BID INVITATION FOR: HYDRAULICS & PNEUMATICS TECHNOLOGY TRAINING STATIONS

Unless specifically amended or deleted by the Community College System of New Hampshire, the following General Terms and Conditions apply to this Bid and any resulting Purchase Order or Contract.

GENERAL CONDITIONS AND INSTRUCTIONS: NATURE OF, AND ELIGIBILITY TO RESPOND. This bid invitation is submitted and constitutes a firm and binding offer. A bid may not be withdrawn unless permission is obtained from the Community College System of NH (CCSNH).

Bids may be issued only by the Community College System of NH and are not transferable.

SAMPLES AND DEMONSTRATIONS. When a sample is required, they must be submitted free of costs and will not be returned.

Items left for demonstration or evaluation purposes shall be delivered and installed free of charge and shall be removed at no cost to the CCSNH. Demonstration units shall not be offered to the CCSNH as new equipment.

Bids. Bids must be received at the Community College System of NH before the date and time specified for the opening. Bids must be submitted on this bid form or exact copies and must be typed or clearly printed in ink. Corrections must be initialed. Bids are to be made less Federal Excise Tax and no charge for handling unless required by law.

Bids will be made available to the public after the time of award. Bid results will be given by mail only if requested in writing and accompanied by a self-addressed, stamped business size envelope.

SPECIFICATIONS. Vendors must submit on items as specified. Proposed changes must be submitted in writing and received at the Community College System of NH at least five (5) working days prior to the bid opening. Vendors shall be notified in writing if any changes to the specifications are made.

AWARD. The award will be made to the responsible Vendor submitting a conforming RFB meeting specifications at the lowest cost unless other criteria are noted in the RFB. Unless otherwise noted, the award may be made by individual items.

If there is a discrepancy between the unit price and the extension, the unit price will prevail.

When identical low bids are received the award will be made in accordance with the Administrative Rules.

Discounts will not be considered in making award but may be offered on the Invoice for less Federal Excise Tax and no charge for handling unless required by law.

PATENT INFRINGEMENT. Any responding vendor who has reason to believe that any other responding vendor will violate a patent should such responding vendor be awarded the contract shall set forth in writing, prior to the date and time of opening, the grounds for his belief and a detailed description of the patent.

ASSIGNMENT PROVISION. The responding vendor hereby agrees to assign all causes of action that it may acquire under the antitrust laws of New Hampshire and the United States as the result of conspiracies, combinations, or contracts in restraint of trade which materially affect the price of goods or services obtained by the state under this contract if so requested by the State of New Hampshire.

FEDERAL FUNDS. The Community College System of NH shall assure the continuation or granting of federal funds or other assistance not otherwise provided for by law by following the Federal Procurement Standards.

CCSNH’S OPTIONS: The Community College System of NH reserves the right to reject or accept all or any part of any bid, to determine what constitutes a conforming bid, to award the bid solely as it deems to be in the best interest of the CCSNH, and to waive irregularities that it considers not material to the bid.

PUBLIC INFORMATION: The responding vendor hereby acknowledges that all information relating to this bid and any resulting order (Including but not limited to fees, contracts, agreements and prices) are subject to these laws of the State of New Hampshire regarding public information.

PERSONAL LIABILITY: The responding vendor agrees that in the preparation of this bid or the execution of any resulting contract or order, representatives of the Community College System of NH shall incur no liability of any kind.

PROOF OF COMPLIANCE. The responding vendor may be required to supply proof of compliance with proposal specifications. When requested, the responding vendor must immediately supply the Community College System of NH with certified test results or certificates of compliance. Where none are available, the CCSNH may require independent laboratory testing. All costs for such testing certified test results or certificate of compliance shall be the responsibility of the responding vendor.

FORM OF CONTRACT. The terms and conditions set forth in any additional Terms and Conditions by the Community College System of NH are part of the bid and will apply to any contract awarded the responding vendor unless specific exceptions are taken and accepted and will prevail over any contrary provisions in Terms and Conditions submitted by the responding vendor.

OFFER. The undersigned hereby offers to sell to the Community College System of NH the commodities or services indicated in the following page(s) of this Bid at the price(s) quoted in complete accordance with all conditions of this Bid.

Company Name: __________________________________________
Address: ________________________________________________
________________________________________________________
Tel#:_________________________________ (Toll free)_________
Fax#:____________________________________
Authorized Signature: _____________________________________
________________________________________________________

(TYPE OR PRINT NAME)

This document must be signed by a person who is authorized to legally obligate the responding vendor. A signature on this document indicates that all State of NH & Community College System of NH terms and conditions are accepted by the responding vendor and that any and all other terms and conditions submitted by the responding vendor are null and void, even if such terms and conditions have terminology to the contrary. The responding vendor shall also be subject to State of New Hampshire/CCSNH terms and conditions as stated on the reverse of the purchase order.
**CONTRACT TERMS AND CONDITIONS**

1. The Community College System of NH (CCSNH) engages the firm or individual ("the Vendor") to perform the services and/or sale of goods, described in the attached CCSNH documents, if any, and the Vendor’s bid or quotation, both of which are incorporated herein by reference.

2. **COMPLIANCE BY VENDOR WITH LAWS AND REGULATIONS.** In connection with the performance of this agreement, the Vendor shall comply with all statutes, laws, regulations, and orders of federal, state, county or municipal authorities which shall impose any obligation or duty upon the Vendor, including, but not limited to civil rights and equal opportunity laws.

3. **TERM.** The contract, and all obligations of the parties thereunder, shall become effective on a specified date and shall be completed in their entirety prior to a specified date. Any work undertaken by the Vendor prior to the effective date shall be at his sole risk and, in the event that the contract shall not become effective, the CCSNH shall be under no obligation to reimburse the Vendor for any such work.

4. **CONTRACT PRICE.** The contract price, a payment schedule and a maximum limitation of price shall be as specified by the bid invitation and the Vendor’s bid. All payments shall be conditioned upon receipt and approval by the CCSNH, of appropriate vouchers and upon satisfactory performance by the Vendor, as determined by the CCSNH. The payment by the CCSNH of the Contract Price shall constitute complete reimbursement to the Vendor for all expenses of any nature incurred by the Vendor in the performance by the Vendor and complete payment for the Services. The CCSNH shall have no other liability to the Vendor.

5. **DELIVERY.** If the vendor fails to furnish items and/or services in accordance with all requirements, including delivery, the CCSNH may re-purchase similar items from any other source without competitive bidding, and the original vendor may be liable to the CCSNH for any excess costs.

6. **INVOICING.** All invoices must show Order Number, Unit and Extension Prices and discounts allowed. A separate invoice shall be submitted for each order. Unless otherwise noted on the invoice to bid or purchase order, payment will not be due until thirty (30) days after all services have been completed, or all items have been delivered, inspected and accepted or the invoice has been received at the agency business office, whichever is later.

7. **PERSONNEL.**

   7.1. The Vendor will disclose in writing the names of all owners (5% or more), directors, officers, employees, agents or subcontractors who are also officials or employees of the State of New Hampshire/CCSNH. Any change in this information shall be reported in writing within fifteen (15) days of their occurrence.

   7.2. The person signing this agreement on behalf of the CCSNH, or his or her delegate ("Contracting Officer") shall be the CCSNH’s representative for purposes of this agreement. In the event of any dispute concerning the interpretation of this agreement, the Contracting Officer’s decision shall be final.

8. **EVENT OF DEFAULT; REMEDIES.**

   8.1. Any one or more of the following acts or omissions of the Vendor shall constitute an event of default hereunder ("Events of Default"):  
   8.1.1. failure to deliver the goods or services satisfactorily or on schedule; or  
   8.1.2. failure to submit any report required hereunder; or  
   8.1.3. failure to perform any of the other covenants and conditions of this agreement.

   8.2. Upon the occurrence of any Event of Default, the CCSNH may take any one, or more, or all, of the following actions:  
   8.2.1. give the Vendor a written notice specifying the Event of Default and requiring it to be remedied within, in the absence of a greater or lesser specification of time, thirty (30) days from the date of the notice; and if the Event of Default is not timely remedied, terminate this agreement, effective two (2) days after giving the Vendor notice of termination; and  
   8.2.2. give the Vendor a written notice specifying the Event of Default and suspending all payments to be made under this agreement and ordering that the portion of the Contract Price, which would otherwise accrue to the Vendor during the period from the date of such notice until such time as the CCSNH determines that the Vendor has cured the Event of Default, shall never be paid to the Vendor; and  
   8.2.3. set off against any other obligation the CCSNH may owe to the Vendor any damages the CCSNH suffers by reason of any Event of Default; and  
   8.2.4. treat the agreement as breached and pursue any of its remedies at law or in equity, or both.

9. **WAIVER OF BREACH.** No failure by the CCSNH to enforce any provisions hereof after any Event of Default shall be deemed a waiver of its rights with regard to that Event, or any subsequent Event. No express failure of any Event of Default shall be deemed a waiver of any provision hereof. No such failure or waiver shall be deemed a waiver of the right of the State to enforce each and all of the provisions hereof upon any further or other default on the part of the Vendor.

10. **VENDOR’S RELATION TO THE CCSNH.** In the performance of this agreement the Vendor is in all respects an independent contractor, and is neither an agent nor an employee of the CCSNH. Neither the Vendor nor any of its officers, employees, agents or members shall have authority to bind the CCSNH nor are they entitled to any of the benefits, workmen’s compensation or emoluments provided by the CCSNH to its employees.

11. **ASSIGNMENT AND SUBCONTRACTS.** The Vendor shall not assign, or otherwise transfer any interest in this agreement without the prior written consent of the CCSNH. No work required by this contract shall be subcontracted without the prior written consent of the CCSNH.

12. **INDEMNIFICATION.** The contractor shall defend, indemnify and hold harmless the State, its officers and employees, from and against any and all losses suffered by the State, its officers and employees, and any and all claims, liabilities or penalties asserted against the State, its officers and employees, by or on behalf of any person, on account of, based on, resulting from, arising out of (or which may be claimed to arise out of) the acts or omissions of the Vendor. Notwithstanding the foregoing, nothing herein contained shall be deemed to constitute a waiver of the sovereign immunity of the State, which immunity is hereby reserved to the State. This covenant shall survive the termination of this agreement.

12.1 **PATENT PROTECTION.** The seller agrees to indemnify and defend the State of New Hampshire from all claims and losses resulting from alleged and actual patent infringements and further agrees to hold the CCSNH harmless from any liability arising under RSA 382-A:2-312(3). (Uniform Commercial Code).

13. **TOXIC SUBSTANCES.** In compliance with RSA 277A:2 known as the Workers Right to Know Act, the vendor shall provide Material Safety Data Sheets with the delivery of any and all products covered by said law.

14. **NOTICE.** Any notice by a party hereto to the other party shall be deemed to have been duly delivered or given at the time of mailing by certified mail, postage prepaid, in a United States Post Office addressed to the parties at the addresses given below.

15. **AMENDMENT.** This agreement may be amended, waived or discharged only by an instrument in writing signed by the parties hereto.

16. **CONSTRUCTION OF AGREEMENT AND TERMS.** This agreement shall be construed in accordance with the laws of the State of New Hampshire, and is binding upon and inures to the benefit of the parties and their respective successors and assigns.

17. **ADDITIONAL PROVISIONS.** The additional provisions (if any) have been set forth as Exhibit "A" hereto.

18. **ENTIRE AGREEMENT.** This agreement, which may be executed in a number of counterparts, each of which shall be deemed an original, constitutes the entire agreement and understanding between the parties, and supersedes all prior agreements and understandings relating hereto.
BID INVITATION FOR:
HYDRAULICS & PNEUMATICS TECHNOLOGY TRAINING STATIONS

INSTRUCTIONS TO BIDDER:
Read the entire bid invitation prior to filling it out. Complete the pricing information in the “Offer” section (the unit price is the price for the unit of purchase required by this bid invitation {i.e. each, case, box, etc.) and all other required information on your offer. The extension is the unit price multiplied by the quantity required by this bid invitation. Also complete the “Bidder Contact Information” section. Finally, complete the company information on the “General Conditions and Instructions” page of this bid invitation, then sign the bid in the space provided on that page.

BID SUBMITAL:
All bids must be submitted on this form or an exact copy, must be typed or clearly printed in ink and must be received on or before the date and time specified on page 1 of this bid. Interested parties may submit a bid to the Community College System of NH, 26 College Dr, Concord NH 03301 by email to purchasing@ccsnh.edu or if needed, may fax to (603)271-2725. All bids must be clearly marked with bid number, date due and purchasing agent’s name.

The Community College System of NH is not responsible for proposals not received due to equipment failure, mail delays, etc. If you want to ensure your proposal was received please verify by calling Kimberly Brent at (603)230-3540.

GOVERNING TERMS AND CONDITIONS:
A responding bid that has been completed and signed by your representative will constitute your company’s acceptance of all State of New Hampshire/CCSNH terms and conditions and will legally obligate your company to these terms and conditions.

A signed response further signifies that any terms and/or conditions that may be or have been submitted by the bidder are specifically null and void and are not a part of this bid invitation or any awarded purchase order, even if said terms and/or conditions contain language to the contrary.

PUBLIC DISCLOSURE:
Any information contained in the bid that a vendor considers confidential must be clearly designated. Marking of the entire bid or entire section of the bid (e.g. pricing) as confidential will neither be accepted nor honored. Notwithstanding any provision of this bid to the contrary, vendor pricing will be subject to public disclosure upon the effective date of all resulting contracts or purchase orders.

Generally, each bid shall become public information upon the effective date of all resulting contracts or purchase orders; however, to the extent consistent with applicable state and federal law and regulations, as determined by the State, including, but not limited to, RSA Chapter 91-A (Right to Know Law), the State/CCSNH shall endeavor to maintain the confidentiality of portions of the bid that is clearly and properly marked confidential. If a request is made to CCSNH to view portions of a bid that a vendor has properly and clearly marked as confidential, CCSNH will notify vendor of the request and of the date that CCSNH plans to release the records. By submitting a bid, vendors agree that unless the vendor obtains a court order, at its sole expense, enjoining the release of the requested information, CCSNH may release the requested information on the date specified in the CCSNH’s notice without liability to the vendors.

PURPOSE:
The purpose of this bid invitation is to establish contract in the form of a purchase order for supplying Community College System of NH with the item(s) indicated in the “Offer” section of this bid invitation, in accordance with the requirements of this bid invitation and any resulting order. This will be a one-time order with delivery required to the location indicated in the F.O.B. section of this bid invitation.

VENDOR CERTIFICATIONS:
All bidders must be duly registered as a vendor authorized to conduct business in the State of New Hampshire.

- The winning bidder must have a completed alternate W-9 on file with the Community College System of NH. If the winning bidder does not have a completed alternate W-9 on file, they will be required to completely fill the alternate W-9 and return to CCSNH before a purchase order will be issued.
bullet The vendor who is awarded the contract must comply with the terms of the purchase order and of the TAACCCT grant. Prospective bidders are encouraged to ensure they are able to comply with all applicable regulations. Compliance regulations are indicated further down in the document under the header COMPLIANCE BY BIDDER WITH LAWS AND REGULATIONS.

BID INQUIRIES:
Any questions must be submitted by an individual authorized to commit their organization to the Terms and Conditions of this bid. Submissions must clearly identify the Bid Number, the Vendor’s name and address and the name of the person submitting the question.

SPECIFICATION COMPLIANCE:
The manufacturers and models indicated are representative of the type and quality required. You may bid different makes and models, however, your offer must be materially similar to the ones indicated. The Community College System of NH shall be the sole determining factor of what is materially similar to the required items.

If there are any specifications indicated in this bid invitation, they will be considered the minimum requirements. Bidder's offer must meet or exceed these minimum requirements. The State of New Hampshire shall be the sole determining factor of what meets or exceeds any specification.

Unless otherwise specified by the Community College System of NH in this bid invitation document, all equipment offered by the bidder must be new; shall not be used, rebuilt, refurbished; shall not have been used as demonstration equipment, and shall not have been placed anywhere for evaluation purposes.

CHANGES:
Any requested changes to this bid invitation by the bidder must be received in writing at the Community College System of NH no later than 4:30 PM on the fifth Community College System of NH business day prior to the date of the bid opening.

ADDENDUM:
In the event it becomes necessary to add or revise any part of this bid prior to the schedules submittal date, CCSNH will post on our website any addenda. Before your submission, always check the site for any addenda or other materials that may have been issued affecting the bid. The website address is www.ccsnh.edu/open-bids

BID PRICES:
Bid prices must be in US dollars and must include delivery and all other costs required by this bid invitation. Bid prices should result in prices that are no higher than those charged to the bidder’s best/preferred customer. Special charges, surcharges, or fuel charges of any kind (by whatever name) may not be added on at any time. Any and all charges must be built into your bid price at the time of the bid.

WARRANTY REQUIREMENTS:
Successful bidder shall be required to warranty all of the equipment awarded to him for a period of not less than the manufacturer’s standard period of time, from the date the items are received, inspected and accepted by the Community College System of New Hampshire. The warranty shall cover 100% of all parts, shipping, labor, travel, lodging and expenses.

COMPLIANCE BY BIDDER WITH LAWS AND REGULATIONS:
In connection with the performance of the purchase order, the winning bidder shall comply with all statutes, laws, regulations, and orders of federal, state, county or municipal authorities which impose any obligation or duty upon the Contractor, including, but not limited to, civil rights and equal opportunity laws.

In addition, the winning bidder shall comply with all applicable copyright laws.

During the term of any purchase order, the winning bidder shall not discriminate against employees or applicants for employment because of race, color, religion, creed, age, sex, handicap, sexual orientation, or national origin and will take affirmative action to prevent such discrimination.
If the purchase is funded in any part by monies of the United States, the Contractor shall comply with all the provisions of Executive Order No. 11246 of September 24, 1965 entitled “Equal Employment Opportunity”, as amended by Executive Order 11375 of October 13, 1967 and as supplemented in Department of Labor regulations (41C.F.R. Part 60) and with any rules, regulations and guidelines as the State of New Hampshire or the United States shall issue to implement these regulations.

The winning bidder shall allow access by the grantee, the sub-grantee, the Federal agency, the Comptroller General of the United States, or any of the their duly authorized representatives to any books, documents, papers, and records of the bidder which are directly pertinent to that specific contract for the purpose of making audits, examinations, excerpts, and transcripts.

The winning bidder agrees to retain all pertinent records for three years after CCSNH makes final payment and all other pending matters are closed.

**BID AWARD:**
The award of the bid will be based upon the total net low bid from the listing of the items indicated in the “Offer” section of this bid invitation. If an award is made it will be in total, in the form of a Community College System of NH Purchase Order.

If upon the award of any bid of multiple items (awarded by line item) it is determined that an order for any particular item would be $500.00 or less, and said item would be the only item on a purchase order, the state reserves the right to award that item to a bidder already receiving an award for multiple items.

**BID RESULTS:**
Bid results may be viewed when available, once the award has been made, on our web site only at: www.ccsnh.edu/closed-bids

For Vendors wishing to attend the bid opening: **Only the names of the Vendors submitting responses will be made public.**

**TERMINATION:**
The Community College System of NH shall have the right to terminate the purchase contract at any time by giving the successful bidder a thirty (30) day written notice.

**F.O.B.:**
The F.O.B. shall be destination to the following delivery point:

Manchester Community College  
1066 Front St  
Manchester NH 03102

**REQUISITION NO.:** R0074912

**RETURNED GOODS:**
The successful bidder must resolve all order and invoice discrepancies within five business days from notification. Products returned due to quality issues, duplicate shipments, over-shipments, etc. must be picked up by the successful bidder within five business days of notification with no restocking or freight charges, and must be replaced with specified products or the agency will be refunded/credited for the full purchase price. Unauthorized substitutions for any products are not allowed.

Standard stock products ordered in error by the Community College System of NH must be returned for full credit within fifteen days of receipt. Products must be in re-salable condition (original container, unused) and there will be no restocking fee charged for these products. The using campus will be responsible for any freight charges to return these items to the successful bidder.
OFFER:
Successful bidder hereby offers to sell the required items to the Community College System of NH at the following price(s):

DELIVERED PRICES

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<td>EA</td>
<td>HYDRAULICS TECHNOLOGY WORKSTATION AND MECHATRONICS LAB ADDITIONS:</td>
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Manufacturer: Intelitek or equivalent
Model: HydraFlex training panel and Content or equivalent

Hydraulics Technology Workstation:
- HydraMotion enables the study of hydraulics principles and technology in a virtual format. The software is a computer-aided design tool that teaches students how to design and operate hydraulic and electro-hydraulic circuits. The software’s HMI animation must provide an accurate working simulation of hydraulic devices and circuits.
- Users must be able to change the default parameters of the hydraulic components, such as cylinder diameter and pump flow. Software algorithms adjust the system’s response to present a realistic hydraulic system response. The system’s hoses are considered ideal and there is no pressure drop on lines drawn by the user. All units are metric.
- In addition to simulation of virtual circuits, HydraMotion can control actual electro-hydraulic circuits. When connected to the HydraFlex training panel, the software provides on-line graphic tracking of circuits in operation. (Requires computer interface control unit.)

Hydraulic Component Library to Consist of:
- A wide selection of components for creating hydraulic and electro-hydraulic systems.
- Power pack
- Pumps: gear pump; piston pump; tank.
- Valves: pressure reducing valve; pressure relief valve; sequence valve; pressure compensated flow control valve; non-compensated flow control valve; non-return check valve; shuttle valve (implements the logic function OR); remote operated check valve; 3/2 manually controlled valve; 4/3 manually controlled closed center valve; 4/3 manually controlled tandem center valve; 4/2 manually operated spring returned valve; 2/2 manually operated spring returned valve; 5/3 valve (demonstrates valve action).
- Cylinders: double acting cylinder, cylinder with roller valve, single acting cylinder, double end rod cylinder, telescopic cylinder. User can adjust: cylinder/piston diameter; piston rod diameter; force acting on the piston.
- Hoses and connectors: T-connector, manifold, bent and curved hoses (to examine the effect of deformations on pressure and flow)
- Gauges: Pressure gauge; flow meter. Pressure (bars) is displayed on screen: graphic scale; digital reading; graph drawn on parameter diagram.
- Accumulators: Weight loaded accumulator; spring loaded accumulator; bladder accumulator; piston loaded accumulator.
OFFER CONTINUED:
Successful bidder hereby offers to sell the required items to the Community College System of NH at the following price(s):

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HYDRAULICS TECHNOLOGY WORKSTATION AND MECHATRONICS LAB ADDITIONS CONTINUED:

Hydraulic Component Library to Consist of Continued:
- Filter
- Electrical components: 2/2 solenoid operated spring returned valve; 3/2 solenoid operated solenoid returned valve; 4/3 solenoid operated (both sides) spring centered closed center valve; 4/3 solenoid operated (both sides) spring centered tandem center valve; 5/3 solenoid operated (both sides) spring centered valve; double acting cylinder with magnetic switches; relay four change over contacts (used to latch hydraulic valve solenoids); V+ power supply; pushbutton; lamp (serves as indicator); electronic delay unit.
- Text component: symbolic and user defined text captions can be added to diagrams.

Functions and Tools Must Include:
- Component selection: components required for a circuit are loaded from a complete component library, text list or graphic library; components are placed on screen, resized and repositioned through point and click mouse operation.
- Component connections: hydraulic and electrical connections are drawn and removed by point and click mouse operation; user can link two or more pushbutton switches to simulate the system response when the two valves are activated simultaneously.
- Cross-section (symbolic) display of components and circuits: enables examination of component’s design and structure, ports and significant internal elements (e.g., spool, spring, etc.)
- Schematic display of components and circuits, as they would appear in standard schematic drawings.
- Ladder diagrams: software can generates electrical connections in circuit drawing from ladder diagram; software automatically generates ladder diagram from circuit drawing; drawing and editing of ladder diagrams using standard symbols; ladder diagram can be tested in simulation.
- Dynamic simulation of single component operation; four methods of simulation, allow user to observe how a component functions and how fluid flows through a component as a function of its internal elements.
- Simulated execution of user-designed hydraulic and electro-hydraulic circuits. User can “’pressurize’” the virtual system, “’run’” it and observe the following: responses of “’visible’” components, such as piston rod movements; responses of “’non-visible’” components such as a valve’s spool movements; oil flow through the components and changes in oil pressure in the hydraulic hoses; errors indicating logic problems in the circuit.
- Timing diagram: drawn on screen as the components change their state; serves to identify overlapping signals in the control system.
OFFER CONTINUED:
Successful bidder hereby offers to sell the required items to the Community College System of NH at the following price(s):

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<td>HYDRAULICS TECHNOLOGY WORKSTATION AND MECHATRONICS LAB ADDITIONS CONTINUED:</td>
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Functions and Tools Must Include, Continued:
- Software can control actual electro-hydraulic circuits:
  - Software can perform on-line graphic tracking of hydraulic circuits in operation.
  - Parameter setting options for piston diameter, pump flow, valve setting, etc.
- Software monitors pressure and flow during circuit operation; diagram graphically presents flow and pressure in the hydraulic circuit.
- File options: standard Windows management tools, including: New, Open, Save, Save As, Sort, Search, Print and Delete.
- Editing options: standard Windows graphic tools, including: copy, paste and cut, resize, rotate and mirror.
- Zoom display options
- User can simultaneously create, run and compare two different circuits.

Make: __________________________
Model: __________________________
Item #: __________________________

Please enclose product literature and specifications of your substitution

$ __________

1 EA HYDRAULICS TECHNOLOGY 1: Fundamentals of Hydraulics - Lab - LMS Format
- In the Hydraulics 1 course, students create, modify and operate hydraulic and electro-hydraulic circuits. Using industrial components, students conduct applied science experiments to demonstrate the physical principles of fluid power.
- Students first test and troubleshoot simulated circuits then use the integrated hardware components to design solutions for industrial hydraulic applications with emphasis on relevant industrial challenges, such as power losses across components, system overheating and optimizing hydraulic power

Equipment to Include:
- HydraFlex slotted aluminum panel:
  - Dimensions: 800mmW x 510mmD x 750mmH (31.5” x 20” x 29.5”)
  - Hydraulic power pack
  - Oil collection tray
  - Double-acting Cylinder 1-1/8"
  - 4/3 selector valve, closed center
  - Two-way flow control valve
  - One-way flow control valve (x2)
  - Pressure relief valve
OFFER CONTINUED:
Successful bidder hereby offers to sell the required items to the Community College System of NH at the following price(s):

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Equipment to Include, Continued:
- Flow meter
- Pressure relief valve
- Pressure gauge (x2)
- T-connector (x2)
- Assortment of hoses
- Science experiment – Hydraulic pressure
- Science experiment – Visualizing pressure
- LearnMate Curriculum to include the following:
  - Activity 1: Getting Started
  - Activity 2: Pressure and Force
  - Activity 3: Pressure Gauges
  - Activity 4: Hydraulic Power Transmission – Part 1
  - Activity 5: Hydraulic Power Transmission – Part 2
  - Activity 6: Hydraulic Power Source
  - Activity 7: Determining Component Characteristics
  - Activity 8: Controlling the Flow Rate
  - Activity 9: Flow Control Valves
  - Activity 10: 4/3 Closed-Center Valve – Construction and Function
  - Activity 11: 4/3 Closed Center Valve-Characteristics
  - Activity 12: Power Transformation Using a Double-Acting Cylinder
  - Activity 13: Loading a Piston
  - Activity 14: Controlling the Piston Location
  - Activity 15: Conclusion

The E-Learning Content must be compatible with the LearnMate Learning Management System (LMS) and will include an unlimited laboratory license allowing any registered student access via the internet from both within and outside the classroom. This requires installation on and student accessibility from a local server installed by the school. Perpetual license with no recurring annual fees.

MAKE: ______________________  MODEL: ______________________  ITEM #: ______________________

Please enclose product literature and specifications of your substitution

$ ___________
OFFER CONTINUED:
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<tr>
<td>1</td>
<td>EA</td>
<td>HYDRAULICS TECHNOLOGY 1: Fundamentals of Hydraulics, Virtual - LMS Format –</td>
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</table>

Students create, modify and operate simulated hydraulic and electro-hydraulic circuits.

Students to test and troubleshoot simulated circuits and design solutions for industrial hydraulic applications with emphasis on relevant industrial challenges, such as power losses across components, system overheating and optimizing hydraulic power.

LearnMate Curriculum to include the following:
- Activity 1: Getting Started
- Activity 2: Pressure and Force
- Activity 3: Pressure Gauges
- Activity 4: Hydraulic Power Transmission – Part 1
- Activity 5: Hydraulic Power Transmission – Part 2
- Activity 6: Hydraulic Power Source
- Activity 7: Determining Component Characteristics
- Activity 8: Controlling the Flow Rate
- Activity 9: Flow Control Valves
- Activity 10: 4/3 Closed-Center Valve – Construction and Function
- Activity 11: 4/3 Closed-Center Valve – Characteristics
- Activity 12: Power Transformation Using a Double-Acting Cylinder
- Activity 13: Loading a Piston
- Activity 14: Controlling the Piston Location
- Activity 15: Conclusion

The E-Learning Content must be compatible with the LearnMate Learning Management System (LMS) and will include an unlimited laboratory license allowing any registered student access via the internet from both within and outside the classroom. This requires installation on and student accessibility from a local server installed by the school. Perpetual license with no recurring annual fees.

MAKE: __________________________  MODEL: __________________________  ITEM #: __________________________

Please enclose product literature and specifications of your substitution

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<td>1</td>
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<td>HYDRAULICS TECHNOLOGY 2: Electro-Hydraulics, Virtual, LMS Format Requires Hydraulics 1</td>
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Students create, modify, operate and observe simulated hydraulic and electro-hydraulic devices and circuits. In the lab module, students use the HydraFlex training panel with a wide assortment of industrial grade hydraulic components.

Students mount and configure components on the panel in order to create a variety of applications. Students connect different components, change physical parameters and observe system responses. The combination of software and industrial equipment allows students to test and troubleshoot simulated circuits before hardware connections are made.

Students design solutions for industrial hydraulic applications with emphasis on real industrial concerns, such as power losses across components, system overheating and optimized hydraulic power.

Hydraulics 1 enables students to design of basic hydraulic circuits. Applied science experiments are used to demonstrate the physical principles of fluid power.

Hydraulics 2 focuses on electro-hydraulics.

Curriculum to include the following:

- Activity 1: Getting Started
- Activity 2: Mechatronics and Hydraulic Systems
- Activity 3: Building a Dowel Insertion System
- Activity 4: Controlling a Hydraulic Press
- Activity 5: Controlling a Barricade
- Activity 6: Sequential Operation
- Activity 7: Grain Gate Valves
- Activity 8: Controlling a Cargo Airplane Door
- Activity 9: Increasing System Efficiency
- Activity 10: The Relay
- Activity 11: Latching a Relay
- Activity 12: Semi-Automatic Press System
- Activity 13: The Timer
- Activity 14: Irrigation System
- Activity 15: Improving Control in a Circuit with Sequential Operation

The E-Learning Content must be compatible with the LearnMate Learning Management System (LMS) and will include an unlimited laboratory license allowing any registered student access via the internet from both within and outside the classroom. This requires installation on and student accessibility from a local server installed by the school. Perpetual license with no recurring annual fees.

MAKE: ________________________ MODEL: ________________________ ITEM #: ________________________
Please enclose product literature and specifications of your substitution

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<td>SAFETY LOCK OUT TAG OUT LOCTAG99: Virtual, LMS Format</td>
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Each Skill will include a "skill overview" (theory) on the skill covered, skill drill (practice of that skill), and concept review. Each topical area will include a comprehensive post-test.

The E-Learning Content must be compatible with the LearnMate Learning Management System (LMS) and will include an unlimited laboratory license allowing any registered student access via the internet from both within and outside the classroom. This requires installation on and student accessibility from a local server installed by the school. Perpetual license with no recurring annual fees.

Skills learned with the course include the following:
- Skill 1: Identifying Lines and their Functions
- Skill 2: Single, Multiple and Auxiliary View
- Skill 3: Reading and Locating Blueprint Dimensions
- Skill 4: Determining Tolerances
- Skill 5: Identifying Thread Dimensions
- Skill 6: Identifying Tapers and Machine Surfaces
- Skill 7: Cutting Plane and Sections
- Skill 8: Geometric Dimensioning, Wear Limits and Assembly Drawings
- Skill 9: Identifying Welding Symbols
- Skill 10: Reading Plot Plans

MAKE:________________________  MODEL:________________________  ITEM #:_______________________

Please enclose product literature and specifications of your substitution

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1   EA   BLUE PRINT READING: BA02, Virtual, LMS Format:

Each Skill will include a "skill overview" (theory) on the skill covered, skill drill (practice of that skill), and concept review. Each topical area will include a comprehensive post-test.

The E-Learning Content must be compatible with the LearnMate Learning Management System (LMS) and will include an unlimited laboratory license allowing any registered student access via the internet from both within and outside the classroom. This requires installation on and student accessibility from a local server installed by the school. Perpetual license with no recurring annual fees.

Skills learned with the course include the following:
- Skill 1: Identifying Lines and their Functions
- Skill 2: Single, Multiple and Auxiliary View
- Skill 3: Reading and Locating Blueprint Dimensions
- Skill 4: Determining Tolerances
- Skill 5: Identifying Thread Dimensions
- Skill 6: Identifying Tapers and Machine Surfaces
- Skill 7: Cutting Plane and Sections
- Skill 8: Geometric Dimensioning, Wear Limits and Assembly Drawings
- Skill 9: Identifying Welding Symbols
- Skill 10: Reading Plot Plans
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<td>DROP FEED OILERS: BA04, Virtual, LMS Format,</td>
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Skills learned with the course include the following, continued:
- Skill 14: Drop Feed Oilers
- Skill 15: Electric Chain Oilers

Please enclose product literature and specifications of your substitution

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OFFER CONTINUED:
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Skills learned with the course include the following:
- Skill 1: Identifying Screws and Bolts
- Skill 2: Selecting Threaded Fasteners
- Skill 3: Applying Thread Standards
- Skill 4: Creating and Repairing Threads
- Skill 5: Identifying Nuts
- Skill 6: Installing Fasteners with a Torque Wrench
- Skill 7: Removing Fasteners with a Bolt Extractor
- Skill 8: Identifying Washers
- Skill 9: Installing Rivets
- Skill 10: Selecting Adhesives
- Skill 11: Attaching Hook and Loop Fasteners
- Skill 12: Connecting Cable Ties

MAKE:________________________ MODEL:________________________ ITEM #:________________________

Please enclose product literature and specifications of your substitution

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1   EA   HAND TOOLS: BA05, Content only, Virtual, LMS Format:

The E-Learning Content must be compatible with the LearnMate Learning Management System (LMS) and will include an unlimited laboratory license allowing any registered student access via the internet from both within and outside the classroom. This requires installation on and student accessibility from a local server installed by the school. Perpetual license with no recurring annual fees.

Skills learned with the course include the following:
- Skill 1: Shop Safety
- Skill 2: Rulers and Tape Measures
- Skill 3: Calipers and Feeler Gauges
- Skill 4: Squares and Levels
- Skill 5: Knives
- Skill 6: Scribes and Punches
- Skill 7: Work Holding Devices
- Skill 8: Hammers
- Skill 9: Chisels
- Skill 10: Saws
- Skill 11: Pliers
- Skill 12: Cutters
- Skill 13: Files and Deburring Tools
- Skill 14: Drivers
**OFFER CONTINUED:**
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**HAND TOOLS: BA05, Content only, Virtual, LMS Format, Continued:**

Skills learned with the course include the following, continued:

- Skill 15: Hex Keys
- Skill 16: Wrenches
- Skill 17: Socket and Torque Wrenches

Skills Acquired:

- Identify hand tools
- Hand tool safety
- List how hand tools may be misused or abused
- Select hand tools for specific tasks
- Inspect hand tools
- Repair or replace hand tools
- Demonstrate safe use of hand tools

MAKE: __________________________
MODEL: __________________________
ITEM #: __________________________

Please enclose product literature and specifications of your substitution

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**1 EA POWER TOOLS: BA06, Content only, Virtual, LMS Format:**

The E-Learning Content must be compatible with the LearnMate Learning Management System (LMS) and will include an unlimited laboratory license allowing any registered student access via the internet from both within and outside the classroom. This requires installation on and student accessibility from a local server installed by the school. Perpetual license with no recurring annual fees.

Skills learned with the course include the following:

- Skill 1: Practicing Shop Safety
- Skill 2: Operating a Power Drill
- Skill 3: Setting Up and Operating a Drill Press
- Skill 4: Operating a Rotary Tool
- Skill 5: Setting Up and Operating a Jigsaw
- Skill 6: Setting Up and Operating a Reciprocating Saw
- Skill 7: Setting Up and Operating a Circular Saw
- Skill 8: Adjusting and Operating a Table Saw
- Skill 9: Setting Up and Operating a Band saw
- Skill 10: Setting Up and Operating a Sander
- Skill 11: Adjusting and Operating a Bench Grinder
- Skill 12: Adjusting and Operating an Angle Grinder

MAKE: __________________________
MODEL: __________________________
ITEM #: __________________________

Please enclose product literature and specifications of your substitution

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<td>1</td>
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<td>Intelitek® REC Program includes: REC Content, easyC® v4 for Cortex, REC VEX Robotics Design System Kits, accessories, and REC Materials Kit for REC 1, for 20 Student, Lab, LMS Format:</td>
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The E-Learning Content must be compatible with the LearnMate Learning Management System (LMS) and will include an unlimited laboratory license allowing any registered student access via the internet from both within and outside the classroom. This requires installation on and student accessibility from a local server installed by the school. Perpetual license with no recurring annual fees.

LearnMate® REC 1 Program includes the following:

The following items (one of each) are supplied for two students and one instructor except as noted:

REC one bundle VEX Kit with Cortex controller includes:
- Robot, Metal, Gears, wheels, Cortex microcontroller and transmitter
- NiMH Battery, 7.2V Battery with smart chargers
- Robotic programming cable
- Ultrasonic Range Finder Kit
- Line Follower Kit
- Protractor
- Tether (4 pin phone handset cable)
- Stop Watch (tenths of second)
- 3 Ring Binder - 1” (one per student, one per instructor)
- Composition Book (one per student, one per instructor)
- Electrical Tape - 3/4” wide (black)
- Masking Tape - 1” wide
- Tape Measure
- Spring Scale - 4.5 lbs x 0.1lb
- 5lb Weights (quantity 3)

The following items (one of each) are supplied per REC program purchased:
- LearnMate® REC One Content - Lab License for 30 Computers
- Lab license of to easyC® v4 for Cortex, 30 seats
- String - (construction grading line)
- Dry Erase Marker - Black (1 dozen)
- Dry Erase Marker - Blue (1 dozen)
- Elastic Band - #16 (450/bag)
- Precision Scale - 10 lbs x 0.1oz
- 8-32 x 1” BHCS (Box of 100)

MAKE:________________________  MODEL:________________________  ITEM #:_______________________

Please enclose product literature and specifications of your substitution

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<tr>
<td>1</td>
<td>EA</td>
<td>REC 2 CORTEX CONTROLLER: Requires purchase of REC 1 Cortex with hardware</td>
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</table>

Intelitek® REC Program includes: REC Content, easyC® v4 for Cortex, REC VEX Robotics Design System accessories, and REC Materials Kit for REC 2, for 20 Students, Lab, LMS Format

The E-Learning Content must be compatible with the LearnMate Learning Management System (LMS) and will include an unlimited laboratory license allowing any registered student access via the internet from both within and outside the classroom. This requires installation on and student accessibility from a local server installed by the school. Perpetual license with no recurring annual fees.

LearnMate® REC 2 Cortex Program includes the following:
The following items (one of each) are supplied for two students and one instructor except as noted:

- Advanced Gear Kit
- High Strength Sprocket and Chain Kit
- Worm Gearbox Bracket
- Rack Gearbox Bracket
- Bevel Gearbox Bracket
- Potentiometer Kit (2)
- Linear Slide kit
- Continuous Rotation Motor
- VEX Y Cable
- VEX PWM Cables
- VEX Water Wheels
- Digital Multimeter
- Wire Cutter
- Pliers
- Storage Box
- Breadboard
- Resistors
- Springs
- Photo resistors
- Capacitors
- LM555 Timer
- LED’s
- Transistors
- Toggle Switches
- 9 volt battery

The following items (one of each) are supplied per REC program purchased:
- LearnMate® REC 2 Content - Lab License for 30 Computers
- REC 2 Project Kit

MAKE:________________________  MODEL:________________________  ITEM #:________________________
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<td>PNEUMATICS TECHNOLOGY WORKSTATION:</td>
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<td>Manufacturer: Intelitek or equivalent</td>
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<td>Model: Pneumatics Technology Trainer</td>
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Pneumatics Technology workstation to include:
- Tabletop panel for in class or in office training for experiments that will instruct students on the basic use and function of the design, programming and control of pneumatically operated systems.
- The E-Learning Content must be compatible with the LearnMate Learning Management System (LMS) and will include an unlimited laboratory license allowing any registered student access via the internet from both within and outside the classroom. This requires installation on and student accessibility from a local server installed by the school. Perpetual license with no recurring annual fees.
- The system must allow for interactive simulations, where students can create, modify, operate and observe pneumatic and electro-pneumatic devices and circuits. The system must also configure virtual components to create a variety of applications, changing physical parameter and observing system responses.
- The system must be designed for integration with PneuMotion, a simulation software package that enables the study of pneumatics principles and technology. The software is a computer-aided design tool that teaches students how to design and operate pneumatic and electro-pneumatic circuits. The software’s HMI animation provides an accurate working simulation of pneumatic devices and circuits.
- Must be able to change the default parameters of the pneumatic components, such as piston extension and retraction, speed and timer set point. Software algorithms adjust the system’s response to present a realistic pneumatic system response. All units are metric.
- In addition to simulation of virtual circuits, student must be able to control actual electro-pneumatic circuits through the software. When connected to the PneuFlex training panel, the software will provide on-line graphic tracking of circuits in operation. (Requires computer interface control unit.)
- The combination of software and hardware offers practical and cost-effective training in pneumatics technology.

MAKE: ___________________________  MODEL: ___________________________  ITEM #: ___________________________

Please enclose product literature and specifications of your substitution

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<td>PNEUMATICS TECHNOLOGY 1: Fundamentals of Pneumatics with PneuFlex, Virtual Lab, LMS Format</td>
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**LearnMate® Content: Pneumatics Technology 1: Fundamentals of Pneumatics (Virtual Format):**

Allows simulated ability to create, modify, operate and observe simulated pneumatic and electro-pneumatic devices and circuits.

Mount and configure virtual components in order to create a variety of applications. Students connect different components, change parameters and observe system responses.

Students design solutions for industrial pneumatic applications with emphasis on real industrial concerns, such as power losses across components, system overheating and optimized pneumatic power.

Enables students to design basic pneumatic circuits. Applied science experiments are used to demonstrate the physical principles of fluid power.

Curriculum to include the following:
- Activity 1: Introduction to Pneumatics
- Activity 2: Atmospheric Pressure and Vacuum
- Activity 3: Atmospheric Pressure, Vacuum and Mechanical Work
- Activity 4: The Double-Acting Cylinder
- Activity 5: 3/2 Valves
- Activity 6: Controlling a Piston with PBs
- Activity 7: 5/2 Air-Operated, Air-Returned Valve
- Activity 8: 5/2 Air-Air Valves
- Activity 9: Laws of Gases I
- Activity 10: Laws of Gases II
- Activity 11: 3/2 Air-Operated, Spring-Returned Valve
- Activity 12: Spot Welding System
- Activity 13: 3/2 Roller Valves
- Activity 14: The Punch – A Semi-Automatic System

MAKE: _______________________ MODEL: _____________________ ITEM #: ___________________

Please enclose product literature and specifications of your substitution

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Pneumatics Technology 1: Fundamentals of Pneumatics (Lab Format):

To include:
- PneuFlex Pneumatic Package with T-Slot Panel
- PneuFlex Slotted Aluminum Training Panel
- Conditioning Light
- 3/2 Mushroom Push Button Valve
- 3/2 Lever Valve (manual toggle)
- Manifold
- Double-acting cylinder
- 5/2 Double Air Pilot Valve
- 3/2 Double Roller Lever Valve
- 3/2 Pneumatic Valve
- T-connector (4 ea)
- Connectors (4 ea)
- Quick-coupler
- AND Gate, OR Gate, NOT gate valves

MAKE:________________________  MODEL:________________________  ITEM #:________________________

Please enclose product literature and specifications of your substitution

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1   EA   PNEUMATICS TECHNOLOGY 2: Advanced Pneumatics with PneuFlex, Virtual, LMS Format Requires Pneumatics 1 LearnMate® Content: Pneumatics Technology 2: Advanced Pneumatics with PneuFlex (Virtual Format):

Allows user to create, modify, operate and observe simulated pneumatic and electro-pneumatic devices and circuits.

Mount and configure virtual components in order to create a variety of applications. Students connect different components, change parameters and observe system responses. The combination of software and industrial equipment allows students to test and troubleshoot simulated circuits before hardware connections are made.

Students design solutions for industrial pneumatic applications with emphasis on real industrial concerns, such as power losses across components, system overheating and optimized pneumatic power.

Pneumatics 2 covers a range of advanced pneumatics topics, including timing diagrams and the logic functions AND OR.
OFFER CONTINUED:
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<td><strong>PNEUMATICS TECHNOLOGY 2: Advanced Pneumatics</strong></td>
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<td>with PneuFlex, Virtual, LMS Format Requires Pneumatics 1</td>
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<td><strong>LearnMate® Content: Pneumatics Technology 2: Advanced</strong></td>
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<td>Pneumatics with PneuFlex (Virtual Format), Continued:</td>
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Curriculum to include the following:

- Activity 1: Getting Started
- Activity 2: The Logic Function AND
- Activity 3: Implementing AND in a Pneumatic Circuit
- Activity 4: The Toggle Valve
- Activity 5: Using AND to Build a Fully Automatic System
- Activity 6: The Logic Function OR
- Activity 7: Implementing OR in a Pneumatic Circuit
- Activity 8: Circuit with Two Double-Acting Cylinders
- Activity 9: Sequential Cycle
- Activity 10: A Delay
- Activity 11: Sequential Control with a Timed Delay
- Activity 12: Opposing Control Signals
- Activity 13: Timing Diagrams
- Activity 14: Using a Single Pilot Valve to Prevent Opposing Control Signals
- Activity 15: Using A Single Pilot Valve in a Pneumatic Circuit

Please enclose product literature and specifications of your substitution

$__________

1 EA **Pneumatics Technology 2: Advanced Pneumatics with PneuFlex, Lab, LMS Format**

**LearnMate® Content: Pneumatics Technology 2: Advanced Pneumatics (Lab Format):**

PneuFlex Advanced Pneumatic Package:

- Double-acting Cylinder
- 5/2 Double Air Pilot Valve
- Single air Pilot Valve
- 3/2 Double Roller Lever Valve
- Pneumatics Time Delay Valve

Requires Pneumatics Technology 1: Fundamentals of Pneumatics

Please enclose product literature and specifications of your substitution

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Curriculum to include the following:
- Activity 1: Review of Pneumatics: Electric vs. Pneumatic Control
- Activity 2: Building a Basic Electrical Circuit
- Activity 3: The 5/2 Solenoid-Spring Valve
- Activity 4: The 5/2 Solenoid-Solenoid Valve
- Activity 5: Magnetic Switches
- Activity 6: Implementing the Logic Function AND
- Activity 7: Implementing the Logic
- Activity 8: Implementing the Logic Function AND
- Activity 9: Sequential Operation
- Activity 10: The Relay
- Activity 11: Unlatching a Relay
- Activity 12: Building a Fully Automatic Circuit
- Activity 13: Adding a Delay Using an Electric Timer
- Activity 14: Unlatching a fully Automatic Circuit
- Activity 15 Measuring Cylinder Speed

PneuMotion. A computer-aided design tool that teaches students how to design and operate pneumatic and electro-pneumatic circuits.

Pneumatic component library includes:
- A wide selection of components for creating pneumatic and electro-pneumatic systems.
- Conditioning unit: provides pressurized air to the system.
- Valves: 3/2 roller operated spring returned valve (used as pneumatic limit sensor and switch); 3/2 air operated air returned valve; 3/2 air operated spring returned valve; 3/2 manually operated spring returned valve (push button valve); 3/2 manually open
- Cylinders: Double acting cylinder. The cylinder’s extension and retraction times are adjustable; spring return cylinder (2 types); double acting cylinder with two roller valves; diaphragm operated cylinder.
- Miscellaneous: logic gate AND; logic gate OR; single pilot valve; pneumatic delay; pneumatic counter.
- Connectors: T-connector; manifold.
- Electrical components: 5/2 solenoid operated solenoid returned valve; 5/2 solenoid operated spring returned valve; cylinder with magnetic switches fitted as limit sensors; relay with four changeover contacts; V+ power supply; pushbutton; lamp; electronic
- Text component: symbolic and user defined Text captions can be added to diagrams.
OFFER CONTINUED:
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<td>Pneumatics Technology 3: Fundamentals of Electro-Pneumatics with PneuFlex, Virtual, LMS Format Requires Pneumatics 1 &amp; 2 LearnMate® Content: Pneumatics Technology 3: Fundamentals of Electro - Pneumatics with PneuFlex (Virtual Format), Continued:</td>
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</table>

**Functions and Tools:**

- Component selection: components required for a circuit are loaded from a complete component library, text list or graphic library; components are placed on screen, resized and repositioned through point and click mouse operation.
- Component connections: pneumatic and electrical connections are drawn and removed by point and click mouse operation; user can link two or more pushbutton switches to simulate the system response when the two valves are activated simultaneously.
- Cross-section (symbolic) display of components and circuits: enables examination of component’s design and structure, ports and significant internal elements (e.g., spool, spring, etc.)
- Schematic display of components and circuits, as they would appear in standard Schematic drawings.
- Ladder diagrams: software can generates electrical connections in circuit drawing from ladder diagram; software automatically generates ladder diagram from circuit drawing; drawing and editing of ladder diagrams using standard symbols; ladder diagram can
- Dynamic simulation of single component operation; four methods of simulation, allow user to observe how a component functions and how air flows through a component as a function of its internal elements.
- Simulated execution of user-designed pneumatic and electro-pneumatic circuits. User can “pressurize” the virtual system, “run” it and observe the following: responses of “visible” components, such as piston rod movements; responses of “non-visible”
- Timing diagram: drawn on screen as the components change their state; serves to identify overlapping signals in the control system.
- Software can control actual electro-pneumatic circuits.
- Software can perform on-line graphic tracking of pneumatic circuits in operation.
- Parameter setting options for piston extension and retraction, speed, timer set point, etc.
- Software monitors pressure and flow during circuit operation; diagram graphically presents flow and pressure in the pneumatic circuit.
- File options: standard Windows management tools, including: New, Open, Save, Save as, Sort, Search, Print and Delete.
- Editing options: standard Windows graphic tools, including: copy, paste and cut, resize, rotate and mirror.
OFFER CONTINUED:
Successful bidder hereby offers to sell the required items to the Community College System of NH at the following price(s):

<table>
<thead>
<tr>
<th>QTY</th>
<th>UNIT</th>
<th>DESCRIPTION</th>
<th>UNIT</th>
<th>EXTENSION</th>
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<tbody>
<tr>
<td>1</td>
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<td>Functions and Tools:</td>
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<td>• Zoom display options</td>
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<td>• user can simultaneously create, run and compare two different circuits.</td>
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MAKE: __________________________  MODEL: __________________________  ITEM #: __________________________

Please enclose product literature and specifications of your substitution $________

1   EA   ON-SITE INSTALLATION & PLACEMENT OF EQUIPMENT $________

1   EA   TRAINING: One (1) day, 8 hours day for 3 faculty $________

PLEASE PROVIDE YOUR COMPANY DUNS NUMBER: __________________________

DISCOUNT: If there is an educational discount, please apply

Any and all charges **must be built into your bid price** at the time of the bid. Bid is FOB Destination.

BID TOTAL: $________

The above listed manufacturers product numbers are representative of the type and quality required. You may bid a different manufacturer and product number, providing that your offer is materially similar to the one indicated. The Community College System of NH-Manchester Community College shall be the sole determining factor of what is materially similar to the required items.

**BIDDER CONTACT INFORMATION:**
The following information is for this office to be able to contact a person knowledgeable of your bid response, and who can answer questions regarding it:

<table>
<thead>
<tr>
<th>Contact Person</th>
<th>Local Telephone Number</th>
<th>Toll Free Telephone Number</th>
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<table>
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<tr>
<th>Fax Number</th>
<th>E-mail Address</th>
<th>Company Website</th>
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</table>
**DELIVERY TIME:**
Delivery is to be accomplished no later than 30 days ARO from purchase date or manufacturer’s minimum lead time, whichever is less. However delivery will be accepted sooner.

PLEASE LIST ESTIMATED DELIVERY DATE AFTER RECEIVING ORDER:______________________________

**BID RESULTS:**
Bid results may be viewed on our web site at: [http://www.ccsnh.edu/closed-bids](http://www.ccsnh.edu/closed-bids)

Bid results will be mailed to you if you include a self-addressed envelope with the correct amount of postage on it. Bid results will not be given by telephone.

**ATTACHMENTS:**
The following attachments are an integral part of this bid invitation:

There are no attachments

**Note:** To be considered, bid must be signed on front cover sheet in the space provided.