may also submit bids in the East Bank Purchasing Department, Suite 404, Jefferson Parish Joseph S. Yenni Building, 1221 Elmwood Park Blvd., Jefferson LA 70123. However, if submitting bids on the day of bid opening, bidders must submit at the West Bank location only.

All bids submitted are subject to these instructions and general conditions and any special conditions and specifications contained herein, all of which are made part of this bid proposal reference. By submitting a bid, vendor agrees to comply with all provisions of Louisiana Law, as well be in compliance with the Jefferson Parish Code of Ordinances, Louisiana Code of Ethics, applicable Jefferson Parish ethical standards and Jefferson Parish Resolution No. 113646 and/or Resolution No. 113647. A copy of these resolutions may be obtained from the Office of the Parish Clerk, Suite 6700, Jefferson Parish General Government Building, 200 Derbigny Street, Gretna, LA 70053. You may also obtain a copy by visiting the Purchasing Department webpage at [purchasing.jeffparish.net](http://purchasing.jeffparish.net) and clicking on On-line forms.

All vendors submitting bids should register as a Jefferson Parish vendor if not already yet registered. Registration forms may be downloaded from <http://purchasing.jeffparish.net> and by clicking on Vendor Information. Current W-9 forms with respective Tax Identification numbers and vendor applications may be submitted at any time; however, if your company is not registered and/or a current W-9 form is not on file, vendor registration is mandatory. Further, a current W-9 form and respective Tax Identification number must be supplied upon contract execution, should you be awarded a contract and/or issued purchase order. Failure to do so may result in delay of payment.

As per LSA-RS 47:301 et seq., all governmental bodies are excluded from payment of sales taxes to any Louisiana taxing body. Quotations shall be based on F.O.B. Delivered, anywhere within the Parish as designated by the Purchasing Department. **JEFFERSON PARISH WILL ACCEPT ONE BID ONLY FROM EACH VENDOR.** Items bid must meet specifications. JEFFERSON PARISH will accept one price for each item unless otherwise indicated. Two or more prices for one item will result in bid rejection. Bidders are required to complete, sign and return the bid form and/or complete and return the associated line item pricing forms as indicated. The price quoted for work shall be stated in figures. In the event there is a difference in unit prices and totals, the unit prices shall prevail.

JEFFERSON PARISH reserves the right to award contracts or place orders on a lump sum or individual item basis, or such combination, as shall in its judgment be in the best interest of JEFFERSON PARISH. Every contract or order shall be awarded to the **LOWEST RESPONSIVE and RESPONSIBLE BIDDER**, taking into consideration the **CONFORMITY WITH THE SPECIFICATIONS** and the **DELIVERY AND/OR COMPLETION DATE**

**PROTESTS:** Only those vendors that submit bids in response to this solicitation may protest any element of the procurement, in writing to the Director of the Purchasing Department. Written protest must be received within 48 hours of the release of the bid tabulation by the Purchasing Department. After consultation, the Parish Attorney's Office will then respond to protests in writing. (For more information, please see Chapter 2, Article VII, Division 2, Sec. 2-914.1 of the Jefferson Parish Code of Ordinances.)

JEFFERSON PARISH reserves the right to cancel all or any part of an order if not shipped promptly. No charges will be allowed for parking or cartage unless specified in the quotation. The order must not be filled at a higher price than quoted. JEFFERSON PARISH reserves the right to cancel at any time and for any reason by issuing a THIRTY (30) day written notice to the contractor.

JEFFERSON PARISH requires all products to be new (current) and all work must be performed according to standard practices for the project. Unless otherwise specified, no aftermarket parts will be accepted. Unless otherwise specified, all workmanship and materials must have at least one (1) year guaranty, in writing, from the date of delivery and/or acceptance of the project. Any deviations or alteration from the specifications must be indicated on the bid form for each item and upon request, product data for same must be submitted by the time specified by the Purchasing Department.

If this bid requires a pre-bid conference (see Additional Requirements section), bidders are advised that such conference will be held to allow bidders the opportunity to identify any discrepancies in the bid specifications and seek further clarification regarding instructions. The Purchasing Department will issue a written response to bidders' questions in the form of an Addendum.

All formal Addenda require written acknowledgment on the bid form by the bidder. Failure to acknowledge an Addendum on the bid form shall cause the bid to be rejected; JEFFERSON PARISH reserves the right to award bid to next lowest responsive and responsible bidder in this event.

**USE OF BRAND NAMES AND STOCK NUMBERS:** Where brand names and stock numbers are specified, it is for the purpose of establishing certain minimum standards of quality. Bids may be submitted for products of equal quality, provided brand names and stock numbers are specified. Complete product data may be required prior to award.

Quantities listed are for bidding purposes only. Actual requirements may be more or less than quantities listed.

Bidders are not to exclude from participation in, deny the benefits of, or subject to discrimination under any program or activity, any person in the United States on the grounds of race, color, national origin, or sex; nor discriminate on the basis of age under the Age Discrimination Act of 1975, or with respect to an otherwise qualified handicapped individual as provided in Section 504 of the Rehabilitation Act of 1973, or on the basis of religion, except that any exemption from such prohibition against discrimination on the basis of religion as provided in the Civil Rights Act of 1964, or Title VI and VII of the Act of April 11, 1968, shall also apply. This assurance includes compliance with the administrative requirements of the Revenue Sharing final handicapped discrimination provisions contained in Section 51.55 (c), (d), (e), and (k)(5) of the Regulations. New construction or renovation projects must comply with Section 504 of the 1973 Rehabilitation Act, as amended, in accordance with the American National Standard Institute's specifications (ANSI A117.1-1961).

Jefferson Parish and its partners as the recipients of federal funds are fully committed to awarding a contract(s) to firm(s) that will provide high quality services and that are dedicated to diversity and to containing costs. Thus, Jefferson Parish strongly encourages the involvement of minority and/or woman-owned business enterprises (DBE's, including MBE's, WBE's and SBE's) to stimulate participation in procurement and assistance programs.

**INSTRUCTIONS FOR BIDDERS AND GENERAL CONDITIONS**

**IN ACCORDANCE WITH STATE REGULATIONS JEFFERSON PARISH OFFERS ELECTRONIC PROCUREMENT TO ALL VENDORS**

This electronic procurement system allows vendors the convenience of reviewing and submitting bids online. This is a secure site and authorized personnel have limited read access only. Bidders are encouraged to submit electronically using this free service; while the website accepts various file types, one single PDF file containing all appropriate and required bid documents is preferred. Bidders submitting uploaded images of bid responses are solely responsible for clarity. If uploaded images/documents are not legible, then bidder's submission will be rejected. Please note all requirements contained in this bid package for electronic bid submission.

Please visit our E-Procurement Page at [www.jeffparishbids.net](http://www.jeffparishbids.net) to register and view Jefferson Parish solicitations. For more information, please visit the Purchasing Department page at <http://purchasing.jeffparish.net>.

**ADDITIONAL REQUIREMENTS FOR THIS BID**

PLEASE MATCH THE NUMBERS PRINTED IN THIS BOX WITH THE CORRESPONDING INSTRUCTIONS BELOW.

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1. All bidders must attend the MANDATORY pre-bid conference and will be required to sign in and out as evidence of attendance. In accordance with LSA R.S. 38:2212(l), all prospective bidders shall be present at the beginning of the MANDATORY pre-bid conference and shall remain in attendance for the duration of the conference. Any prospective bidder who fails to attend the conference or remain for the duration shall be prohibited from submitting a bid for the project.
2. Attendance to this pre-bid conference is optional. However, failure to attend the pre-bid conference shall not relieve the bidder of responsibility for information discussed at the conference. Furthermore, failure to attend the pre-bid conference and inspection does not relieve the successful bidder from the necessity of furnishing materials or performing any work that may be required to complete the work in accordance with the specification with no additional cost to the owner.
3. Contractor must hold current applicable JEFFERSON PARISH licenses with the Department of Inspection and Code Enforcement. Contractor shall obtain any and all permits required by the JEFFERSON PARISH Department of Inspection and Code Enforcement. The contractor shall be responsible for the payment of these permits. All permits must be obtained prior to the start of the project. Contractor must also hold any and all applicable Federal and State licenses. Contractor shall be responsible for the payment of these permits and shall obtain them prior to the start of the project.
4. A LA State Contractor's License will be required in accordance with LSA R.S. 37-2150 et. seq. and such license number will be shown on the outside of the bid envelope. Failure to comply will cause the bid to be rejected. Additionally if submitting the bid electronically, then the license number must be entered in the appropriate field in the Electronic Procurement system. Failure to comply will cause the bid to be rejected.
5. It is the bidder's responsibility to visit the job site and evaluate the job before submitting a bid.
6. Job site must be clean and free of all litter and debris daily and upon completion of the contract. Passageways must be kept clean and free of material, equipment, and debris at all times. Flammable material must be removed from the job site daily because storage will not be permitted on the premises. Precautions must be exercised at all times to safeguard the welfare of JEFFERSON PARISH and the general public.

**INSTRUCTIONS FOR BIDDERS AND GENERAL CONDITIONS**

7. **PUBLIC WORKS BIDS:** All awards for public works in excess of \$5,000.00 will be reduced to a formal contract which shall be recorded at the contractor's expense with the Clerk of Court and Ex-Officio Recorder of Mortgages for the Parish of Jefferson. A price list of recordation costs may be obtained from the Clerk of Court and Ex-Officio Recorder of Mortgages for the Parish of Jefferson. All awards in excess of \$25,000.00 will require both a performance and a payment bond. Unless otherwise stated in the bid specifications, the performance bond requirements shall be 100% of the contract price. Unless otherwise state in the bid specifications, the payment bond requirements shall be 100% of the contract price. Both bonds shall be supplied at the signing of the contract.
8. **NON-PUBLIC WORKS BIDS:** A performance bond will be required for this bid. The amount of the bond will be 100% of the contract price unless otherwise indicated in the specifications. The performance bond shall be supplied at the signing of the contract.
9. **NON-PUBLIC WORKS BIDS:** A payment bond will be required for this bid. The amount of the bond will be 100% of the contract price unless otherwise indicated in the specifications. The payment bond shall be supplied at the signing of the contract.
10. All bidders must comply with the requirements stated in the attached "Standard Insurance Requirements" sheet attached to this bid solicitation. Prior to contract executions/purchase order issuance, the successful bidder will be required to provide final insurance certificates which shall name Jefferson Parish as an additional insured in accordance with the instructions in the aforementioned "Standard Insurance Requirements" sheet.
11. A bid bond will be required with bid submission in the amount of 5% of the total bid, unless otherwise stated in the bid specifications. Acceptable forms shall be limited to cashier's check, certified check, or surety bid bond. All sureties must be in original format (no copies). If submitting a bid online, vendors must submit an electronic bid bond through the respective online clearinghouse bond management system(s) as indicated in the electronic bid solicitation on Central Auction House. No scanned paper copies of any bid bond will be accepted as part of the electronic bid submission.
12. This is a requirements contract to be provided on an as needed basis. JEFFERSON PARISH makes no representations on warranties with regard to minimum guaranteed quantities unless otherwise stated in the bid specifications.
13. Freight charges should be included in total cost when quoting. If not quoted FOB DELIVERED, freight must be quoted as a separate item. Bid may be rejected if not quoted FOB DELIVERED or if freight charges are not indicated on bid form.
14. **PUBLIC WORKS BIDS - Completed, Signed and Properly Notarized Affidavits Required;** This applies to all solicitations for construction, alteration or demolition of public buildings or projects, in conformity with the provisions contained in LSA-RS 38:2212.9, LSA-RS 38:2212.10, LSA-RS 38:2224, and Sec 2-923.1 of the Jefferson Parish Code of Ordinances. For bidding purposes, all bidders must submit with bid submission COMPLETED, SIGNED and PROPERLY NOTARIZED Affidavits, including: Non-Collusion Affidavit, Non-Collusion Affidavit, Campaign Contribution Affidavit, Debt Disclosures Affidavit and E-Verify Affidavit. For the convenience of vendors, all affidavits have been combined into one form entitled PUBLIC WORKS BID AFFIDAVIT. This affidavit must be submitted in its original format, and without material alteration, in order to be compliant and for the bid to be considered responsive. A scanned copy of the completed, signed and properly notarized affidavit may be submitted with the bid, however, the successful bidder must submit the original affidavit in its original format and without material alteration upon contract execution. Failure to comply will result in the bid submission being rejected as non-responsive. The Parish reserves the right to award bid to the next lowest responsive and responsible bidder in this event.
15. **NON PUBLIC WORK BIDS - Completed, Signed and Properly Notarized Affidavits Required** in conformity with the provisions contained in LSA – RS 38:2224 and Sec 2-923.1 of the Jefferson Parish Code of Ordinances. For bidding purposes, all bidders must submit with bid submission COMPLETED, SIGNED and PROPERLY NOTARIZED Affidavits, including: Non-Collusion Affidavit, Debt Disclosures Affidavit and Campaign Contribution Affidavit. For the convenience of vendors, all affidavits have been combined into one form entitled NON PUBLIC WORKS BID AFFIDAVIT. This affidavit must be submitted in its original format, and without material alteration, in order to be compliant and for the bid to be considered responsive. A scanned copy of the completed, signed and properly notarized affidavit may be submitted with the bid, however, the successful bidder must submit the original affidavit in its original format and without material alteration upon contract execution. Failure to comply will result in the bid submission being rejected as non-responsive. The Parish reserves the right to award bid to the next lowest responsive and responsible bidder in this event.
16. The ensuing contract for this bid solicitation may be eligible for FEMA reimbursement and/or Federal funding/reimbursement. As such, the referenced appendix will be applicable accordingly and shall be considered a part of the bid documents. All applicable certifications must be duly completed, signed and submitted with bid submission. Failure to submit applicable certifications with bid submission will result in bid rejection.

It shall be the duty of every parish officer, employee, department, agency, special district, board, and commission; and the duty of every contractor, subcontractor, and licensee of the parish, and the duty of every applicant for certification of eligibility for a parish contract or program, to cooperate with the Inspector General in any investigation, audit, inspection, performance review, or hearing pursuant to Jefferson Parish Code of Ordinances Section 2-155.10(19). By submitting a bid, vendor acknowledges this and will abide by all provisions of the referenced Jefferson Parish Code of Ordinances.

DATE: 8/21/2019

INVITATION TO BID  
THIS IS NOT AN ORDER

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BID NO.: 50-00127850

**JEFFERSON PARISH**

PURCHASING DEPARTMENT  
P.O. BOX 9  
GRETNA, LA. 70054-0009  
504-364-2678

VENDOR: C.C. Lynch and Associates, Inc.

BUYER: MBATTERY

As per LSA-RS 47:301 et seq., all governmental bodies are excluded from payment of sales taxes to any Louisiana taxing body. Quotations shall be based on F.O.B. Agency warehouse or jobsite, anywhere within the Parish as designated by the Purchasing Department.

JEFFERSON PARISH reserves the right to cancel all or any part of an order if not shipped promptly. No charges will be allowed for parking or cartage unless specified in quotation. The order must not be filled at a higher price than quoted. JEFFERSON PARISH reserves the right to cancel at any time and for any reason by issuing a THIRTY (30) day written notice to the contractor.

JEFFERSON PARISH is expecting all products to be new and all work to be done in workman-like manner, according to standard practices. Any deviations or alteration from the specifications must be indicated on the bid form for each item and upon request, product data for same must be submitted by the time specified by the Purchasing Department.

<b>DELIVERY: FOB JEFFERSON PARISH</b>	
INDICATE DELIVERY DATE ON EQUIPMENT AND SUPPLIES	<u>28</u>
INDICATE STARTING TIME (IN DAYS) FOR CONSTRUCTION WORK	_____
INDICATE COMPLETION TIME (IN DAYS) FOR CONSTRUCTION WORK	_____

In the event that addenda are issued with this bid, bidders MUST acknowledge all addenda on the bid form. Bidder must acknowledge receipt of an addendum on the bid form as indicated. Failure to acknowledge any addendum on the bid form will result in bid rejection.

Acknowledge Receipt of Addenda: NUMBER: \_\_\_\_\_

NUMBER: \_\_\_\_\_

NUMBER: \_\_\_\_\_

NUMBER: \_\_\_\_\_

LOUISIANA CONTRACTOR'S LICENSE NO.: (if applicable) \_\_\_\_\_

<b>*** ALL BIDDERS MUST COMPLETE SECTION BELOW ***</b>	
FIRM NAME: <u>C.C. Lynch and Associates Inc.</u>	
SIGNATURE: (Must be signed here)	TITLE: <u>President</u>
PRINT OR TYPE NAME: <u>John W. Campbell III</u>	
ADDRESS: <u>300 Davis Avenue</u>	
CITY, STATE: <u>Pass Christian MS</u>	ZIP: <u>39571</u>
TELEPHONE: <u>800 333 2252</u>	FAX: <u>228 452 2563</u>
EMAIL ADDRESS: <u>tracy@CCLynch.com</u>	

TOTAL PRICE OF ALL BID ITEMS: \$ 5,945. -

INVITATION TO BID FROM JEFFERSON PARISH - continued

BID NO.: 50-00127850

SEALED BID

ITEM NUMBER	QUANTITY	U/M	DESCRIPTION OF ARTICLES	UNIT PRICE QUOTED	TOTALS
1	1.00	EA	PURCHASE OF GE PANAMETRICS AT600 SYSTEM AND ONSITE START-UP ASSISTANCE & PROGRAMING AT THE WEST BANK WATER PLANT  0001 Sensing Panametrics AT600 ultrasonic clamp-on flowmeter with	\$ 5,950.-	\$ 5,950.-
2	1.00	EA	C-RS 1.0 MHz transducers for 16" pipe, 25 ft. transducer cables, 4-20 mA analog output, (1) alarm contact and (1) totalizer output Model AT6-C1-CR10SUB-16IN-2-1AET01E <i>Alternate: Flexim F721</i> 0002 On-site Start-up Assistance and Programming  Purpose: adding a flow meter on the Grand Isle fill line at the Lafitte tank  Ship To: West Bank Water Plant 4500 Westbank Expressway Marrero LA 70072  Attn: David Mahner	45.-	45.-



# FLUXUS<sup>®</sup> F/G721

Non-intrusive Liquid and Gas  
Flow Measurement

- Oil & Gas
- Chemical
- Petrochemical
- Water & Wastewater
- Power Generation
- District Energy
- Pharmaceutical
- Semiconductor
- Food & Beverage
- Mining
- Energy Efficiency



**FLEXIM Sets Standards**

# Setting Standards

## Reliable - Safe - Efficient

**The FLUXUS® F/G721 is a technological breakthrough in the ultrasonic clamp-on flow measurement of liquids and gases.**

**With its new hardware design and improved, powerful digital signal processing it surpasses any other non-intrusive ultrasonic flowmeter in terms of accuracy, reliability and versatility.**

Highly sophisticated signal filters, faster than ever processing capacities and substantially improved measurement algorithms make the FLUXUS® F/G721 a state-of-the-art measuring solution even for the most challenging applications. The meter adapts itself automatically to the respective measurement conditions and compensates for perturbations such as beam dispersal and structure-borne noise, allowing for even more precise and reliable measurements. Extreme fast measurement cycles allow for precise real time monitoring of highly dynamic processes.

## Pushing the Boundaries

FLUXUS® F/G721 offers non-intrusive flow measurement of virtually any kind of liquid or gas, from the smallest tubing to the largest penstock, independent of the pressure inside the pipe and over a very large temperature range. Due to its advanced technology, the measurement is unaffected by solid or gaseous entrainments or gas wetness and distinguishes itself by its unrivalled turndown ratio: Even low flows down to only a few liters per hour can be recorded accurately.

As the flowmeter of choice for a very wide range of applications in virtually any industrial sector, the FLUXUS® F/G721 is available with two different enclosure types: aluminium housing for standard applications and stainless steel housing for operation in highly corrosive environments. Both can be used in explosion hazard areas (ATEX, IECEx Zone 2, FM Class I, Div. 2, EAC TR TS, Inmetro).

## Ready for Industry 4.0

The FLUXUS® F/G721 comes with all common communication protocols. HART, Modbus, Foundation Fieldbus, Profibus PA and BACnet allow bidirectional field communication, parameterisation and online diagnostics. Further special configurations guarantee optimal customisation to the individual application.

The FLUXUS® F/G721 is also one step ahead in terms of user guidance and diagnostics. It can be easily parameterised via USB. Its ethernet connectivity provides additional bidirectional communication capabilities.



# Versatile Applications



## Oil & Gas

From wellhead to the gas station - everything is flowing. For the safe and efficient operation of the multitude of processes in hydrocarbon production, treatment and transport, all these flow rates need to be monitored. Harsh environments, challenging process conditions and highly explosive media place the highest demands on measuring equipment.

FLUXUS® F/G721 excels where others fail. Flow measurement from outside the pipe is independent of the pressure inside and not subject to wear and tear. In conjunction with the patented Wavelnjector® mounting fixture, liquid flows can be measured in an unrivalled temperature range from -190 °C (for LNG) up to +600 °C (e.g. for refinery applications). Due to its sophisticated signal processing, the FLUXUS® F/G721 provides reliable measurements even in the most demanding applications such as the measurement of pulsating flows with solid/gaseous contents or on lines carrying heavily moisturized gas. As the FLUXUS® F/G721 can also be used for non-intrusive media identification, it is the ideal allocation meter for tank terminals.



## Chemical Industries

Modern, integrated chemical plants form highly complex networks of mass and energy flows. Safety takes top priority. Continuous monitoring of all relevant process parameters is essential for fault-free operations.

FLUXUS® F/G721 measures from the safe side - the outside of the pipe. The practical advantages of non-intrusive flow measurement are obvious: no wear and tear by the medium flowing inside the pipe, no risk of liquid leakage or fugitive gas emissions, no pressure loss and, above all, unlimited plant availability.



## Water & Wastewater

Withdrawal of water usually begins at wells, reservoirs and large water tanks. Pipes with large nominal diameters also mean high costs for wetted instrumentation and for installation work - this is not the case with FLUXUS®. Moreover, the F/G721 offers exceptionally precise bidirectional flow measurement over a wide turndown ratio, which is especially important when capturing low flow velocities at off-peak times for leak control.

FLUXUS® F/G721 measures independently of the pipe dimension and material. Its advanced technology allows for non-intrusive flow measurement even on pre-stressed concrete cylinder pipes (PCCP) which may be several meters in diameter. Due to its built-in Hybrid Trek mode, wastewater slurries with high solid / gaseous contents can also be precisely monitored.





## Energy Efficiency

Energy counts. In every respect. Energy is a key factor for human life, work and economy.

Saving energy pays off. The FLUXUS® F721 Energy is the ideal solution to tap energy efficiency potentials non-intrusively, in HVAC applications as well as in industrial processes. Whether it is used for thermal power measurement in district heating networks or for monitoring the efficiency of an industrial heat exchanger, non-intrusive measurement never affects the safe supply in any way. With its excellent sensitivity for low flows and with highly accurate and paired temperature sensors, the FLUXUS® F721 Energy is particularly suited to accurate measurement of energy consumption in climatisation systems.

With regard to gases, the FLUXUS® G721 is the perfect tool to measure the consumption of costly compressed air - non-intrusively without any potential for possible leaks.



## Power

Safe operation and security of supply are essential in power generation. Therefore it is clear: It's better not to touch the pipe! This is even more evident, if you want to measure flow rates in the gigantic headrace pipeline of a hydro power plant or even in the primary circuit of a nuclear power plant.

FLUXUS® F/G721 stands for absolutely reliable flow measurement without any interruption to supply. In conjunction with the WaveInjector®, FLUXUS® also measures the flow of molten salts which are used as heat transfer fluids in concentrated solar power plants. Another typical application is the flow measurement of hot boiler feedwater and the identification of water / steam cuts in water drain lines of combined cycle power plants.



## Other Industries

The application range of FLUXUS® is broad. The non-intrusive measurement principle also plays out its full potential in hygienic applications, such as in the pharmaceutical, food & beverage or even the semiconductor industries. By measuring from outside the pipe wall, direct media contact and thus potential media contamination can be ruled out. Other application fields include the mining sector and adjacent steel plants. Typical applications include the measurement of mineral slurries or acid-loaded streams - measurement points where non-invasive technology is always preferred in comparison to wetted flowmeter technologies.





## Unrivalled advantages of non-intrusive flow measurement with the FLUXUS® F/G 721:

- No process interruption - maintenance-free (no need for frequent work in hazardous areas)
- Certified for operation within hazardous areas (ATEX, IECEx Zone 2, FM Class I, Div. 2); SIL2 capable
- Fast measuring dynamics also capture highly pulsating flows
- Reliable measurements even of slurries, liquids with gaseous entrainments or wet gas (up to LVF of 5%)
- High operational safety with no risk of leaks
- Independent of pipe material, diameter, wall thickness and internal pressure and temperature
- Accurate and repeatable measurement readings - even at extremely low flow rates (high turndown ratio)
- Highly cost efficient in comparison to wetted instrumentation

## Unique features of the FLUXUS® F/G 721:

- Highly accurate and reliable volume and mass flow measurement of liquids and gases as well as thermal energy
- Accurate and reliable metering - due to its built-in HybridTrek® mode even of particle-loaded or gas entrained liquids
- Virtually free of wear and tear with no maintenance required due to measurement outside the pipe wall
- Every measurement system is pre-calibrated in-house (traceable to national standards) and delivered with a calibration certificate
- Matched transducers, integrated temperature compensation (according to ANSI/ASME MFC-5.1-2011 regulations) and digital signal processing guarantee a high zero point and flow measurement stability
- Permanent coupling with unique couplant pads, FlexSpring secured mounting fixtures guarantee durable contact pressure also on heavily vibrating pipes
- Bidirectional communication as well as remote parameterisation and diagnostic capabilities

### Technical facts

Temperature ranges:	
Liquid media:	-40 °C to +200 °C (-190 °C up to +600 °C possible)
Gaseous media:	-40 °C to +100 °C
Flow velocity / flow rate:	
Liquids:	0.01 to 25 m/s
Extremely low flows:	> 3 l/h on 1/4 inch pipes (up to 1.5 inch pipes)
Gases:	0.01 to 35 m/s
Repeatability:	0.15% of reading ± 0.01 m/s (± 0.001 m/s for low flows)
Calibrated accuracy:	
at factory:	± 0.35% of reading ± 0.01 m/s (w/o appl. disturbances)
Liquids (appl.):	± 1.2% of reading ± 0.01 m/s
Gases (appl.):	± 1% ... 3% of reading ± 0.01 m/s
(if field calibrated):	± 0.5% of reading ± 0.01 m/s (liquids and gases)
Pipe sizes (OD):	
Liquid filled pipes:	6 mm to 6,500 mm (no wall thickness limitation)
Gas carrying pipes:	10 mm to 2,100 mm up to 35 mm wall thickness
Protection degree:	IP65/IP66; Transducers up to IP68
Ex approvals:	ATEX, IECEx Zone 2, FM Class I, Div. 2, EAC TR-TS, Inmetro
SIL Qualification	SIL2 (product variant F/G704)
Pressurisation:	No limitations for liquids > 3 bar for gases in steel pipes; plastic pipes < 1 bar
Communication Protocols:	HART, Modbus, Foundation Fieldbus, Profibus PA, BACnet
Parameterisation & Communication:	Ethernet, USB and up to 4 inputs and 7 outputs
Menu Languages:	English (US), German, French, Dutch, Spanish, Russian, Chinese and others



# FLEXIM

In partnership



FLEXIM is an active leader in many areas of process instrumentation. As a worldwide pioneer in the non-intrusive flow measurement of liquids and gases, FLEXIM has been leading the way in ultrasonic clamp-on flow metering for more than 25 years. In addition to non-intrusive flow measurement, FLEXIM specializes in innovative online process analysis using ultrasonic technology and refractometry. Year after year, the Berlin-based company continues its substantial investment in research and development in order to maintain and further improve its position as an industry leader. In keeping with its core principles, FLEXIM takes customer feedback very seriously. Every generation of FLEXIM products is directly driven by customer and industry needs.

## The FLEXIM Commitment to Customer Service

FLEXIM considers itself not only a manufacturer of measuring instruments, but also a provider of technical and consulting services. These services include on-site measurements, laboratory analysis, project handling, training, commissioning, instrument rentals and consulting services. The company's focus and dedication is directed towards providing the highest quality equipment with the best support and service possible. Our aim is to set standards in all what we are doing.

Available from :  
BSRIA Instrument Solutions  
Tel No. 01344 459314  
[www.bis.fm](http://www.bis.fm)

