



CENTRALBIDDING
FROM CENTRAL AUCTION HOUSE

5000125580 FLANGE, COMPANION, DUCTILE IRON, TYLER NO. 5-750
Jefferson Parish Government

Project documents obtained from www.CentralBidding.com

18-Feb-2019 07:29:08 AM



Bid Number 50 - 125580

DESCRIPTION: Flange, companion, ductile iron, and Valve, check

February 22, 2019 at 11:00 am

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

Temporary Location:

Paul D. Connick Sr., Emergency Operations & Communications Center

910 3rd Street,

Gretna, LA 70053

Buyer Name: Carol Gasper

Buyer Email: CG@jeffparish.net

Buyer Phone: (504) 364-2688

DATE: 2/14/2019

INVITATION TO BID
THIS IS NOT AN ORDER

Page: 1

BID NO.: 50-00125580

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

VENDOR:

BUYER: CGASPER@jeffparish.net

Bids will be received until 11:00 AM, 2/22/2019 via online at www.jeffparishbids.net or by hand delivery, USPS mail or other courier service to Purchasing Department, Paul D. Connick Sr. Emergency Operations & Communications Center at 910 3rd Street, 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. 113648 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 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 submitted a bid in response to this solicitation may submit a protest in writing to the Director of the Purchasing within 48 hours of bid opening. The Purchasing Director will review it in connection with the Parish Attorney's Office as appropriate and a written response will be provided as soon as possible.

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 warranty, 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 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-Conviction 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: 2/14/2019

INVITATION TO BID
THIS IS NOT AN ORDER

Page: 4

BID NO.: 50-00125580

JEFFERSON PARISH

PURCHASING DEPARTMENT
P.O. BOX 9
GRETNA, LA. 70054-0009
504.364-2678

VENDOR: _____

BUYER: CGASPER

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.

DELIVERY: FOB JEFFERSON PARISH	
INDICATE DELIVERY DATE ON EQUIPMENT AND SUPPLIES	<u>3-4 weeks</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) _____

*** ALL BIDDERS MUST COMPLETE SECTION BELOW ***	
FIRM NAME:	<u>Ferguson Enterprises</u>
SIGNATURE: (Must be signed here)	<u>Katje Doups</u> TITLE: <u>Sales</u>
PRINT OR TYPE NAME:	
ADDRESS:	<u>Ferguson Enterprises DBA Louisiana Utilities Supply Co. 901 S. Labarre Rd, Suite 206 Metairie, La 70001</u>
CITY, STATE:	ZIP:
TELEPHONE:	FAX:
<u>504 834 1106</u>	<u>504 831 4129</u>
EMAIL ADDRESS:	<u>KATJE.DOUPS@FERGUSON.COM</u>

TOTAL PRICE OF ALL BID ITEMS: \$ 13,325.20

INVITATION TO BID FROM JEFFERSON PARISH - continued

BID NO.: 50-00125580

SEALED BID

ITEM NUMBER	QUANTITY	U/M	DESCRIPTION OF ARTICLES	UNIT PRICE QUOTED	TOTALS
1	2.00	EA	FLANGE, COMPANION AND CHECK VALVE FOR JEFFERSON SEWERAGE WAREHOUSE EB 0001 - Flange, companion, ductile iron, threaded for 3 inch steel pipe, o.d. 03.50 in, 150 PSI, Tyler no. 5-750 (0076250)	\$ 11.85 ^{ea}	23.70
2	1.00	EA	0002 - Valve, check, 3 inch x 4 inch, single increasing, 12 inch face to face, flanged, lbbm, lever and weight, epoxy coated, Golden Anderson No. 221, direction of flow is from 3 inch to 4 inch (0621650)	\$ 972.00	972.00
3	6.00	EA	0003 - Valve, check, wafer, 4 in, ductile iron body, external spring and lever, stainless steel hardware, 2-1/4 in face to face, ANSI class 150, ANSI B16.1, Enduro-bond, KE Eagle Series 18 No. 7302 126K410404 (0621920)	\$ 555.00	3330.00
4	6.00	EA	0004 - Valve, check, 4 inch, 13 inch face to face, flanged, lever and weight, lbbm, bronze disc facing, epoxy coated, stainless steel nuts and bolts, domestic, American Flow no. C504A4H0703PRPR (0621680) FNW #731	\$ 1500.00	9000.00

Specs Attached

B291603



JEFFERSON PARISH

Department of Purchasing

Michael S. Yenni
Parish President

Renny Simno
Director

January 2019

CHANGES TO JEFFERSON PARISH BIDDING PROCEDURES

- **As of January 9, 2019, due to water damage in our main office of 200 Derbigny Street, Suite 4400, Gretna, LA 70053 is closed. Westbank Purchasing Department has temporarily relocated to Paul D. Connick, Sr., Emergency Operations & Communications Center, 910 3rd Street, Gretna, LA 70053. All hand delivered bids and advertised bid openings will be held at this location at the set date and time on the individual Invitation to Bid.**
- **As of November 13, 2018, for all advertised (2:00 pm) bids, the bid tabulation will be released to the vendors 14 days from the bid opening date.**

Other continued changes:

- Bid submissions can be delivered to the Joseph S. Yenni Building, 1221 Elmwood Park Blvd., Suite 404, Jefferson, LA 70123. Bidders may submit bid submission to the East Bank location, pending authorization in each bid package. Bidders should carefully read and must respond accordingly per the requirements of the bid packages. NOTE: Bidders submitting bids on the day of bid opening, bidders must submit at the West Bank location only.
- For all advertised sealed bids, written evidence of signature authority must be included with bid submission.
- Current W9 Forms 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, a current W-9 form must be supplied upon contract execution, should you be awarded a contract and/or issued a purchase order.
- Proof of insurance in the form of a current certificate evidencing coverages is required with bid submission from all bidders. Bidders must read the insurance requirement attachment included in each bid package for specific instructions. Upon contract execution, successful bidder must produce final insurance certificates in accordance with Jefferson Parish insurance requirements.

Bidders should reference the "Additional Requirements" section of the bid instructions and/or the "Important Notice to Bidders" included in the bid package for specific requirements to respond accordingly.

For more information, please call Jefferson Parish Purchasing at 504-364-2678.

Joseph S. Yenni Building – 1221 Elmwood Park Blvd., Ste. 404, Jefferson, LA 70123

Office 504.364.2678

General Government Bldg. – 200 Derbigny St – Suite 4400 - Gretna, LA 70053

Office 504.364.2678

Email: Purchasing@jeffparish.net Website: www.jeffparish.net

RESILIENT SEATED BUTTERFLY VALVE

FNW cartridge style resilient seated butterfly valves are designed to meet the rigorous requirements of industrial applications such as pulp and paper, water purification, power and utilities, chemical/petrochemical, food and beverage, OEM and HVAC. Each valve is manufactured in accordance with independent standards specifications and is 100% tested in both directions of operation to assure bubble-tight service for many years.

Features:

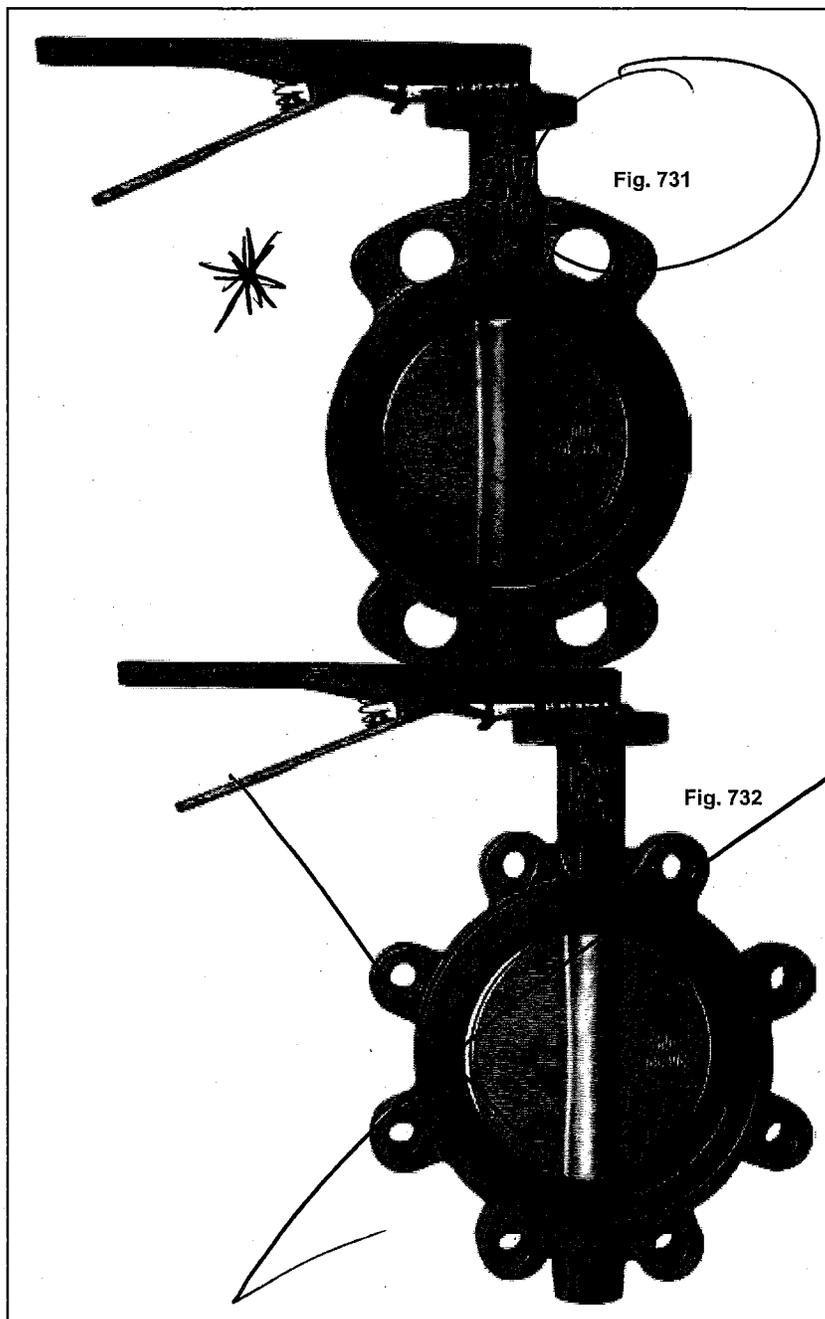
- Designed for 125/150 lbs flanges
- Standard stainless steel disc and stem offer superior strength and chemical resistance
- Mounting pad with square shaft permits direct mount actuation that reduces hysteresis and cost (2" TO 12")
- Secured stem retainer plate for blowout-proof protection and also allows operator removal with valve in line
- High strength two-piece stem eliminates taper pins and disc screws from flow path
- Rated to 255 PSI (2"-12"), 188 PSI (14"-24")
- Cartridge style seat permits easy change without special tools
- Molded o-ring eliminates the need for flange gaskets*
- Lockable Handles
- Shell tested to 150% and seat tested to 110% of maximum working pressure
- Lug bodies for dead-end service rated at 150 PSI** (2"-12"), 100 PSI** (14"-24")
- Wafer bodies cast iron to 10", ductile iron 12" to 24", and ductile iron lug bodies to 24"
- Lever operated to 12" or gear operated
- Dual PTFE shaft bearings for reduced torque and improved stem alignment
- Vacuum rated to 29.9196"Hg (0.01 Torr)†
- Epoxy coated body
- Low maintenance design
- Sizes 2" to 24"
- Lead Free Nonpotable

Standards:

- Design: API 609A and MSS SP-67
- Seat Tested: MSS SP-61
- Top Flange: ISO 5211

Options:

FNW offers many options and modifications for valves. These include, but are not limited to: Actuation including chain wheels, square drive nuts, worm-gear operators, and pneumatic and electric operators, control accessories, stem extensions, and custom mounting hardware. Contact FNW with your specific application



* Pressed collar style angle face rings (typically sizes 2" to 6") are not recommended due to the large radius of the inner diameter. Cast type angle face rings or stub ends should be used with light wall stainless steel piping. Prior to installation, always verify that the connecting piping flange face fully engages the valve seat face.

** Lugged valve for dead-end service and no downstream flange, may only be used with weld neck or socket flanges, for closed position only (no cycling).

† Vacuum measurements are often made in inches of mercury below atmospheric pressure. The values calculated here assume standard atmospheric pressure of 29.92 inches of mercury.

Figure 731 & 732 BUTTERFLY VALVES



Dimensions (Inches) Sizes 2 to 12

Size	A	B	ØD	H1	H2		H4	L1	L2	G1	G2	ØC	ØH	N	H3	ØU	P	ØQ	ØS	T	ØV
					731	732															
2"	0.18	1.93	2.05	2.77	5.06	4.94	1.06	1.69	11.37	5.79	6.22	4.75	5/8"-11	4	0.60	3.54	0.55	2.76	0.35	0.43	0.55
2-1/2"	0.41	2.52	2.64	2.95	5.36	5.20	1.06	1.81	11.37	5.79	6.22	5.49	5/8"-11	4	0.60	3.54	0.55	2.76	0.35	0.43	0.55
3"	0.67	3.03	3.15	3.67	5.64	6.07	1.06	1.81	11.37	5.79	6.22	6.00	5/8"-11	4	0.60	3.54	0.55	2.76	0.35	0.43	0.55
4"	0.94	3.82	3.94	4.18	6.41	6.54	1.06	2.05	11.37	5.79	6.22	7.50	5/8"-11	8	0.70	3.54	0.63	2.76	0.35	0.55	0.63
5"	1.36	4.80	4.92	4.69	7.34	7.13	1.06	2.20	11.37	5.79	6.22	8.50	3/4"-10	8	0.70	3.54	0.63	2.76	0.35	0.55	0.71
6"	1.86	5.83	5.93	5.48	7.98	7.84	1.06	2.20	11.37	5.79	6.22	9.51	3/4"-10	8	0.70	3.54	0.63	2.76	0.35	0.55	0.71
8"	2.69	7.62	7.74	6.51	9.34	9.26	1.06	2.36	17.83	11.81	8.07	11.75	3/4"-10	8	0.81	3.54	0.67	2.76	0.35	0.67	0.87
10"	3.52	9.62	9.72	7.86	11.13	10.50	1.02	2.68	17.83	11.81	8.07	14.25	7/8"-9	12	0.81	4.92	0.79	4.02	0.43	0.87	1.00
12"	4.28	11.54	11.63	9.47	12.27	12.15	1.02	3.07	17.83	11.81	8.46	17.00	7/8"-9	12	0.95	4.92	0.79	4.02	0.79	0.87	1.10

Dimensions (Inches) Sizes 14 to 24

Size	A	B	ØD	H1	H2	G1	G2	L1	ØC	ØH	N	H3	ØU	P	ØQ	ØS	ØT	W1	W2	X
14"	4.96	12.83	12.99	10.41	13.60	11.81	8.46	3.07	18.75	1"-8	12	2.81	4.92	0.79	4.02	0.47	1.10	0.39	0.20	2.36
16"	5.45	14.82	14.92	11.75	13.76	11.81	8.86	4.02	21.25	1"-8	16	3.15	6.89	0.91	5.51	0.71	1.26	0.39	0.20	2.36
18"	6.36	17.09	17.20	13.78	15.75	15.55	8.86	4.49	22.75	1-1/8"-7	16	3.15	6.89	0.91	5.51	0.71	1.50	0.47	0.20	2.36
20"	7.15	19.13	19.29	14.96	17.32	15.55	10.12	5.00	25.00	1-1/8"-7	20	3.54	8.27	0.91	6.50	0.87	1.77	0.47	0.20	2.76
24"	8.28	22.46	22.62	17.32	20.08	15.55	10.12	6.06	29.50	1-1/4"-7	20	3.74	8.27	0.91	6.50	0.87	2.17	0.55	0.20	2.76

Standard Materials

Ref. No.	Description	Material	Qty	Remarks
1	Retaining Plate	ASTM A283D-A36 STEEL	1	Galvanized
2	Retaining Plate Screw	ASTM A283D-A36 STEEL	2	Galvanized
			3	
3	Ingress Stem Seal	SAME AS SEAT MATERIAL	1	
4	Stem Bushing	PTFE	2	1 Upper, 1 Lower, Sizes 2"-3", 14"-24"
			4	2 Upper, 2 Lower, Sizes 4"-12"
4A	Upper Hard Bushing	ASTM B584 C83600 BRONZE	1	Sizes 14"-24"
4B	Lower Hard Bushing	ASTM B584 C83600 BRONZE	1	Sizes 14"-24"
5	Body	ASTM A126 CAST IRON	1	Fig 731, Sizes 2"-10"
		ASTM A536 65-45-12 DUCTILE IRON		Fig 731, Sizes 12" & Up, Fig 732 All
6	Upper Stem	ASTM A276 SUS 316 STAINLESS	1	
7	Seat	EPDM or BUNA	1	Sizes 2"-12" Only
		VITON®		
8	Disc	ASTM A351 CF8M, STAINLESS	1	
9	Lower Stem	ASTM A276 SUS 316 STAINLESS	1	
10	Plug	ASTM A283D-A36 STEEL	1	Sizes 2"-16"
11	Bottom Plate	ASTM A283D-A36 STEEL	1	Zinc Plated, Sizes 18"-24"
12	Bottom Plate Screw	ASTM A283D-A36 STEEL	4	Zinc Plated, Sizes 18"-24"
13	Lever Stop Plate	ASTM A283D-A36 STEEL	1	Nickel Plated, Sizes 2"-12"
14	Lever	ASTM A47 Gr 32510 MALLEABLE IRON	1	Sizes 2"-12"
15	Lever Washer	ASTM A283D-A36 STEEL	1	Zinc Plated, Sizes 2"-8"
16	Lever Bolt	ASTM A283D-A36 STEEL	1	Zinc Plated, Sizes 2"-8"
20	Gear Housing	ASTM A126 CAST IRON	1	Sizes 14"-24"
21	Gear Drive	ASTM A536 65-45-12 DUCTILE IRON	1	Sizes 14"-24"
22	Gear Input Shaft	STEEL	1	Nickel Plated, Sizes 14"-24"
23	Hand Wheel	ASTM A126 CAST IRON	1	Sizes 14"-24"
24	Gear Mounting Bolt	ASTM A283D-A36 STEEL	4	Zinc Plated, Sizes 14"-24"

Standard configurations are with levers up to 12" and gear operators 14" to 24. Gear operators for valves 12" and smaller are available upon request.

Weight (Lbs)

Size	Wafer/Lever	Wafer/Gear	Lug/Lever	Lug/Gear
2"	8.1	17.8	10.6	20.3
2-1/2"	9.4	19.1	10.5	20.2
3"	9.6	19.4	11.2	21.0
4"	11.8	21.6	16.4	26.2
5"	16.0	25.8	21.1	30.9
6"	20.1	30.5	23.5	33.9
8"	34.1	46.5	38.0	50.4
10"	51.2	72.4	56.3	77.5
12"	66.7	87.9	85.6	106.8
14"	-	165.5	-	188.5
16"	-	260.5	-	336.5
18"	-	330.7	-	407.7
20"	-	507.7	-	614.7
24"	-	659.7	-	767.7

Torque (In-Lbs)

Size	EPDM & BUNA Seat	VITON Seat
2"	367	477
2-1/2"	367	477
3"	480	624
4"	593	771
5"	649	844
6"	971	1,262
8"	1,896	2,465
10"	4,006	5,208
12"	4,627	6,015
14"	13,385	17,401
16"	17,506	22,758
18"	23,542	30,605
20"	29,076	37,799
24"	46,847	60,901

1. All unseating torques based on non-corrosive clean, wet or lubricating service at ambient temperatures. Contact FNW for dry or application specific torque.
 2. For line velocities greater than 15 FPS, dynamic torque must be taken into consideration.
 3. All torques are based on maximum pressure differential for the valve.

Cv (Flow Coefficient)

SIZE	DEGREES of DISC OPENING							
	20°	30°	40°	50°	60°	70°	80°	90°
2"	8	9	18	28	55	72	110	135
2-1/2"	10	15	27	44	85	110	168	210
3"	15	23	39	65	130	165	250	310
4"	27	41	71	115	230	300	465	540
5"	58	86	150	245	480	610	980	1,100
6"	96	140	245	400	785	1,010	1,615	1,910
8"	165	245	410	685	1,275	1,715	2,670	3,185
10"	255	380	650	1,130	2,100	2,700	4,250	4,900
12"	370	540	950	1,570	3,050	3,950	5,950	7,350
14"	450	750	1,300	2,210	4,080	5,610	8,078	11,200
16"	640	900	1,720	2,790	5,000	7,650	10,770	12,900
18"	730	1,250	2,295	3,700	7,050	9,180	13,900	17,500
20"	910	1,595	2,850	4,630	8,600	11,500	17,540	22,400
24"	1,250	2,290	4,000	6,090	12,500	16,500	23,590	28,300

Cv is the volume of water in U.S. gallons per minute that passes through the valve at a pressure drop of 1 PSI at 68°F.

Figure Number Matrix

FNW 7 3 1 E G X			
BODY TYPE	SEAT	OPERATOR	SIZE CODES
1 = Wafer	E = EPDM	Blank = 10 Position Lever	2 = K 10 = 10
2 = Lug	B = BUNA-N	(2"-12")	2-1/2 = L 12 = 12
	V = Viton®	G = Gear Operator	3 = M 14 = 14
		(2"-24")	4 = P 16 = 16
			5 = S 18 = 18
			6 = U 20 = 20
			8 = X 24 = 24

Seat Temperatures

Seat Material	Working Temperature
EPDM	-22° to 230°F (-30°C to 110°C)
Buna-N	-4° to 194°F (-20°C to 90°C)
Viton®	-14° to 320°F (-25°C to 160°C)

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