

Turbine Pumps Manual

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Turbine Pumps Manual

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NOTES:

Marketing Information

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Introduction

Much effort has been spent in designing this manual so that you would be able to access quickly the information you need to select the Layne/Verti-Line pump best suited to your specific requirements. To supplement this manual, Layne/Verti-Line factory application engineers and a worldwide sales engineering organization are available at all times to assist you in selecting new Layne/Verti-Line pumps. Assistance in securing parts or service for existing pumps may be obtained through your local Layne/Verti-Line distributor or directly through the factory Pump Service Group.

Layne/Verti-Line offers an extensive line of standard and custom-engineered centrifugal, turbine, axial-flow, ejector, and submersible pumps for water related service in irrigation, industrial, pollution control, fire protection, water supply and drainage applications.

More than a century's worth of engineering experience coupled with one of the industry's most advanced development and testing laboratories and largest production testing facilities, assure timely delivery of quality products.

1100 Vertical Turbine, Multi-Stage Pumps: Available for deep well, short set or pot pump applications. Options include open or enclosed line shaft, oil or water lubrication and surface or underground discharge heads. Typical applications are water supply, irrigation, dewatering, recirculation, booster and fire protection services. 4 to 36 inch discharge; capacities to 40,000 GPM; heads to 1,000 feet.

Important Safety Notice

These instructions apply to the pump only. They are intended to be general and not specific. If your operating conditions ever change, always refer to the factory for reapplication. Always refer to the manuals provided by manufacturers of the other equipment for their separate instructions.

The installation, use and operation of this type of equipment is affected by various federal, state and local laws and the regulations concerning OSHA. Compliance with such laws relating to the proper installation and safe operation of this type of equipment is the responsibility of the equipment owner and all necessary steps should be taken by the owner to assure compliance with such laws before operating the equipment.

Storage of Pumps

If the equipment is not to be immediately installed and operated, store it in a clean, dry, well-ventilated place, free from vibrations, moisture and rapid or wide variations in temperature. Flanges and all exposed machined surfaces must be coated with a lubricant suitable for preventing oxidation and periodically checked. Do not oil or grease rubber bearings. Consider a unit in storage when it has been delivered to the job site and is awaiting installation.

Terms & Conditions

1. **LEGAL EFFECT:** The following terms and conditions are a part of this Quotation, and will be a part of any order ("Order") resulting from this Quotation. Additional or different terms of Buyer's purchase order or other form of acceptance or any other form of Buyer are rejected in advance and shall not become a part of the Order. This Quotation is not an offer. All offers to purchase from Buyer or orders or contracts of sale resulting from this Quotation are subject to final acceptance in writing by an authorized representative at Seller's Kansas City plant.

Seller's rights and remedies under this Quotation and the Order are in addition to, not in substitution of, all other rights and remedies available to Seller under any applicable provision of law, regulation or court decision. Seller may suspend its performance of the Order if Buyer defaults in the performance of its duties under the Order or under any other agreement between the Buyer and Seller.

No employee, agent, dealer, or distributor of Seller has any authority to change or enlarge the terms of this Quotation or the Order. No change shall be valid unless it is in writing and signed by an authorized officer of Seller.

In the event that any provision of these terms and conditions is deemed to be invalid or unenforceable, the parties agree that such invalidity or unenforceability shall not invalidate or render unenforceable the remainder of these terms and conditions, and the remaining terms and conditions shall continue in full force and effect. The terms of any Order resulting from this Quotation shall be interpreted and enforced in accordance with the laws of Kansas.

2. **ASSIGNMENT:** Buyer may not assign or transfer any of its rights under this Quotation or the Order without Seller's written consent. However, Seller may freely assign or transfer its rights under this Quotation or the Order.

3. **CANCELLATION:** Buyer cannot cancel or alter the Order without the Seller's written consent. If Seller grants such consent, Buyer will reimburse Seller for all of Seller's losses and expenses caused by such cancellation or alteration, including without limitation all of Seller's additional costs caused by changes in design or specifications, or by product revisions, and all consequential damages incurred by Seller as a result of such cancellation or alteration. If Buyer cancels the Order, Buyer shall pay Seller (i) a minimum cancellation charge of 15 percent of the purchase price; and (ii) any damages and expenses described in this paragraph that exceed 15 percent of the purchase price.

4. **PRICES:**

A. At Seller's option, prices for items of equipment included in this Quotation, other than equipment covered by Paragraph 4.B, will be increased in accordance with Clause 1 below, unless the "price quotation" portion of this Quotation specifically refers to Clause 2.

Clause 1 – The price for each item of equipment will be escalated by the ratio of the published price for such item (after applicable discounts) in effect at the time of shipment, over the published price for such item (after applicable discounts) in effect at the date of this Quotation.

Clause 2 – The quoted price for each item of equipment will be subject to escalation in accordance with the price adjustment policy specified in Form KC586, which is hereby incorporated as part of this Quotation if this Clause is referred to in the "price quotation" portion of this Quotation.

B. Prices for items of equipment purchased by Seller from third parties which are not covered by Seller's published prices and which are separately identified in this Quotation (such as motors, engines, controls, etc.) will be increased by the ratio of Seller's purchase price at the time of shipment over Seller's purchase price at the time of this Quotation.

5. **TERMS OF PAYMENT:** Unless otherwise specified in this Quotation, the terms of payment shall be as follows:

a. On all Orders under \$100,000, net cash, thirty (30) days after shipment.,

b. On all Orders over \$100,000, as follows:

- 15% on submittal of drawings
- 25% on release to manufacture
- 50% at time of shipment
- 10% 30 days after shipment

These terms apply to partial and complete shipments. Buyer agrees to make full payment under these terms without setoff. If any proceeding is initiated by or against Buyer under any bankruptcy or insolvency law, or if, in Seller's judgment, Buyer's financial condition at the time the equipment is ready for shipment does not warrant the extension of credit to Buyer, Seller may require full payment, in cash, prior to making shipment. If Seller does not receive full cash payment within fifteen (15) days after it notifies Buyer that such payment is required and that is ready for shipment, Seller may cancel the Order as to any unshipped item. In that event, Buyer will pay Seller the cancellation charges, damages and expenses, as described in Paragraph 3.

Seller may assess interest on all amounts past due at the highest lawful rate, or an annual rate of eighteen percent (18%), whichever rate is lower. Buyer will pay all costs and expenses, including reasonable attorney's fees, incurred by Seller in collecting any amounts due, including interest.

The date for shipment or completion of manufacture of the equipment may be changed only with Seller's written consent. If shipment is delayed at Buyer's request, Buyer will make any payments due under the Order as if the equipment has been shipped on the date when it was ready for shipment. If completion of manufacture is delayed at Buyer's request, Seller may require payment according to percentage of completion. Buyer shall have the risk of loss with respect to equipment held for Buyer, and Seller may charge Buyer for storage.

6. **TAXES:** Prices do not include any present and future sales, use, occupation, license, excise, and other taxes or fees with respect to the manufacture, sale or delivery of the equipment. If Seller pays any such taxes, the amount of such payment will be added to the purchase price. Buyer will pay all such taxes and fees unless the amounts of such taxes and fees are included in the purchase price at the proper rate, or Buyer furnishes a proper exemption certificate.

7. **ACTS OF GOD:** Seller shall in no event be liable for delays in delivery of the equipment or other failures to perform caused by fires, acts of God, strikes, labor difficulties, acts of governmental or military authorities, delays in transportation or procuring materials, or causes of any kind beyond Seller's control.

8. **DELIVERY:** Except as otherwise specified in this Quotation, delivery will be F.O.B., Seller's point of shipment. Buyer will pay all transportation charges. Buyer will accept delivery within thirty (30) days after Seller notifies Buyer that the equipment is ready for shipment. If Buyer does not furnish exact shipping instructions, Seller will select, in its discretion, the means of shipment. Seller will not be liable for any loss resulting from such selection. The time of delivery is an estimate only, and Seller may change such time if it does not receive the information and approvals necessary to proceed with the manufacture of the equipment. Buyer agrees to inspect all deliveries immediately. Any claim for shortages must be made in writing within ten (10) days after Buyer receives a shipment, and if not made, shall be deemed waived. Any other claim by Buyer, other than claims under the warranty stated in Paragraph 13, shall be made within thirty (30) days after buyer receives shipment, and if not made shall be deemed waived. Seller is not responsible for loss or damage in transit after having received an "In Good Order" receipt from the carrier. Buyer will make all claims for loss or damage in transit against the carrier. Buyer is fully responsible for (including payment of the cost of) installation and start-up of all equipment sold under the Order.

9. **TITLE AND LIEN RIGHTS:** The equipment will remain personal property, regardless of how it is installed or affixed to any realty or structure. After delivery to Buyer, Seller will have all such rights, including security interests and liens, in the equipment as lawfully may be conferred upon Seller by contract under any applicable provision of law. Buyer agrees to cooperate fully with Seller in the filing of any financing statements or other documents

necessary to perfect such interests and liens. If Buyer defaults in its obligations under the Order before the price (including any notes given therefore) of the equipment has been fully paid in cash, Seller may take any and all actions permitted by law to protect its interests including, where permissible, repossession of such equipment.

10. **PATENT INFRINGEMENT:** Seller will defend Buyer and the user of the equipment against any claim that any equipment and parts of Seller's manufacture furnished under the Order infringe upon any published United States patent, and Seller will pay all damages and costs awarded by a court of competent jurisdiction with respect to such claim. The Buyer or user must promptly notify Seller of any such claim, and cooperate fully with Seller in the defense of such claim, or Seller will have no duty under this paragraph. Buyer will defend and indemnify Seller against patent infringement claims relating to equipment and parts that are not manufactured by Seller to the same extent as Seller agrees to defend and indemnify Buyer with respect to patent infringement claims relating to equipment and parts of Seller's manufacture.

11. **SALES FOR EXPORT:** In the case of sales for export, Buyer or Seller, whichever is the proper party under the applicable statute or regulation, will procure, and arrange for any necessary extensions of, all required export, import or other licenses or authorizations. If Buyer, as the proper party, fails to arrange for licenses or authorizations prior to or by the scheduled date of shipment, Seller may at its option treat any such failure as a cancellation of the Order and, upon notice from Seller, buyer will pay Seller the cancellation charges, damages and expenses, as described in Paragraph 3.

12. **INSURANCE:** Buyer shall bear all risk of and responsibility for damage or loss to the equipment after Seller delivers the equipment to the carrier at its point of shipment. Buyer agrees to provide and maintain adequate insurance for the equipment supplied under the Order to fully protect Seller's interest during the time between delivery and final payment. Loss or damage by fire or other causes during such period shall not relieve Buyer from its obligations under the Order.

13. **WARRANTY:** Seller warrants equipment (and its component parts) of its own manufacture against defects in materials and workmanship under normal use and service for one (1) year from the date of installation or start-up, or for eighteen (18) months after the date of shipment, whichever occurs first. Seller does not warrant accessories or components that are not manufactured by Seller however, to the extent possible, Seller agrees to assign to Buyer its rights under the original manufacturer's warranty, without recourse to Seller. Buyer must give Seller notice in writing of any alleged defect covered by this warranty (together with all identifying details, including the serial number, the type of equipment and the date of purchase) within thirty (30) days of the discovery of such defect during the warranty period. No claim made more than 30 days after the expiration of the warranty period shall be valid.

Guarantees of performance and warranties are based on the use of original equipment manufactured (OEM) replacement parts. Layne/Verti-Line assumes no responsibility or liability if alterations, non-authorized design modifications and/or non-OEM replacement parts are incorporated.

If requested by Seller, any equipment (or its component parts) must be promptly returned to Seller prior to any attempted repair, or sent to an authorized service station designated by Seller, and Buyer shall prepay all shipping expenses. Seller shall not be liable for any loss or damage to goods in transit, nor will any warranty claim be valid unless the returned goods are received intact and undamaged as a result of shipment. Repaired or replaced materials returned to customer will be shipped F.O.B., Seller's factory. Seller will not give Buyer credit for parts or equipment returned to Seller, and will not accept delivery of any such parts or equipment, unless Buyer has obtained Seller's approval in writing. The warranty extends to repaired or replaced parts of Seller's manufacture for ninety (90) days or for the remainder of the original warranty period applicable to the equipment or parts being repaired or replaced. This warranty applies to the repaired or replaced part and is not extended to the product or any other component of the product being repaired.

Repair parts of its own manufacture sold after the original warranty period are warranted for a period of one (1) year from shipment against defects in materials and workmanship under normal use and service. This warranty applies to the replacement part only and is not extended to the product or any other component of the product being repaired.

Seller may substitute new equipment or improve part(s) of any equipment judged defective without further liability. All repairs or services performed by Seller, which are not covered by this warranty, will be charged in accordance with Seller's standard prices then in effect.

THIS WARRANTY IS THE SOLE WARRANTY OF SELLER AND SELLER HEREBY EXPRESSLY DISCLAIMS AND BUYER WAIVES ALL OTHER WARRANTIES EXPRESSED, IMPLIED IN LAW OR IMPLIED IN FACT, INCLUDING ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Seller's sole obligation under this warranty shall be, at its option, to repair or replace any equipment (or its component parts) which has a defect covered by this warranty, or to refund the purchase price of such equipment or part. Under the terms of this warranty, Seller shall not be liable for (a) consequential, collateral, special or liquidated losses or damages; (b) equipment conditions caused by normal wear and tear, abnormal conditions of use, accident, neglect, or misuse of said equipment; (c) the expense of, and loss or damage caused by, repairs or alterations made by anyone other than the Seller; (d) damage caused by abrasive materials, chemicals, scale deposits, corrosion, lightning, improper voltage, mishandling, or other similar conditions; (e) any loss, damage, or expense relating to or resulting from installation, removal or reinstallation of equipment; (f) any labor costs or charges incurred in repairing or replacing defective equipment or parts, including the cost of reinstalling parts that are repaired or replaced by Seller; (g) any expense of shipment of equipment or repaired or replacement parts; or (h) any other loss, damage or expense of any nature.

This Section 13 shall not apply to any equipment which may be separately covered by one of the following warranties: KC685 5-Year Prorated Warranty, KC885 15-Month Prorated Warranty, KC985 9-Month Warranty. All other provisions of KC585 shall remain effective.

14. **CONDITION TO WARRANTY WORK:** If Buyer is in default (including, but not limited to, the failure of Buyer to maintain a current account with Seller) under the Order or any other agreement between Buyer and Seller, Buyer's rights under the warranty shall be suspended and the original warranty period will not be extended.

15. **PERFORMANCE:** Equipment performance is not warranted or guaranteed unless separately agreed to by Seller in accordance with its guarantee policy. Performance curves and other information submitted to Buyer are approximate and no warranty or guarantee shall be deemed to arise as a result of such submittal. All testing shall be done in accordance with Seller's standard policy.

16. **LIABILITY LIMITATIONS:** Under no circumstances shall the Seller have any liability under the Order or otherwise for liquidated damages or for collateral, consequential or special damages or for loss of profits, or for actual losses or for loss of production or progress of construction, regardless of the cause of such damages or losses. In any event, Seller's aggregate total liability under the Order or otherwise shall not exceed the contract price. Buyer agrees to indemnify and hold harmless Seller from all claims by third parties in excess of these limitations.

17. **COMPLIANCE WITH LAW:** Since the compliance with the various Federal, State and Local laws and regulations concerning occupational health and safety and pollution are affected by the use, installation and operation of the equipment and other matters over which Seller has no control, Seller assumes no responsibility for compliance with those laws and regulations, whether by way of indemnity, warranty or otherwise.