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Editor's Notes

Watch for the continuing saga...

"WRITTEN ON A ROLL CHART"

These are the collective writings of HOWARD HOBBS,
with commentary by Bob Connell.

ANNOUNCEMENTS

SEE PAGE 36 FOR DETAILS.

ADVERTISERS: Please note that the deadline for the MARCH ANNUNCIATOR is February 17, 1995. Please forward information to the editor by that date in order to have items updated.

NOTE: Dinner meetings will be held at THE DRAWBRIDGE INN.

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The "Instrument Society of America" has adopted a new name as a result of a recent Executive Board decision made with the input from members around the world. We will refer to the Society in all literature simply as "ISA" and we will frequently add the tag line "The International Society for Measurement and Control." The change is to be completed by July, 1995.

The Society decided that "Instrument Society of America" no longer reflected the breadth of technologies with which our members work and certainly does not reflect the fact that we have members in 80 countries. We want to let the world know that the technologies embraced by ISA cover the full breadth of measurement and control. Consequently, ISA's Executive Board concluded that ISA's name should reflect its commitment to serving professionals in all areas of measurement and control and to remaining a truly international society.

This change along with many other initiatives approved this year (including ISA OnLine - the world's first on-line network for measurement and control) reflect the Society's further commitment to prepare our members and other measurement and control professionals for the 21st century.

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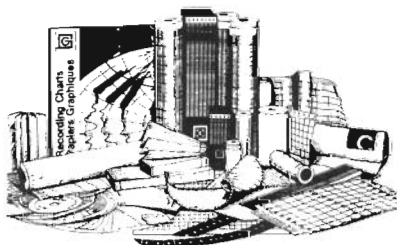
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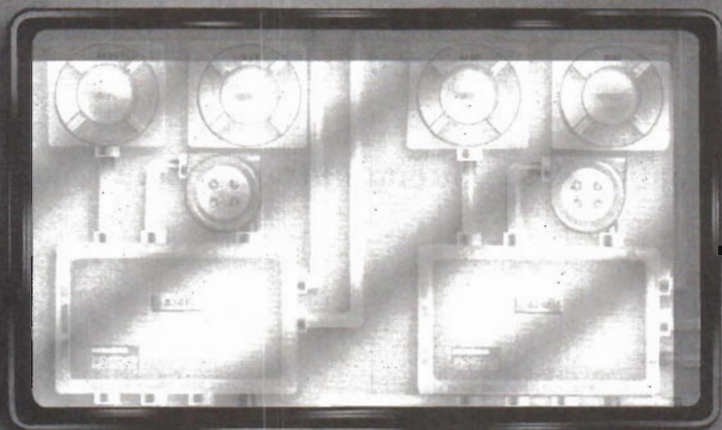
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"Written on a Roll Chart"

Letter of Appreciation Sent to Jim Lomax by Bob Connell

Dear Jim,

I would appreciate it if you could have this message read at one of the Sarnia Section meetings, or otherwise made known to your members.

It was a real thrill, for my wife and myself, to attend the ISA Honors and Awards dinner, and to receive the 1994 Donald P. Eckman Award. I could not allow this memorable event in my career to pass without acknowledging the part that you and other members of the Sarnia Section played in sponsoring me for this award. I am most grateful, and I do thank you all.

In the 1950's, Donald Eckman was considered to be in the forefront of process control theory, perhaps even ahead of his time. I had an opportunity to attend a 2 week course presented by Dr. Eckman and his colleagues at the Case Institute of Technology in Cleveland at that time. I still have a certificate which says I completed the course, which meant that I went to all the lectures. However, if I had been required to write a test at the end of it, I would have failed miserably, as I had a big comprehension problem. Curiously enough, the material which Donald Eckman was presenting at that time had to do with analyzing control systems and components using transfer functions, and was much like what we regularly teach today to students at NAIT, and in other process control courses, and is considered to be pretty basic stuff. As I look back on this, it strikes me as curious that I would one day be receiving an education award which is donated in his name.

Nevertheless, I was indeed happy to receive it, and may I extend again, my sincere thanks for your efforts on my behalf.

Yours truly,

J.R. Connell

A CHRISTMAS LAMENT

The festive season leaps at us once more,
While TV pitchmen loudly shout their wares.
Their faces wreathed in mimic gaiety,
Their rich persuasive voices drive us on
With sheep-like rush to meet insolvency.
And I must ape their forced but cheery grin,
Though more appropriate the down-turned lip,
For spouse and children throng about and say,
"Be happy! For 'tis only once a year."
So keep ye down ye heartfelt fiscal groans,
And finger not your wallet's slender girth.
Resign yourselves for hucksters hold their sway
Though last year's debts are scarcely squared away.

(Continued on Page 21)

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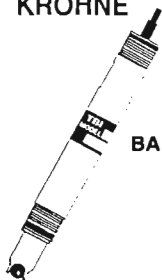
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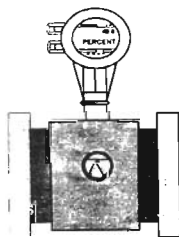


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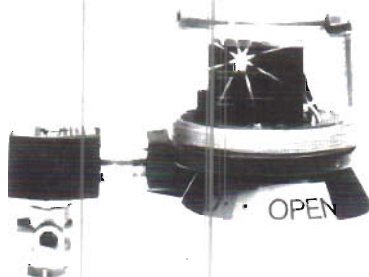
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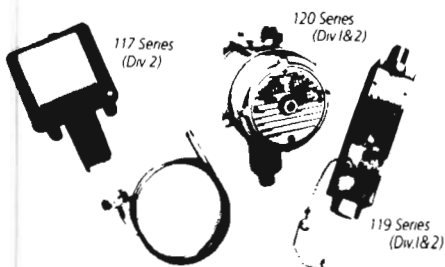
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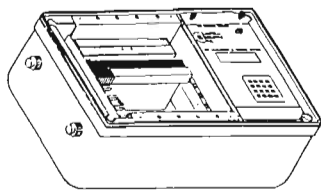
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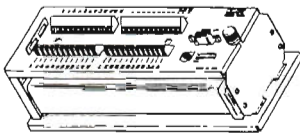


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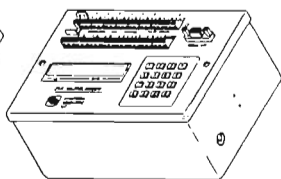
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"Written on a Roll Chart" (Continued from Page 11)

The vacant lots are packed and overflowed
With fledglings from the woods coniferous.
Each regiment commanded by a man
Be-furred and scarved. So thickly bundled he
Proportions like a forty gallon drum,
Who flaps his arms against the bitter wind,
Who stamps his feet amid the drifting snow,
Who vainly tries to dam his running beak,
Or sips at tonic when 'tis apropos.
So howl ye Arctic breezes, joyfully,
His many outer garments pierce ye through,
For if the wind is cold and hour is late,
Mayhap the staggering prices will abate.

It never fails at this glad time of year,
I stand confronted with the dread abyss
Of grinding January poverty.
When creditors with eager outstretched palms
Receive their portion and return for more.
And when they're paid I'll soberly resolve
That never shall they pester me again.
That all year long I'll preach frugality,
And avidly I'll practice what I preach,
And be so rich when Christmas rolls around
That I can operate beyond their reach.
I've made this promise now for many Springs,
But promises are rather fragile things.

For when I visit all the toy displays.
Or linger with the gaudy catalogue,
My promises are all gone up in smoke,
My fine resolves are vanished utterly.
For though it means a time of durance vile,
I must have things that make my children smile.
For that one moment in the early morn
When I, from sleep, am violently torn,
To see their happy faces, brings me cheer
Unequaled any other time of year.
It matters not a whit to me (just then),
That much of it is smashed by 9 a.m.

It matters not that later on I'll be
The spectre of remorseful poverty.
The finest thing in life I must confess
Is bringing little children happiness.
Their time for this is fleeting, soon they'll be
A worried group of parents, such as we.
So love them while they linger in your home,
Remember they're not yours, but just on loan.
And if you've listened rather carefully,
I'll meet you in the court of bankruptcy.

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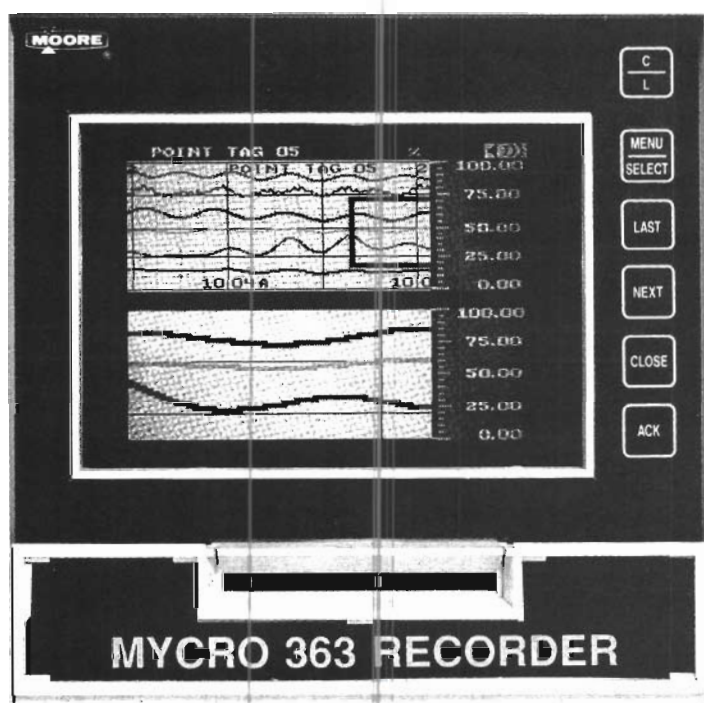
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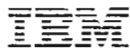


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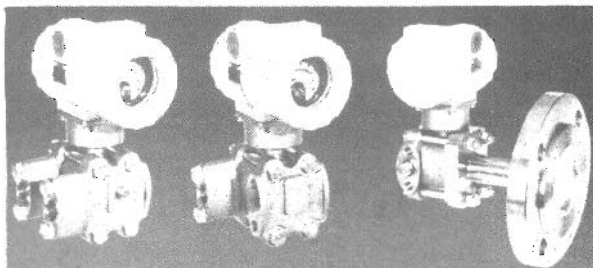
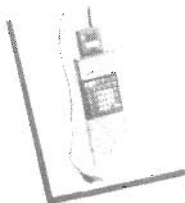
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This form is designed to facilitate your request for changes in your member record. In order to stay in touch with you, ISA needs to know when you move or change jobs. Also, ISA would like to upgrade your member status if you qualify.

Name _____
(Last) (First) (Middle)

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Check all changes that you are requesting:

- ☐ Change my address, phone number and/or company (Complete Part 1)
☐ Change my section affiliation (Complete Part 2)
☐ Apply for Life Member/Life Fellow Status (Complete Part 3)
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(Years as an Associate or Student member do not count toward the 20-year requirement).

_____ Date joined ISA (Month & Year)

Signature _____

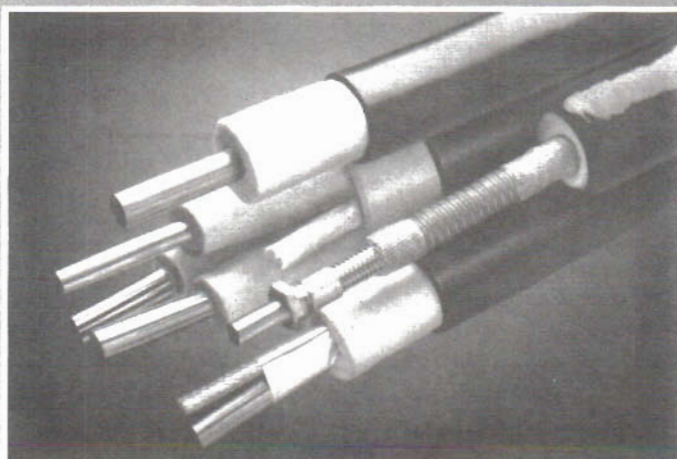
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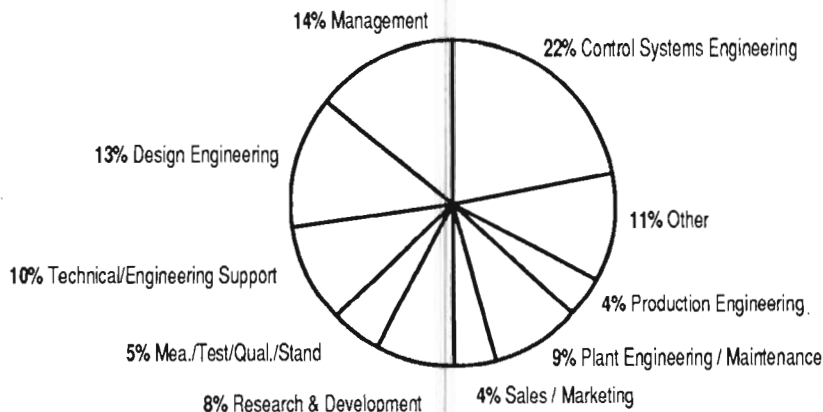
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| 84% are buying influences. | 46% represent firms with over 500 employees. |
| 67% specify suppliers. | 87% have not been called on by a salesperson from any given company whose booth they visited. |
| 34% have final say in purchases | |
| 41% make annual instrumentation purchases over \$100,000. | |
| 23% make annual instrumentation purchases over \$250,000. | |

Audience Attendance Profile

- | | | |
|---|--|---|
| 58% attend no other show annually. | 46% are fist-time ISA show attendees. | 65% travelled less than 400 miles to the show. |
|---|--|---|

ISA/95 Canada Attendees by Job Function

(Total attendance: approximately 10,000)





ISA Student Section REPORT

The second dinner meeting at the Drawbridge Inn was held on November 28, the guest speaker was John Tiernay. He presented a very interesting presentation on Fugitive Emissions. Once the new year rolls around a new student Executive will be elected to continue the school year.

At the dinner meeting the ISA Scholarships were awarded to students. Tom Beaton and Eitan Kleiman were tied for the 1st year scholarship. Randy Henderson received the 2nd year scholarship and Joe Caperchinoine won the 3rd year scholarship. A scholarship was also presented the most improved student, the student who won this scholarship was Jeffery McKeegan.

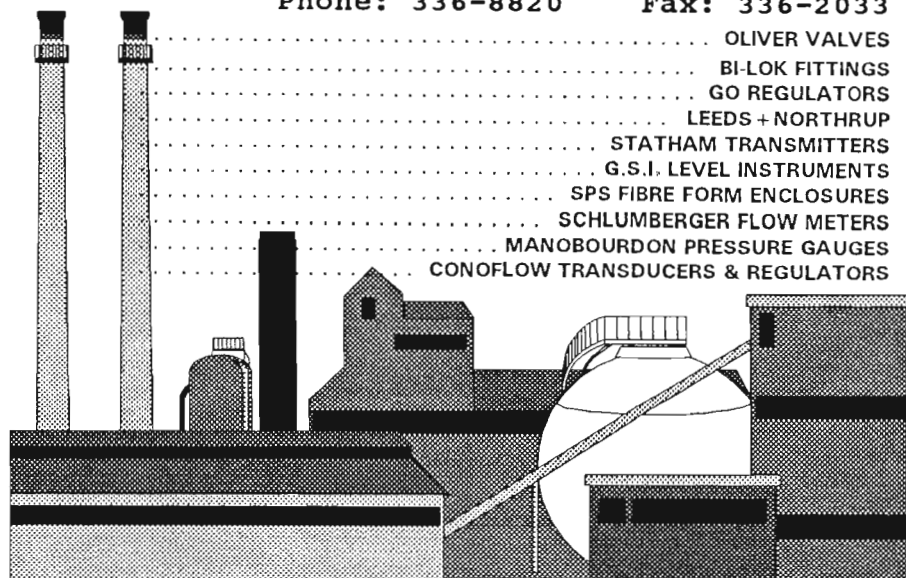
The Student Executives at Lambton College would like to wish the graduating class the best of luck with their future careers. Following are abstracts (P.42) of some of our graduating students.

Jonathan Pichard
Student Newsletter Editor

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PROBLEM SOLVING IDEA

How Linear Are DP Level Sensors When Only Partially Submerged?

In our tank farm, we currently use 3-in. diaphragm differential pressure (DP) transmitters to measure level in tanks ranging from 15-ft. to 50-ft. in diameter. We are currently taping the tanks to do monthly inventory and using the level transmitters only as indicators. My question deals

with the accuracy of the 3-in. diaphragm transmitters when the liquid level is only partially covering the diaphragm. Do most manufacturers' transmitters have a linear response through these first three inches?

SOLUTION

Response Is Non-Linear But Predictable

Assuming that the level instrument is a differential pressure transmitter with the isolator diaphragm mounted in a vertical plane, and that the instrument was "zeroed" during an empty tank condition, if the liquid level drops below the top of the sensor the transmitter output will be non-linear. The center-line of the diaphragm is usually considered the zero-level point, but until the liquid covers the entire diaphragm, the transmitter output will be non-linear (see Figure 1). As the liq-

uid level drops and the diaphragm is partially exposed, the force is not evenly distributed over the surface, resulting in a non-linear output.

The largest errors occur with only the first portion of the diaphragm covered due to the spring constant of the diaphragm. The actual error is dependent on factors such as diaphragm rigidity, thickness, material, diameter, temperature, and fill fluid characteristics, and will change from one type of transmitter and flange to another.

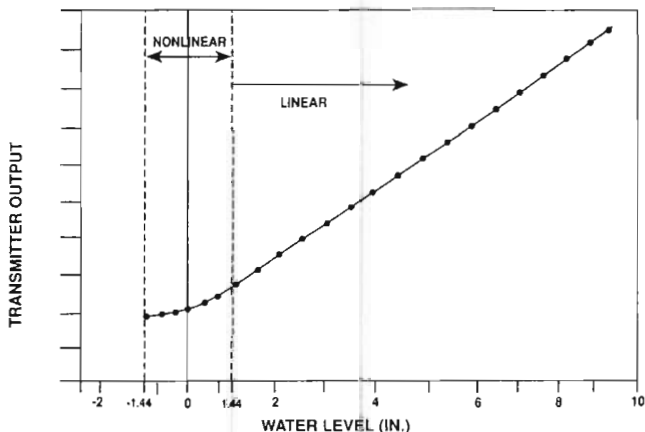
Interestingly, although the level signal is non-linear as it rises across the diaphragm, it is predictable. With the correct curve fit to linearize the output as fluid covers the seal face, the corrected level can be modeled on a computer.

*Bill Weast, William Rauth,
and Sarah Parker
Fisher-Rosemount,
Rosemount Measurement Div.
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Figure 1.

TRANSMITTER OUTPUT VS. WATER LEVEL

3 IN. SENSOR





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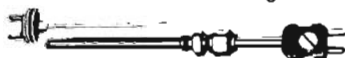
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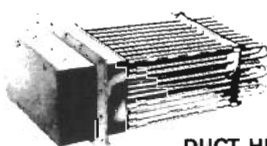
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"ANNOUNCEMENTS"

ATTENTION:

Engineering Week coming up March 9th, 10th and 11th. We will need volunteers to 'PEOPLE' the booth and equipment display.

There will be a list for both at the sign-in table at January's Dinner Meeting.

Thanks, Mike Murray.

FIRST ANNUAL ISA, SARNIA SECTION GOLF TOURNAMENT



DATE: June 16, 1995

PLACE: To Be Announced

COST: To Be Announced



Your Executive wishes to provide a fun day for all our members and potential members with a golf tournament. It will be an open invitational and our objective is to have everyone enjoy themselves whether they happen to be serious or simply a once a year golfer. The tournament will include green fees, dinner and prizes. Start lining up your team partners. More details will be forth coming as we are in the preliminary planning stage. If you have had experience in organizing a golf tournament we would appreciate your help and input. Please call Randy Dennie at 337-8251 extension 5871.

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Brian Smith has offered to assume the position for the balance of the 1994/95 season. In the future, the Education Chairman will automatically assume the liaison role.

Thank you to all of the people who expressed an interest in this position.

ASSISTANT PROGRAM CHAIRMAN

David Founk has resigned from his position as Assistant Program Chairman. We will miss his input.

Now is your opportunity!!!! If you have ever wanted to leap into a position and impress your friends with your organizational skills and abilities, we have a job for you. Seriously, anyone who would be interested in taking over the position is invited to give Jennifer Southcombe or any other executive member a call.

LAMBTON COLLEGE SCHOLARSHIPS

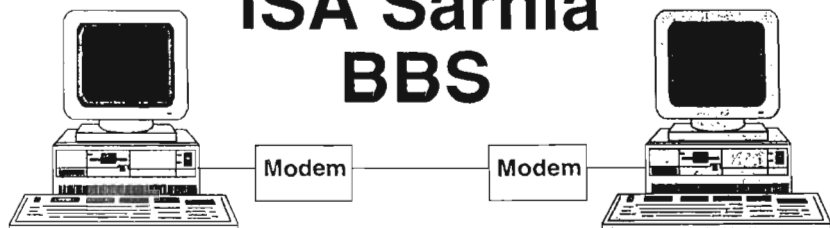
Congratulations to the 5 Lambton College Students who were awarded this year's ISA Scholarship. The Prizes were awarded to: Eitan Kleiman and Thomas Beaton, First Year (shared); Jeffery McKeegan, Most Improved; Randy Henderson, Second Year; and Joe Caperchinoine, Third Year.

Way to GO!!!

MEMBERSHIP CONTEST

The Every Member Get A Member Campaign is still going strong. Remember, for every name that you submit, you get some neat ISA Stuff and you get a chance at winning a laptop computer. So get those names in!

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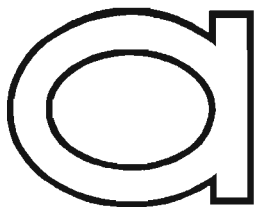
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(continued from page 43)



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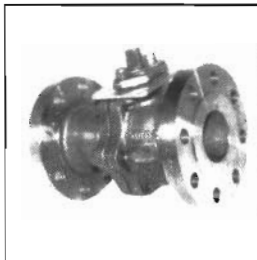


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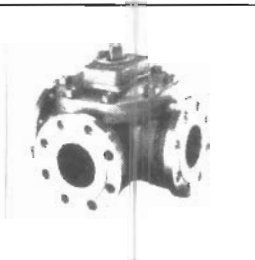
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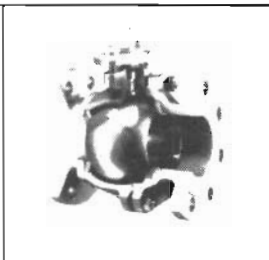
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USING THE SARNIA SECTION BBS - Part 1

This series of articles is intended to provide basic instructions about the BBS commands and identify short cuts to make your time on-line more productive.

You can use any standard modem communications program, such as Procomm, Telix, Windows Terminal, Qmodem, RipTerm, etc. to call the BBS. Ansi color monochrome and Rip graphics are supported. To call the BBS, set your communication software to 8 data bits, 1 stop bit and no parity (8,N,1). All modem speeds up to 14,400 are supported. The phone number is (519) 541-0427. New callers are asked to answer a few questions and to supply a password and ISA member number. Non-members are also welcome to call. The SysOp will increase your security level after you are validated.

The BBS uses PCBoard Bulletin Board Software as a communications host. The main menu lists a number of functions, which can usually be executed by typing the first letter. For example, typing "F" will cause the File menu to appear. Other standard functions are Bulletins (notices and information), Messages and Doors (execute a dos program such as an Off-line Mail Reader or Database viewer).

LOGGING IN

When you connect with a PCBoard system, you are asked a series of questions that must be answered before access to commands and downloads is permitted. These questions may be slightly different for some bulletin board systems, since SysOps can customize prompts and login procedures within PCBoard. Generally though, most PCBoard systems will initially ask you the following questions:

Enter language # to use:

This is an optional question defined by the SysOp. If displayed, it means that the system you are contacting can display its text in several different languages. To respond, simply choose the language easiest for you to understand by entering the number next to the various language choices available. Select #1 for English language and #2 for RIP Script Graphics (caller must use RIP Term communication program)

Do you want graphics, (Y) for color, enter = no:

Most callers choose (Y) for this option. By doing so, PCBoard displays all text in ANSI color, making your screen displays more colorful and usually easier to read. In order to take advantage of the ANSI color mode, your terminal program must support ANSI graphics. By choosing [N] however, you can slightly increase speed since color codes are no longer transmitted to your machine.

What is your First Name (Last Name & Password)?

Enter your first name at the prompt. PCBoard will then prompt you for your last name and password. Optionally, you may 'stack' your last name and password on the same line (for more information on command stacking please refer to the Command Structure section of the Callguide Manual) to bypass being asked 3 separate questions. If you are calling into a system as a new user you should not stack your password with your login name. If you do, PCBoard will interpret your password as part of your name.

It's a good idea to record your password and keep it in a safe place, as PCBoard will not allow you to login without your proper password should you forget it. Additionally, it is advised that you keep your passwords secret and use a different password for each bulletin board that you call to prevent unauthorized use, or 'hacking' of various bulletin board accounts.

The BBS is there for you to practice with and learn how to use this kind of technology. Do not worry about causing any problems or making mistakes. The system resets itself after all calls.

Brian Smith

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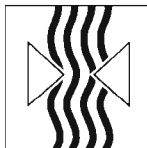
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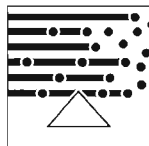
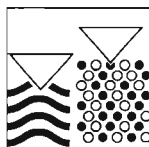
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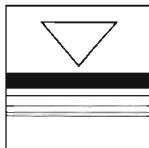


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MEMBERSHIP DINNER MEETINGS

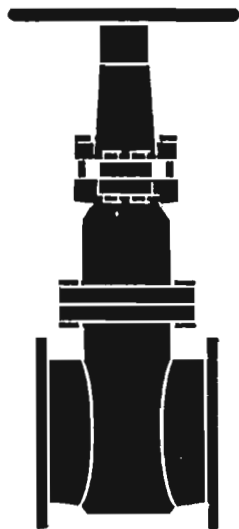
Date	Place
September 26, 1994	Drawbridge Inn
November 28, 1994	Drawbridge Inn
January 30, 1995	Drawbridge Inn
March 27, 1995	Drawbridge Inn
May 29, 1995	To Be Announced

Time: Cocktails @ 6:00 p.m. **Dinner:** @ 7:00 p.m.

EXECUTIVE MEETINGS

Date	Place
September 12, 1994	Drawbridge Inn
November 7, 1994	Drawbridge Inn
January 9, 1995	Drawbridge Inn
March 6, 1995	Drawbridge Inn
May 8, 1995	Drawbridge Inn

Time: 7:00 p.m.



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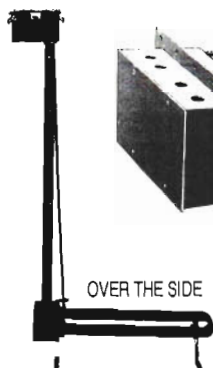
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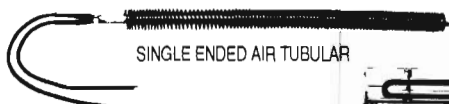
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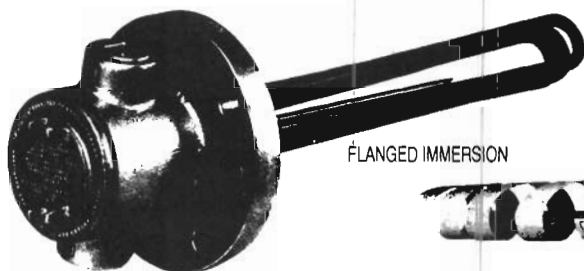
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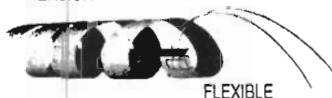
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Another unique feature of this meter is that the converter is integral to the meter. The measuring section and the converter comprise one compact unit. You therefore do not need to wire a remote-mounted converter to the meter. Since many coriolis meters require as many as 10 to 12 leads to terminate, Corimass G reduces installation costs in terms of both labour and material.

TUBETECH LTD.

TubeTech Ltd. is very pleased to announce the exclusive distribution agreement with Fischer and Porter Canada. This is further to Elsas Bailey's purchase of F&P and will allow TubeTech to supply a complete instrumentation package to the industrial marketplace.

Fischer and Porter's 78,000 square foot facility located in Downsview provides for manufacturing and flow calibration of magnetic flowmeters, rotameters, warehousing and administration. This addition to Bailey Controls' strong position in the instrumentation industry demonstrates the companies desire to provide a total control system package.

Jeff Talbot, formally with Fischer and Porter, has joined TubeTech, and brings to the company past experience with F&P products as well as many years of application knowledge of the process industries.

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**ISA
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JANUARY 30, 1995

**Drawbridge Inn, Sarnia
Cocktails 6:00 Dinner 7:00**

Guest Speaker

**Alex Smart
Managing Director
BLH Electronics Canada**

Topic

**Selection and Application
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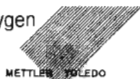
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ISA Sarnia Section

November Dinner Meeting Highlights

The second ISA Sarnia Section Dinner Meeting for 1994/1995 was held on November 28, 1994 at the Drawbridge Inn, with the attendance of 65 members, student members and guests.

In deference to the majority, we are attempting to provide a smoke free atmosphere for our dinner meetings. Those who wish to smoke are still welcome to do so outside the main hall.

The all-you-can-eat buffet was rearranged this meeting to accommodate a double line of hungry diners. This seemed to decrease the time required for all to get their fill of another delicious meal.

Our Guest speaker was John Tiernay, Supervisor of Safety and Environmental Services with Novacor. John made an excellent presentation on a fugitive emissions initiative Task Force and its progress since being formed in 1991.

The next meeting is January 30, 1995. Please remember to phone in your reservations by the preceding Thursday, January 26, 1995.

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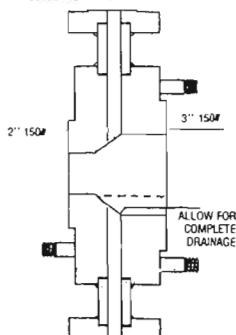
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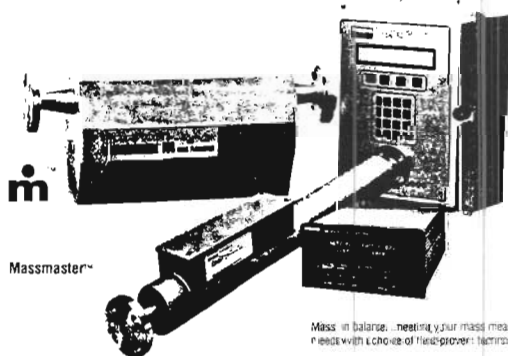
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 Bebo Industries
 Beckman Industrial
 BEHA
 BEI
 Bellofram
 Bellofram
 Berthold
 Beta
 Bi-Lok Fittings
 Biccotest
 Biddle
 Bio-Tek
 Bios
 Bios International
 BLH Electronics
 Blue White
 BOILER-GARD
 Bonney Forge
 Brandt
 Brandt Instruments
 Branson
 Brian
 Bristol
 Brooklyn Thermometer
 Brooks Instrument
 BS & B
 Burkert Contromatic
 Burkert Contromatic
 Cajon Pipe Fittings
 Cal
 Canadian Meter
 Cantech Systems
 Cash-Acme
 Cashco Canada
 Cashco Canada
 CEA
 Cel Instruments
 Cellex
 Celtek
 Century Valve
 Cerabar
 Chandler
 Chem-Tec
 Chemtrol
 Chessell

Local Sales Representative

Detech Industries
 Transcat
 G.L. Stebbins
 Leeds & Northrup, Canada
 Leeds & Northrup, Canada
 Davis Controls
 Transcat
 Transcat
 G.L. Stebbins
 Brian Controls
 SSCAN Technologies
 Transcat
 J & M Engineering & Sales Ltd.
 Lakeside Controls
 TubeTech
 Novatech
 Davis Controls
 Transcat
 Conval Equipment
 Transcat
 Controls
 Transcat
 Transcat
 Willer Engineering
 Conval Equipment
 Romatec
 Westech
 Transcat
 Sarnia Piping Specialties
 Transcat
 Transcat
 Transcat
 SSCAN Technologies
 Brian Controls
 CB Engineering
 Brian Controls
 Lisle-Metrix Ltd.
 Atlas Alloys
 Willer Engineering
 SPR Controls Systems Ltd.
 Transcat
 Brian Controls
 Babcock Sharp Valve & Instrumentation
 Transcat
 Spec Sarnia Limited
 Romatec
 Provincial Controls
 Provincial Controls
 Huron Valve & Fittings
 Davis Controls
 G.L. Stebbins
 Cantech Controls
 Westburne Lytle
 Cambridge Controls
 Provincial Controls
 SSCAN Technologies
 SSCAN Technologies
 Spec Sarnia Limited
 Controls
 Brian Controls
 Endress + Hauser
 Transcat
 Brian Controls
 U & I Supply
 Willer Engineering

Manufacturer / Tradename

Clif Mock
 Colder
 Collins Instrument
 Computer Keyboard Systems (CKS)
 Conant Controls
 Conders
 Conductive Technologies
 Conoflow
 Consolidated
 Consolidated Controls
 Consolidated Controls - U.S.A.
 Control Instruments Corp.
 Control Microsystems
 Controlair Inc.
 Controlotron
 Cooper Instruments
 Cox
 CSI - Microloggers
 Custom Control Sensors
 Cybex
 Danfoss
 Danfoss Mfg. Co. Ltd. - Denmark
 Daniel
 Darmatt
 Data Industrial
 Data Instruments Inc. - USA
 Data Precision
 Datavue
 Datel
 Davis Controls Ltd.
 Davis Instruments
 Defelsko
 Dekoron
 Delphian
 Delta C Technologies
 Delta-M
 Deltabar
 Deltapilot
 Detector Electronics
 Devar
 DewPro
 DGH
 Dianachart
 Dickson
 Digitec
 Dillon
 Dopak
 Dover Gas Technologies
 Draeger
 Dresser
 Druck
 Druck
 DSP Technology
 Durafet
 Durakool
 Duro
 Duro-Sense
 Dwyer
 Dwyer
 Dwyer
 Dynapar
 Dynapar
 Dynasonics
 Dynatech
 E-T-A Control Instruments

Local Sales Representative

Westburne Lytle
 Davis Controls
 Cantrols
 CB Engineering
 Industrial Projects
 Transcat
 Cantech Controls
 Sarnia Piping Specialties
 Sharp Valve & Instrumentation
 Transcat
 Technel Engineering Inc.
 Willer Engineering
 Brian Controls
 Cambridge Controls
 Westech
 Transcat
 Brian Controls
 Campbell Scientific (Canada) Corp.
 Willer Engineering
 CB Engineering
 Davis Controls
 Lisle-Matrix Ltd.
 Cantrols
 Bestobell Canada
 Cambridge Controls
 Technel Engineering Inc.
 Transcat
 Leeds & Northrup, Canada
 Transcat
 Spec Sarnia Limited
 Transcat
 Transcat
 Bestobell Canada
 Romatec
 Veronics
 Brian Controls
 Endress + Hauser
 Endress + Hauser
 CB Engineering
 Cantech Controls
 Endress + Hauser
 Alpha Controls & Instrumentation
 Alpha Controls & Instrumentation
 Transcat
 Brian Controls
 Brian Controls
 Westburne Lytle
 Veronics
 SSCAN Technologies
 Sharp Valve & Instrumentation
 SPR Controls Systems Ltd.
 Transcat
 SPR Controls Systems Ltd.
 Leeds & Northrup, Canada
 Davis Controls
 Brian Controls
 Transcat
 Baker Instruments Ltd.
 Davis Controls
 Transcat
 Davis Controls
 J & M Engineering & Sales Ltd.
 Brian Controls
 SSCAN Technologies
 SSCAN Technologies

Manufacturer / Tradename

E. G. & G. Moisture & Humidity
 Eagle Signal
 Eaton Consolidated Controls - USA
 Eaton IDT
 ECD
 ECD
 Echotel
 ECS Control Techniques
 EG & G Flow Technology Inc.
 EIT Inc.
 El-O-Matic
 Elcon Instruments
 Elremco Timers - England
 EMCO
 Emission S.A.
 Encoder
 Endress+Hauser
 Enertrul Shocks
 Enertruls
 Engineered Valves International (E.V.I.)
 Environics
 Environmental Technologies Group Inc.
 Environnement S.A.
 Epic Samplers
 Erdco
 Erhard Valves - Germany
 ETC
 Euchner
 Expo Safety
 Extech Instruments
 F.B. Leopold - USA
 F.W. Bell
 F.W. Murphy
 Fabco Air
 FCI
 Fike Canada Inc.
 Firerod Cartridge Heaters
 Fischer & Porter
 Fischer & Porter
 Fisher Controls
 Fisher Research
 Fisons Instruments
 Flow Meter Co. - England
 Flow-Lin Corporation
 Flowline
 Flowtek Valves
 Fluid Data/Amscor
 Fluidic
 Fluke
 Fluke
 Foxboro - Measurement, Instruments, Parts
 Foxboro Analytical Group
 Fulier
 G.C. Industries
 G.S.I.
 Galtex
 Gamma Silometer
 Gefran
 General Controls
 General Eastern
 General Metal Works
 General Monitors
 General Resistance
 General Resource (Isomatic Corp.)
 Geokon

Local Sales Representative

Vermeer Engineering
 Davis Controls
 Technel Engineering Inc.
 Cantech Controls
 Novatech
 Transcat
 Provincial Controls
 Vermeer Engineering
 CB Engineering
 Vermeer Engineering
 Westburne Lytle
 SPR Controls Systems Ltd.
 Lisle-Metrix Ltd.
 Davis Controls
 SSCAN Technologies
 elenex Ltd.
 Davis Controls
 Provincial Controls
 elenex Ltd.
 Westburne Lytle
 Brian Controls
 Novatech
 SSCAN Technologies
 Spec Sarnia Limited
 Bestobell Canada
 Lisle-Metrix Ltd.
 Transcat
 Davis Controls
 Systems Syber Systems Inc.
 Novatech
 Lisle-Metrix Ltd.
 Transcat
 Cantech Controls
 Davis Controls
 Willer Engineering
 Brian Controls
 Zesta Engineering
 Hardie Industrial Services Inc.
 TubeTech
 Lakeside Controls
 Transcat
 Westech
 Lisle-Metrix Ltd.
 G.L. Stebbins
 Brian Controls
 Provincial Controls
 Armatek Controls
 Brian Controls
 SPR Controls Systems Ltd.
 Transcat
 Provincial Controls
 Vermeer Engineering
 Syber Systems Inc.
 Brian Controls
 Sarnia Piping Specialties
 Romatec
 Endress + Hauser
 SPR Controls Systems Ltd.
 Neles-Jamesbury
 Willer Engineering
 SSCAN Technologies
 Armatek Controls
 Transcat
 G.L. Stebbins
 Campbell Scientific (Canada) Corp.

Manufacturer / Tradename

GGOSCO Engineering
 GGOSCO Needle Valves
 GGOSCO Valves
 GLA Elettronica
 Global
 GMD
 GO Proximity Switches
 GO Regulators
 GP-50 New York Ltd.
 Gralab
 Granucor
 Granuflo
 Granumet
 Great Plains Industries
 H. O. Trerice
 H.D. Baumann Control Valves
 Haenni Instruments
 Hammel Dahl
 Hanna Instruments
 Hansen Quik Connects
 Hartman-Technica
 Hartmann & Braun
 Hedland
 Heise
 Herasus Sensors
 Hewlett Packard
 Hex Valve
 Hiltcraft
 Hitachi
 Hitachi - Oscilloscopes
 Hoffer Flow Controls - USA
 Holaday Industries
 Homestead Valves
 Honeywell
 Honeywell - Controllers
 Honeywell - Controllers & Recorders
 Honeywell - Recorders
 Honeywell - Recorders
 Horiba
 Huntron
 Hy-Cal
 Hydri
 Hygrolog
 IBM Industrial
 IC Controls
 IDEC
 IET
 Illinois Instruments
 Iml-Cash Valve Inc.
 Imperial Eastman
 Imperial Eastman
 Imperial Eastman
 Industrial Scientific Corporation
 Infiltek
 Ingold
 Inor
 Intelligent Controls
 Intellitron
 Intellution
 Interface
 Interlink
 International Sensor Technology
 Interscan
 Interscan
 Intertec

Local Sales Representative

Provincial Controls
 Westburne Lytle
 Hardie Industrial Services Inc.
 SPR Controls Systems Ltd.
 Transcat
 SSCAN Technologies
 Lakeside Controls
 Sarnia Piping Specialties
 SPR Controls Systems Ltd.
 Transcat
 Endress + Hauser
 Endress + Hauser
 Endress + Hauser
 Armatek Controls
 U & I Supply
 Conval Equipment
 J & M Engineering & Sales Ltd.
 Neles-Jamesbury
 SSCAN Technologies
 Provincial Controls
 Transcat
 Westech
 Brian Controls
 Transcat
 SPR Controls Systems Ltd.
 Transcat
 Sharp Valve & Instrumentation
 Syber Systems Inc.
 Davis Controls
 Transcat
 Lisle-Matrix Ltd.
 SSCAN Technologies
 Atlas Alloys
 Davis Controls
 Cantech Controls
 Brian Controls
 Provincial Controls
 Transcat
 Alpha Controls & Instrumentation
 Transcat
 Davis Controls
 Cantech Controls
 Endress + Hauser
 CB Engineering
 J & M Engineering & Sales Ltd.
 elenex Ltd.
 Transcat
 Veronics
 G.L. Stebbins
 Provincial Controls
 U & I Supply
 elenex Ltd.
 SSCAN Technologies
 Quantum Sales
 Westech
 Alpha Controls & Instrumentation
 SPR Controls Systems Ltd.
 Cantech Controls
 CB Engineering
 Willer Engineering
 Vermeer Engineering
 Industrial Projects
 Brian Controls
 SSCAN Technologies
 TubeTech

Manufacturer / Tradename

Ionics Instrument Division
 Ircon
 Ishida/Craft
 IST
 ITT Barton Instruments
 ITT Diaflow
 ITT Neo Dyn
 IVO Industries - USA
 J-Tec
 J.M. Canty
 Jacoby Tarbox
 Jamesbury
 JB Engineering
 Jensen
 Jerguson Level Gauges
 Jofra
 Jofra
 Johnson Yokogawa
 Jordan Controls
 Joucomatic International
 Julius Bauser - Germany
 K-Tek
 Kammer Control Valves
 Kammer Control Valves
 Kane-May
 Kates
 Kay Ray/Sensall
 Kaye
 Kaye Instruments
 Kedeco Mfg Ltd.
 Keller
 Kent Meters Inc.
 Kenwood,USA
 Kessler Ellis
 Ketema - McCrometer
 Ketema - Schutte & Koerting
 Kinetics Systems Corp. - USA
 Kinetrol
 Kinetrol Actuators
 King Instrument
 Kip
 Kistler-Morse
 Kitz Valves
 Klinger
 KNF Neuberger
 Kotron
 Kruss Optronic
 KTM
 KTM
 Kurz
 Kurz
 LAGCO Flumes - USA
 Land
 Land - Analyzers
 Larad
 Leader
 Leaderline
 Leaderline
 Lear Siegler
 Lee-Dickens Ltd. - England
 Leeds & Northrup
 Legris
 Legris Fittings
 LEOPOLD
 Lewis

Local Sales Representative

Veronics
 Willer Engineering
 Atlas Alloys
 SSCAN Technologies
 Armatek Controls
 Romatec
 CB Engineering
 Lisle-Metrix Ltd.
 Romatec
 Cambridge Controls
 Romatec
 Neles-Jamesbury
 Transcat
 Transcat
 Romatec
 Brian Controls
 Transcat
 CB Engineering
 Cambridge Controls
 Conval Equipment
 Lisle-Metrix Ltd.
 CB Engineering
 Controls
 Westburne Lytle
 Transcat
 Westech
 Rosemount Instruments
 Transcat
 CB Engineering
 U & I Supply
 Campbell Scientific (Canada) Corp.
 G.L. Stebbins
 Transcat
 Brian Controls
 Brian Controls
 Brian Controls
 Technel Engineering Inc.
 Provincial Controls
 Hardie Industrial Services Inc.
 Industrial Projects
 Brian Controls
 Novatech
 Atlas Alloys
 Davis Controls
 Transcat
 Provincial Controls
 SSCAN Technologies
 Associated Valve
 Controls
 Brian Controls
 Transcat
 Lisle-Metrix Ltd.
 Transcat
 Westech
 Syber Systems Inc.
 Transcat
 Brian Controls
 Honeywell
 Romatec
 Lisle-Metrix Ltd.
 Sarnia Piping Specialties
 elenex Ltd.
 Provincial Controls
 Lisle-Metrix Ltd.
 Transcat

Manufacturer / Tradename

LFE Instruments - USA
 LI-COR
 LMI
 LMI
 Love
 M point
 M-System
 M-Tek
 Madison
 Madison
 Magnetrol
 MagTech
 Major
 Manobourdon
 Marsh
 Martel
 MaxWiller
 Max 1000
 MCF Ball Valves
 Mead
 Meeco Inc.
 Mercoid
 Meriam Instruments
 Met One
 Metrix
 Metrix Timers
 Metrosonics
 Micon
 Micro Motion
 Micromax 2
 Micronics Ltd.
 Micropilot
 Microtrac
 Mid-West Instrument
 Mid-West Instrument
 Mikron
 Milton Roy - Liquid Metronics Division
 Mini-X Purge Systems
 Mini-Z Purge Systems
 Mitsubishi
 MKS
 Mobrey
 Modulevel
 Monarch
 Monitek
 Monitor
 Monitor Labs
 Moore Industries
 Moore Products Pressure Regulators
 MST
 MTL
 MTL IS Barriers
 Multi-Amp
 Multi-Volt
 Multitrode
 Myron L
 Nassau Instrument
 NBS
 Neles
 Neles-Jamesbury
 Neotronics
 Newman Hattersly
 Newman Hattersly
 NGI
 Nicholson

Local Sales Representative

Lisle-Metrix Ltd.
 Campbell Scientific (Canada) Corp.
 Novatech
 U & I Supply
 Davis Controls
 Endress + Hauser
 SPP Controls Systems Ltd.
 Transcat
 Bestobell Canada
 Ovantum Sales
 Provincial Controls
 Cambridge Controls
 Alpha Controls & Instrumentation
 Sarnia Piping Specialties
 TubeTech
 Transcat
 Engineering
 Leeds & Northrup, Canada
 Lakeside Controls
 Transcat
 Novatech
 Davis Controls
 Transcat
 Campbell Scientific (Canada) Corp.
 Transcat
 Lisle-Metrix Ltd.
 Brian Controls
 Cantech Controls
 Rosemount Instruments
 Leeds & Northrup, Canada
 Veronics
 Endress + Hauser
 Leeds & Northrup, Canada
 Brian Controls
 Hardie Industrial Services Inc.
 Transcat
 U & I Supply
 Syber Systems Inc.
 Syber Systems Inc.
 Davis Controls
 Transcat
 Bestobell Canada
 Provincial Controls
 Transcat
 Willer Engineering
 Romatec
 Brian Controls
 Armatek Controls
 Transcat
 Brian Controls
 Syber Systems Inc.
 Provincial Controls
 Transcat
 Transcat
 Bestobell Canada
 Transcat
 Transcat
 Transcat
 Neles-Jamesbury
 Atlas Alloys
 Transcat
 Atlas Alloys
 Bestobell Canada
 Transcat
 Romatec

Manufacturer / Tradename

Nilcor
 Nivosonic
 Nohken
 Norriseal
 Norstat
 Novalynx
 Novatech Systems Group
 NRC Industries
 Numatics
 Numatics
 Nupro Valves
 O'Brien
 O'Brien Corporation
 Oakton
 Ogontz
 Oilgear
 Oliver Valves
 OMNI
 Omron
 Opsis
 Optikron
 Orange Research
 Orbe
 Orion
 Pacer Industries
 Pacific Instruments
 Pacific Scientific
 Pamark Manifolds
 Panalarm
 Panalarm
 Panametrics PCI Division
 Parker
 Peek Measurement
 Pelican
 Penberthy
 Penberthy Instruments
 Penny & Giles
 Pepperl + Fuchs - USA
 Permacal
 Phipps & Bird
 Phoenix Contact
 PMV
 Polysonic Inc.
 Polytronics
 Porter Instrument Co. - USA
 Powers Process Control
 Precision Digital
 Precision Digital
 Preferred Rimcor Inc.
 Preso
 Pribusin
 Pribusin Inc.
 Progeny
 Promac
 Promag
 Promass
 Proquip
 Prosonic
 Provincial Instrument Housings
 Provox
 Proximity
 Proximity Control
 Psytronics
 PTC
 PTC

Local Sales Representative

Sharp Valve & Instrumentation
 Endress + Hauser
 Bestobell Canada
 Conval Equipment
 Davis Controls
 Brian Controls
 Novatech
 SSCAN Technologies
 Provincial Controls
 elenex Ltd.
 Huron Valve & Fittings
 Armatek Controls
 CB Engineering
 Transcat
 Cantech Controls
 Bestobell Canada
 Sarnia Piping Specialties
 Westech
 elenex Ltd.
 SSCAN Technologies
 SSCAN Technologies
 Provincial Controls
 Atlas Alloys
 Transcat
 Transcat
 SPR Controls Systems Ltd.
 G.L. Stebbins
 Provincial Controls
 Cambridge Controls
 Willer Engineering
 Veronics
 TubeTech
 SPR Controls Systems Ltd.
 Transcat
 Brian Controls
 Hardie Industrial Services Inc.
 Cantech Controls
 Lisle-Metrix Ltd.
 Provincial Controls
 Transcat
 elenex Ltd.
 Romatec
 SPR Controls Systems Ltd.
 Transcat
 Lisle-Metrix Ltd.
 Conval Equipment
 Armatek Controls
 Controls
 Vermeer Engineering
 Willer Engineering
 Provincial Controls
 Novatech
 Leeds & Northrup, Canada
 Transcat
 Westburne Lytle
 Endress + Hauser
 Spec Sarnia Limited
 Endress + Hauser
 Provincial Controls
 Lakeside Controls
 Bestobell Canada
 Provincial Controls
 Cambridge Controls
 Brian Controls
 Transcat

Manufacturer / Tradename

Pulsafeeder
 Pyramid
 QSDM
 QSDM
 Quad Tech
 Qualimetrics
 Quantum
 R.M. Young
 Ralston
 Ralston
 Ray
 Raytek
 RCM Industries
 RdF
 REBS
 Research Control Valves
 Resistoflex
 REXA
 Rexcon
 RGS
 RIMCO - Raingauges
 RIS
 RMS Instruments - CDA
 Robbins Myers
 Roberts Mfg. Inc.
 Robertshaw
 Rochester Instrument Systems
 Rohrbach Cosasco Systems
 Ronan
 Rosemount
 Rosemount Analytical
 Rosemount Analytical
 Rosemount Combustion Control
 Rosemount RS3 Systems
 Rotomation
 Rotronic
 Royce Instruments
 Ruska Instrument Corp. - USA
 Ruskin (Control Dampers)
 Rustrak
 S.P.S. Instrument Services
 Sample Technologies Inc. (STI)
 Sarasota
 Scanivalve Corporation - USA
 Schlumberger
 Schrader Bellows
 Scully Electronic systems
 Seacor
 Sealed Unit Parts
 Sensall
 Sensidyne
 Sensidyne Gas Monitors
 Sensortech Systems Inc.
 Servomex
 Setra
 Shand & Jurs
 Shimadzu
 Shimpo
 Sieger
 Siemens
 Siemens Process Analyzers
 Sierra Monitor
 Sierra Monitor
 Signet Scientific
 Signet Scientific

Local Sales Representative

Romatec
 Romatec
 Alpha Controls & Instrumentation
 Willer Engineering
 Transcat
 Transcat
 Transcat
 Campbell Scientific (Canada) Corp.
 Transcat
 elenex Ltd.
 Brian Controls
 Transcat
 Cambridge Controls
 Willer Engineering
 Campbell Scientific (Canada) Corp.
 Lakeside Controls
 Sharp Valve & Instrumentation
 Controls
 elenex Ltd.
 Syber Systems Inc.
 Campbell Scientific (Canada) Corp.
 Transcat
 Technel Engineering Inc.
 U & I Supply
 G.L. Stebbins
 Spec Sarnia Limited
 Sharp Valve & Instrumentation
 Armatek Controls
 Industrial Projects
 Rosemount Instruments
 Rosemount Instruments
 Transcat
 Romatec
 Lakeside Controls
 elenex Ltd.
 Alpha Controls & Instrumentation
 Spec Sarnia Limited
 Technel Engineering Inc.
 G.L. Stebbins
 Transcat
 Sarnia Piping Specialties
 CB Engineering
 SPR Controls Systems Ltd.
 Technel Engineering Inc.
 Sarnia Piping Specialties
 TubeTech
 SPR Controls Systems Ltd.
 Transcat
 Transcat
 Alpha Controls & Instrumentation
 Novatech
 Transcat
 Novatech
 Novatech
 Alpha Controls & Instrumentation
 Sharp Valve & Instrumentation
 Novatech
 Transcat
 Westech
 Alpha Controls & Instrumentation
 Willer Engineering
 Controls
 Transcat
 Brian Controls
 Hardie Industrial Services Inc.

Manufacturer / Tradename

Sigrist-Photometer Co. - Switzerland
 Silometer
 Simpson
 Skinner
 Smar International
 Smartline
 Smartline
 Smith Valve
 Sno-Trik
 Solartron
 Solomat
 SOR
 South-West Meters
 Sparling
 Speedomax
 SPM
 SPS Fibre Form Enclosures
 Stabilflo
 Stahl
 Statham
 STI
 Strahman
 Sugino
 Swagelok Tube Fittings
 Swingwirl
 Systematix
 T.B. Woods
 TA Instruments
 Tavis Corporation - U.S.A.
 Taylor Hand Actuated Pressure Calibrator
 TDC-3000
 Techmation
 Techné
 Technipower
 Tegam
 Tegam
 Tektronix
 Tel-Tru
 Tel-Tru
 Tel-Tru Thermometers
 Teledyne Analytical
 Teledyne Combustion Efficiency Analyzer
 Telematic
 Testoterm
 Texas Analytical Controls Inc.
 Texas Electronics - Raingauges
 Texas Sampling Inc.
 The Electron Machine Corporation
 Theben
 Thermax
 Thermo Electric
 Thermo Electric - Calibrators
 Thermo Kinetics
 Thermo-Environmental
 Thermon
 Thermox
 Thunder Scientific Corp.
 TIF
 Time Electronics
 TLV
 Tokheim
 Torbar Flowmeters Inc.
 Tower-Gard
 Trademark Manufacturing Inc.
 Transmation

Local Sales Representative

Lisle-Metrix Ltd.
 Endress + Hauser
 Transcat
 Cantech Controls
 G.L. Stebbins
 Brian Controls
 Honeywell
 Atlas Alloys
 Huron Valve & Fittings
 Westech
 Transcat
 Industrial Projects
 Sarnia Piping Specialties
 Brian Controls
 Leeds & Northrup, Canada
 Transcat
 Sarnia Piping Specialties
 Neles-Jamesbury
 Alpha Controls & Instrumentation
 Sarnia Piping Specialties
 elenex Ltd.
 Cantech Controls
 elenex Ltd.
 Huron Valve & Fittings
 Endress + Hauser
 Willer Engineering
 elenex Ltd.
 Westech
 Technel Engineering Inc
 Transcat
 Honeywell
 Lakeside Controls
 Transcat
 Transcat
 Brian Controls
 Transcat
 Transcat
 Brian Controls
 Transcat
 Hardie Industrial Services Inc.
 Armatek Controls
 Transcat
 Willer Engineering
 Transcat
 Vermeer Engineering
 Campbell Scientific (Canada) Corp.
 Bestobell Canada
 Industrial Projects
 Davis Controls
 Brian Controls
 Armatek Controls
 Transcat
 Provincial Controls
 SSCAN Technologies
 Spec Sarnia Limited
 Willer Engineering
 SSCAN Technologies
 Transcat
 Transcat
 Tube Tech
 Willer Engineering
 Industrial Projects
 Lisle-Metrix Ltd.
 G.L. Stebbins
 Cantrols

Manufacturer / Tradename

Transmation
 Transtector Systems
 Trerice
 Tripp-Lite
 TSI
 Tytronics Inc.
 U.S. Gauge
 U.S. Gauge
 Unimeasure
 United Electric
 United Electric
 United Sciences Inc.
 Universal
 Universal Analyzers
 Universal Enterprises
 Unomat
 Unomat
 Vaccon Vacuum
 Vaisala
 Vaisala - RH, Barometric Pressure
 Valhalla
 Valtek
 Vanessa
 Varec
 Variomag
 Vector-Vid
 Velan
 Veris
 Versatile Instruments
 Versatile Measuring Instruments
 Viatran
 Vista Scientific
 Vitec
 Viz
 W.E. Anderson
 Walker Scientific
 Wallace & Tiernan
 Wallace & Tiernan - Pressure Calibrators
 Warren Jones Engineering - England
 Warrick
 Waterman Industries - USA
 Watson McDaniel
 Waugh
 Weed
 Weksler Instruments
 Westech
 Westlock Controls
 Whesso Varec
 Whipps Inc. - USA
 Whitey Valves
 Whitman
 Wika
 Wilkerson
 Williams Instrument Co.
 Williamson
 Winters Gauges
 Wodex
 Wood's
 Woodhead
 Worcester Controls
 Y-Z Industries
 Yokogawa
 Young Environmental
 Zook
 Zullig

Local Sales Representative

Transcat
 Cantech Controls
 U & I Supply
 Transcat
 Willer Engineering
 Novatech
 Brian Controls
 Transcat
 SPR Controls Systems Ltd.
 Brian Controls
 Cambridge Controls
 Willer Engineering
 Alpha Controls & Instrumentation
 Willer Engineering
 Transcat
 SPR Controls Systems Ltd.
 Transcat
 Provincial Controls
 Transcat
 Campbell Scientific (Canada) Corp.
 Transcat
 Controls
 Westburne Lytle
 Westech
 Endress + Hauser
 Transcat
 Westburne Lytle
 Alpha Controls & Instrumentation
 Sharp Valve & Instrumentation
 SPR Controls Systems Ltd.
 Willer Engineering
 Transcat
 Transcat
 Transcat
 Cantech Controls
 Transcat
 J & M Engineering & Sales Ltd.
 Transcat
 Lisle-Metrix Ltd.
 Davis Controls
 Lisle-Metrix Ltd.
 G.L. Stebbins
 Alpha Controls & Instrumentation
 Cantech Controls
 Baker Instruments Ltd.
 Westech
 Atlas Alloys
 Westech
 Lisle-Metrix Ltd.
 Huron Valve & Fittings
 Davis Controls
 Sharp Valve & Instrumentation
 Transcat
 Willer Engineering
 Brian Controls
 Provincial Controls
 Alpha Controls & Instrumentation
 U & I Supply
 elenex Ltd.
 U & I Supply
 Westech
 Transcat
 SSCAN Technologies
 Brian Controls
 Bestobell Canada

- Notes -

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1947/48	Amby Upfold	1971/72	Curt McDonald
1948/49	Ron Chamberlane	1972/73	Everett Maness
1949/50	Don Livingstone	1973/74	Stan Thrift
1950/51	Amby Upfold	1974/75	E.A. Comello
1951/52	Ken Goldring	1975/76	Bernard West
1952/53	Amby Upfold	1976/77	Jim Henrikson
1953/54	Warren McKay	1977/78	Jim Johnson
1954/55	Jack Heatley	1978/79	Ron Thurier
1955/56	Larry Hall	1979/80	Dave Braedley
1956/57	Harold Kohlmeier	1980/81	John Stassen
1957/58	Ron Asselstine	1981/82	Wayne Jamieson
1958/59	Mike Hicks	1982/83	Frank Bandura
1959/60	Mike Hicks	1983/84	John Tranter
1960/61	Mike Hicks	1984/85	Robb Sharp
1961/62	George Mills	1985/86	Ron Kells
1962/63	Robert Brayne	1986/87	Howie Whitton
1963/64	Robert Newman	1987/88	Joe Lobo
1964/65	Robert Newman	1988/89	Irvin Hawkes
1965/66	Ted Stock	1989/90	Rich Paterson
1966/67	Ted Stock	1990/91	Ken Blair
1967/68	Bill Rion	1991/92	Jim Lomax
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Noise & Cavitation Trim
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Loop Analyzer
- Available London Stock of Regulators,
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- High Performance Butterfly Valves

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- Tank Blanketing and
Vapour Recovery Systems

BADGER METER

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