

Facts and Recommended Guidelines

Dia-Flo® Diaphragm Valve Facts You Should be Aware of

All .75" flanged valves (except solid plastic) are identical to 1" valves except the body end flanges accommodate .75" flange dimensions. Therefore, bonnet assemblies and diaphragms for such bodies use 1" bonnet assemblies and diaphragms.

Similarly, 1.25" valves (flanged or unflanged) use 1.5" bonnet assemblies and diaphragms.

Diaphragm material properties become weaker with increasing temperature. Therefore, diaphragms operating at elevated temperatures are not to be used at maximum pressures. See pressure / temperature charts.

Cast iron, ductile iron and carbon steel should not be used below -20° F (-29° C) per ANSI standards.

Dia-Flo® Diaphragm Airmotor actuators are designed to operate with air pressures up to 85 psi. The maximum pressure differential between upper and lower chambers is also 85 psi.

Maximum operating line pressure for valves equipped with dualrange bonnet assemblies is 100 psi.

Dualrange® bonnet assemblies are only available on weir type valves, 1" through 6" size.

Straightway valves are not ideal for throttling service due to poor control capability.

Straightway valves are not recommended for vacuum service.

Actuated Dia-Flo® valves used on vacuum service applications will require an additional amount of actuation pressure in order to open the valve. The total amount applied will be higher than that found in the applicable sizing chart, in order to compensate for the effect of the vacuum.

Large fail close (#25 and above) actuators are supplied as standard with travel stops..

Fail open and double acting valves are not normally supplied with travel stops, so if the available supply pressure exceeds the required pressure to close the valve, then the actuator should be ordered with a travel stop option or the supply pressure should be reduced using a regulator.

A minimum of 20 psi line pressure is required to utilize the direct loaded bonnet assembly. Direct loaded bonnets are always provided with diaphragms in the "molded closed" position.

When you specify a double-acting actuator with a topmounted, single-acting positioner, the standard arrangement is that the bottom chamber is supplied with a cushion regulator. This will result in a fail open valve.

Recommended Guidelines for Weir and Straightway Valves

Maximum Velocity

15–20 ft/sec for Clear Liquids

8–10 ft/sec for Slurries

Maximum Solids Percentages

Weir Valves: Not to Exceed 15%

Straightway Valves*: Up to 30%

** For Solids Between 30% and 50%, Consult Factory
50% and Above – Not Recommended*

Maximum Allowable Pressure Drop Across Weir Valve

25% of P_{inlet} Absolute



Industrial Process

Terms & Conditions of Sale

WARRANTY

(a) Company warrants that on the date of shipment the goods are of the kind and quality described herein and are free of non-conformities in workmanship and material. This warranty does not apply to goods or parts delivered by Company but manufactured by others. (b) Buyer's exclusive remedy for nonconformity in any item of the goods shall be the repair or the replacement (at Company's option) of the item and any affected part of the goods. Company's obligation to repair or replace shall be in effect for a period of one (1) year from initial operation of the goods but not more than eighteen (18) months from Company's shipment of the goods, provided Buyer has sent written notice within that period of time to Company that the goods do not conform to the above warranty. Repaired and replacement parts shall be warranted for the remainder of the original period of notification set forth above, but in no event less than 12 months from repair or replacement. At its sole expense, Buyer shall remove and ship to Company any such nonconforming goods and shall reinstall the repaired or replaced goods or parts. Buyer shall grant Company access to the goods at all reasonable times in order for Company to determine any nonconformity in the goods. Company shall have the right of disposal of items replaced by it. If Company is unable or unwilling to repair or replace, or if repair or replacement does not remedy the nonconformity, Company and Buyer shall negotiate an equitable adjustment in the order price, which may include a full refund of the order price for the nonconforming goods. (c) COMPANY HEREBY DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, EXCEPT THAT OF TITLE, SPECIFICALLY, IT DISCLAIMS THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, COURSE OF DEALING AND USAGE OF TRADE. (d) Buyer and successors of Buyer are limited to the remedies specified in this article and shall have no others for a nonconformity in the goods. Buyer agrees that these remedies provide Buyer and its successors with a minimum adequate remedy and are their exclusive remedies, whether Buyer's or its successors' remedies are based on contract, warranty, tort (including negligence), strict liability, indemnity, or any other legal theory, and whether arising out of warranties, representations, instructions, installations, or non-conformities from any cause. Buyer shall assume all responsibility and expense for removal, installation and freight in connection with these remedies. (e) Company neither assumes, nor authorizes any person to assume for it, any other obligation in connection with the sale of its goods. This warranty shall not apply to any goods that: (1) have been repaired or altered outside of Company's factories or authorized service centers, in any manner; or (2) have been subjected to misuse, negligence or accidents; or (3) have been improperly stored or handled or used in a manner contrary to Company's instructions or recommendations; or (4) have design errors due to inaccurate or incomplete information supplied by Buyer or its agents.

LIMITATION OF LIABILITY

NEITHER COMPANY, NOR ITS SUPPLIERS SHALL BE LIABLE, WHETHER IN CONTRACT, WARRANTY, FAILURE OF A REMEDY TO ACHIEVE ITS INTENDED OR ESSENTIAL PURPOSES, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY, INDEMNITY OR ANY OTHER LEGAL THEORY, FOR LOSS OF USE, REVENUE OR PROFIT, OR FOR COSTS OF CAPITAL OR OF SUBSTITUTE USE OR PERFORMANCE, OR FOR INDIRECT, SPECIAL, LIQUIDATED, INCIDENTAL OR CONSEQUENTIAL DAMAGES, OR FOR ANY OTHER LOSS OR COST OF A SIMILAR TYPE, OR FOR CLAIMS BY BUYER FOR DAMAGES OF BUYER'S CUSTOMERS. COMPANY'S MAXIMUM LIABILITY UNDER THIS CONTRACT SHALL BE THE CONTRACT PRICE. BUYER AND COMPANY AGREE THAT THE EXCLUSIONS AND LIMITATIONS SET FORTH IN THIS ARTICLE ARE SEPARATE AND INDEPENDENT FROM ANY REMEDIES WHICH BUYER MAY HAVE HEREUNDER AND SHALL BE GIVEN FULL FORCE AND EFFECT WHETHER OR NOT ANY OR ALL SUCH REMEDIES SHALL BE DEEMED TO HAVE FAILED OF THEIR ESSENTIAL PURPOSE.

GENERAL

(a) Company will comply with all laws applicable to Company during manufacture and sale of the goods. Purchaser will comply with all laws applicable to Purchaser during operation or use of the goods. (b) The laws of the State of New York shall govern the validity, interpretation and enforcement of any order of which these provisions are a part, without giving effect to any rules governing the conflict of laws. The application of the United Nations Convention on Contracts for the International Sale of Goods shall be excluded. (c) Assignment may be made only with written consent of both parties; provided, however, Company may assign to its affiliate without Buyer's consent. (d) Buyer shall be liable to Company for any attorney's fees and costs incurred by Company in enforcing any of its rights hereunder. The document and any other documents specifically referred to as being a part hereof, constitute the entire contract on the subject matter, and it shall not be modified except in writing signed by both parties. Unless otherwise specified, any reference to Buyer's order is for identification only.

ACCEPTANCE

The determination of compliance with performance guarantees will be based on results of factory tests under controlled conditions with calibrated instruments and tested per standards of the Hydraulic Institute, ISO standards, API standards, or other nationally recognized accreditation standards.

STATUTE OF LIMITATIONS

To the extent permitted by applicable law, any lawsuit for breach of contract, including breach of warranty, arising out of the transactions covered by this order, must be commenced not later than twelve (12) months from the date of action accrued.

SHIPMENT

The term "shipment" means delivery to the initial carrier in accordance with the delivery terms of this order. Company may make partial shipments. Company shall select method of transportation and route, unless terms are f.o.b. point of shipment and Buyer specifies the method and route and is to pay the freight costs in addition to the price. When terms are f.o.b. destination or freight allowed to destination, "destination" means common carrier delivery point -within the continental United States, excluding Alaska- nearest the destination. For movement outside the United States, company shall arrange for inland carriage to port of exit and shall cooperate with Buyer's agents in making necessary arrangements for overseas carriage and preparing necessary documents.

SPECIAL SHIPPING DEVICES

On shipments to a destination in the continental United States or Canada, Company has the right to add to the invoice, as a separate item, the value of any special shipping device (barrel, reel, tarpaulin, cradle, crib and the like) used to contain or protect the goods invoiced, while in transit. Full credit will be given on the return to Company of the device in a reusable condition, f.o.b. destination, freight prepaid.

DELAYS

If Company suffers delay in performance due to any cause beyond its control, including but not limited to act of God, war, act or failure to act of government, act or omission of Buyer, fire, flood, strike or labor troubles, sabotage, or delay in obtaining from others suitable services, materials, components, equipment or transportation, the time of performance shall be extended a period of time equal to the period of the delay and its consequences. Company will give Buyer notice in writing within a reasonable time after Company becomes aware of any such delay.

NONCANCELLATION

Buyer may not cancel or terminate for convenience, or direct suspension of manufacture, except with Company's written consent upon terms agreed to by Company.

STORAGE

Any item of the goods on which manufacture or shipment is delayed by causes within Buyer's control, or by causes which affect Buyer's ability to receive the goods, may be placed in storage by Company for Buyer's account and risk and Buyer shall pay all charges for storage and shipping and incidental expenses.

TITLE AND INSURANCE

Title to the goods and risk of loss or damage shall pass to Buyer at the f.o.b. point, except that a security interest in the goods and proceeds and any replacement shall remain in Company, regardless of mode of attachment to realty or other property, until the full price has been paid in cash. Buyer agrees to do all acts necessary to perfect and maintain said security interest, and to protect Company's interest by adequately insuring the goods against loss or damage from any external cause with Company named as insured or co-insured.

INSPECTIONS / EXPEDITING

The Company restricts access to its facilities and requires seventy two (72) hours notice prior to each visit. Company requires that its agents or employees accompany inspectors/expeditors on their visit(s).

TERMS OF PAYMENT

Unless otherwise stated, all payments shall be by Letter of Credit or Net Thirty (30) Days and in United States dollars, and a pro rata payment shall become due as each shipment is made. If shipment is delayed by Buyer, date of readiness for shipment shall be deemed to be date of shipment for payment purposes. If at any time in Company's judgment Buyer may be or may become unable or unwilling to meet the terms specified, Company may require satisfactory assurances or full or partial payment as a condition to commencing or continuing manufacture or making shipment; and may, if shipment has been made, recover the goods from the carrier, pending receipt of such assurances.

GOODS RETURN

Goods can be returned for credit only after receiving Company's written authorization and shipping instructions. Consignor's name and address must be plainly written on the shipping tag. Special goods fabricated to order are not returnable under any conditions.

PATENTS

Company shall pay costs and damages finally awarded in any suit against Buyer or its vendees to the extent based upon a finding that the design or construction of the goods as furnished, infringes a United States patent (except infringement occurring as a result of incorporating a design or modification at Buyer's request), provided that Buyer promptly notifies Company of any charge of infringement, and Company is given the right at its expense to settle such charge and to defend or control the defense of any suit based upon such charge. Company shall have no obligation hereunder with respect to claims, suits or proceedings, resulting from or related to, in whole or in part, (a) the use of software or software documentation, (b) compliance with Buyer's specifications, (c) the combination with, or modification of, the goods after delivery by Company, or (d) the use of the goods, or any part thereof, in the practice of a process. THIS ARTICLE SETS FORTH COMPANY'S ENTIRE LIABILITY WITH RESPECT TO PATENTS.

BUYER DATA

Timely performance is contingent upon the Buyer supplying to the Company, when needed, all required technical information, including drawing approval, and all required commercial documentation.

NUCLEAR

Buyer represents and warrants that the goods covered by this order shall not be used in or in connection with a nuclear facility or application.

PRICES

The prices stated herein will remain firm for the period up to the stated date of shipment providing the shipment is not delayed by the Buyer. If shipment is delayed by the Buyer beyond the shipment date quoted herein, the prices will be based on the prices in effect at time of shipment, including storage and material handling costs. In no event shall the adjusted price be less than the original order price, including change orders. Prices are F.O.B. Shipping Point, unless otherwise specified. When price includes transportation and other charges pertaining to the shipment of goods, any increase in transportation rates and other charges will be for the account of the Buyer. There will be an extra charge for any test other than that which may be normally run by the Company, or for any test performed to suit the convenience of the Buyer. Any applicable duties or sales, use, excise, value added or similar taxes will be added to the price and invoiced separately.

CONTROLLING PROVISIONS

These terms and conditions shall control with respect to any purchase order or sale of the Company's goods. No waiver, alteration or modification of these terms and conditions whether on Buyer's purchase order or otherwise shall be valid unless the waiver, alteration or modification is specifically accepted in writing and signed by an authorized representative of the Company.

EXPORT

If this transaction involves EXPORT, the following additional terms and conditions shall apply:

- Compliance is required for ALL applicable US export laws, and the export laws of the country from where the goods are exported. Buyer acknowledges that it will comply with all applicable export or re-export restrictions and regulatory requirements that it will apply with all applicable Products from the Company. Buyer acknowledges that this may include US export or re-export restrictions and controls in addition to requirements enforced by other international export control regimes, as applicable. Buyer agrees to full disclosure of all parties to a proposed sales transaction, and to comply with all license terms and conditions, destination control statements, or other restrictions on the export or re-export of Products. Buyer agrees that it will not divert such products to any unauthorized party or destination, including embargoed or sanctioned territories or countries. Buyer will include all information pertaining to export classification (ECCN or equivalent), applicable license restrictions, and authorized destination of the Product in its export and shipping documentation.
- **PACKING**
When packing is available, equipment will be packed, boxed or crated in accordance with the Company's standard commercial practice, for underdeck export shipment, unless otherwise agreed.
- **LETTER OF CREDIT**
Unless otherwise specified in writing, payment shall be made by irrevocable letter of credit in form acceptable to Company, confirmed by a major USA bank, acceptable to the Company and providing for payment in full in United States dollars against presentation of United States inland shipping documents and invoices, such letter of credit to be established prior to Company's acceptance of the order. The letter of credit shall also provide that in the event Company is, for any reason beyond its control, prevented from making shipment from Company's factory or delivery at the port of embarkation, a certificate of manufacture of the whole or any part of the goods shall constitute delivery of such whole or any part of the goods and payment in full of any and all drafts drawn against the letter of credit for the goods so "delivered" shall be made upon presentation of such certificates of manufacture in lieu of United States inland shipping documents. In the event that Company is prevented by law, or otherwise, from making shipment from Company's factory or delivery at port of embarkation of the goods or any part thereof, on completion of manufacture, Company reserved the right to place the goods in storage for the Buyer's account and risk. Any charges incurred in this connection will be for the account of the Buyer at cost and will be payable upon demand. In regions where Letters of Credit are not available, surety bonds will be utilized in lieu of the bank guarantee.
- **COMPANY AS AGENT**
If Company makes or arranges for ocean shipment, Company shall act as agent for the Buyer and reserves the right to procure full insurance coverage, including war risk insurance, at the expense of the Buyer. All expenses incurred in this connection will be payable upon demand to the Company. If Company as agent applies for or secures manufacturing, financing, exporting or other licenses required by the United States Government, or any department thereof, Company shall make such applications or secure such licenses solely as agent for the Buyer, and assumes no responsibility therefore.