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**ENERGY EQUIPMENT
COST DIRECTORY
SPONSORED BY
ENERGY CONSERVATION SERVICES PROGRAM**

**OFFICE OF ENERGY
BUREAU FOR SCIENCE & TECHNOLOGY
U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON, DC 20523
U.S.A.**

Prepared by:
Hagler, Bailly & Company
2301 M Street, NW
Washington, DC 20037

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FOREWORD

This cost directory has been sponsored by the Office of Energy, Bureau for Science and Technology, USAID, Washington, DC under the Energy Conservation Services Program. The prices and operational characteristics are presented as a guide to assist people in developing countries when considering the purchase of energy-efficient equipment.

The information contained in the cost directory has been obtained from manufacturers by Hagler, Bailly & Company, Washington, D.C., who does not endorse or recommend any one manufacturer nor guarantee the performance or operation of any equipment that may be purchased based upon its inclusion in the directory.

Neither Hagler, Bailly nor USAID accepts any responsibility for any errors or omissions from the directory. Before placing any orders, Hagler, Bailly strongly recommends that users of this guide contact suppliers and manufacturers to verify the performance and price of any equipment considered for purchase.

Introduction

This directory has been prepared to provide information about manufacturers and prices of energy-efficient equipment to people in developing countries. Information of this nature is often not readily available in developing countries, and collecting it can be a protracted exercise.

When a specific energy conservation project is identified, the user of the directory can quickly determine its economic feasibility using the equipment costs provided. All prices are F.O.B. U.S.A. and do not include any applicable shipping, insurance, duty, tax, or installation cost (unless otherwise stated).

This equipment directory is by no means exhaustive. To limit production and distribution costs, it was necessary to restrict the number of equipment categories and entries included in the directory. Often only one model was selected to represent a category of equipment, and users of the directory should be aware that there exist many other manufacturers producing equipment similar to the equipment described herein.

To enhance the use of the directory, each page is prefaced by a blank outline of the page. Here, the user can include specific information about alternate manufacturers or distributors of equipment that he may know in his own country.

It is anticipated that the directory will be updated and expanded at regular intervals to keep information as current as possible.

 CATEGORY: BOILER SYSTEMS
 FUNCTION: STEAM GENERATION

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
BOILER-FIRETUBE	LB-400-400-150	WORKING PRESSURE 150 PSIG GAS/HEAVY OIL 6.4 TONS/HR	CLEAVER-BROOKS PO BOX 421 MILWAUKEE WI 53201 414-962-0100	73000
BOILER-FIRETUBE	BLR	GAS/OIL FUEL 400 HP BOILER	INDUSTRIAL BOILER CO PO BOX 2258 THOMASVILLE GA 31799 912-226-3024	50000*
BOILER-FIRETUBE	400 HP BOILER	6.4 TONS STEAM/HR GAS/HEAVY OIL WORKING PRESSURE 125 PSI 02 TRIM SYSTEM	YORK SHIPLEY PO BOX 349 YORK PA 17405 717-755-1081	72000
DEAERATOR	DEAERATOR	SIZED FOR 6.4 TON/HR DUPLEX PUMPS	INDUSTRIAL BOILER CO PO BOX 2258 THOMASVILLE GA 31799 912-226-3024	24000
DEAERATOR	YSD15	OPERATES AT 5 PSI DUPLEX DEAERATOR	YORK SHIPLEY PO BOX 349 YORK PA 17405 717-755-1081	21190
FEEDWATER SYSTEM	FEEDWATER SYST	INCLUDES FEEDWATER TANK 6.5TON INCLUDES DUPLEX PUMPS	YORK SHIPLEY PO BOX 349 YORK PA 17405 717-755-1081	9525
MULTI-FUEL BOILERS	HRT SERIES	FIRES AGWASTE, COAL, GAS, WOOD OIL 70% EFFICIENCY SIZES 1400 TO 15000 LB/HR	ABCO INDUSTRIES 2670 E HIGHWAY 80 ABILENE TX 79604	190000
MULTI-FUEL BOILERS	MA SERIES	FIRES BIOMASS, COAL, GAS, OIL, INDUSTRIAL WASTE, WOOD 90 TO 82% EFFICIENCY SIZES 2750 TO 50000 LB/HR	AQUACHEM PO BOX 421 MILWAUKEE WI 53201	700000
MULTI-FUEL BOILERS	CNB TRI-FUEL	FIRES COAL, GAS, WOOD, AGWASTE INDUSTRIAL WASTE 78.5 TO 80% EFFICIENCY SIZES TO 1000 HP	COMBUSTION SERVICE 2016 BABCOCK BLVD PITTSBURGH PA 15209	359000
MULTI-FUEL BOILERS	RANGER	FIRES COAL, OIL, GAS, WOOD RESIDUE 90% EFFICIENCY SIZES 1300-14000 LB/HR	INDUSTRIAL BOILER CO 221 LAW ST THOMASVILLE GA 31799	200000

*Including installation.

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CATEGORY: BOILER SYSTEMS
FUNCTION: BURNERS

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
COMBINATION	WB-1-16	20 MM BTU/HR NATURAL GAS/NO 6 FUEL OIL STEAM ATOMIZATION 80-100 PSIG ATOMIZATION = 1% OF OUTPUT	KEELER DORR-OLIVER PO BOX 548 WILLIAMSPORT PA 17703 717-326-3361	29480

BURNERS

-09-85

 CATEGORY: BOILER SYSTEMS
 FUNCTION: COMBUSTION CONTROLS

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
ELECTROCHEMICAL	150	ANALYZES O ₂ , COMBUSTIBLES USE WITH ANY FUEL ACCURACY +/- 0.25% OF READING	BOILER TRIM INC 2325 ENDICOTT AVE ST PAUL MN 55114 612-646-0006	8500
ELECTROCHEMICAL	TC900	ANALYZES O ₂ IN FLUE GAS ACCURACY 1% OF READING TEMP LIMIT 1000 F INCLUDES ANALYZER	WESTINGHOUSE ELECTRIC PO BOX 910 ORRVILLE, OH 44667	9000
MICROPROCESSOR	8095	USED WITH GAS/OIL BURNERS NEEDS SEPARATE ANALYZER	NORTH AMERICAN MFG 4455 E 71 ST CLEVELAND OH 44105	4000
OXYGEN TRIM	OL 230	ACCURACY O ₂ +/- 2% OF SPAN CO ₂ +/- 1% OF SPAN RESPONSE TIME < 3 SECONDS	Bailey Controls 29801 EUCLID AVE WICKLIFFE OH 44092	10150
OXYGEN TRIM	OXYTRIM		CLEAVER-BROOKS PO BOX 421 MILWAUKEE WI 53201 414-962-0100	10000
OXYGEN TRIM	7310	REQUIRES ANALYZER CONTROLS AIR/FUEL RATIO	ECONICS 540 OAKMEAD PKWY SUNNYVALE CA 94086	6000
OXYGEN TRIM	OXY-TRIM A 10026	FIRETUBE BOILERS ONLY INCLUDES OXYGEN ANALYZER	HAYS-REPUBLIC 4333 S OHIO ST MICHIGAN CITY IN 46360	3000

 COMBUSTION CONTROLS

-09-85

 CATEGORY: BOILER SYSTEMS
 FUNCTION: HEAT RECOVERY

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
ECONOMIZER	ECONO/600M	FOR 400 HP BOILER CIRCULAR ECONOMIZER 4' DIA RECOVERS 600,000 BTU/HR	BELTRAN ASSOCIATES 200 OAK DRIVE SYOSSET NY 11791 516-921-7900	6500
ECONOMIZER	ECON-400HP	PRICE FOR 400 HP BOILER FOR USE WITH GAS FIRED BOILERS STAINLESS STEEL	KEMCO SYSTEMS 3520 N 126 ST BROOKFIELD WI 53005 414-781-5200	32000
ECONOMIZER	ECONOKIZER	RAISES FEEDWATER TEMP TO 300F INCLUDES SOOTBLOWER	YORK SHIPLEY PO BOX 349 YORK PA 17405 717-755-1081	12300
FLUE GAS HEAT RECOVERY	SH/TU	SHELL/TUBE UNIT TEFLON COATED SIZED FOR 11.4 TON/HR BOILER RECOVERS 1.34 MMBTU/HR RECOVERS SENSIBLE/LATENT HEAT	CONDENSING HEAT EXCHANG 678 TROY-SCHEN ROAD LATHAM NY 12110 518-785-1234	68000

 HEAT RECOVERY

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 CATEGORY: BOILER SYSTEMS
 FUNCTION: SMALL COGENERATION

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
ELECTRIC/CHILLED WATER	INTELL	FIRES .85 MMBTU/HR NATURAL GAS 65 KW ELECTRIC, 340000 BTU/HR HOT WATER AT 200 F, 240000 BTU/HR CHILLED WATER AT 46 F	INTELLICON 7750 DAGGETT ST SAN DIEGO CA 92111	105000 *
ELECTRIC/HOT WATER	M-100GNI	FIRES NATURAL GAS 1.15MMBTU/HR 100 KW ELECTRIC, 635000 BTU/HR HOT WATER AT 180 F	COGENIC ENERGY SYSTEMS 127 E 64 ST NEW YORK NY 10021 212-772-7500	100000 **
ELECTRIC/HOT WATER	M-120DWS	FIRES DIESEL-FUEL 1.25MMBTU/HR 120 KW ELECTRIC, 700000 BTU/HR HOT WATER AT 180 F	COGENIC ENERGY SYSTEMS 127 E 64 ST NEW YORK NY 10021 212-772-7500	100000 **
ELECTRIC/HOT WATER	SERIES 2000	FIRES 2.78 MMBTU/HR NAT GAS 230 KW ELECTRIC, 1.3 MMBTU/HR HOT WATER	MARTIN COGENERATION PO BOX 1698 TOPEKA KS 66601	330000
ELECTRIC/HOT WATER	TECOGEN	FIRES 0.76 MMBTU/HR NAT GAS 60 KW ELECTRIC, 440000 BTU/HR HOT WATER AT 240 F	THERMO ELECTRON 101 FIRST AVE WALTHAM MA 02254 617-890-8700	36000
ELECTRIC/THERMAL	200 DFY	FIRES 2.28MMBTU/HR DIESEL 200 KW ELECTRIC, 682000 BTU/HR STEAM AND/OR HOT WATER	ONAN CORP 1400 73 AVE MINNEAPOLIS MN 55432	135000

 SMALL COGENERATION

*Including installation.

**Including installation and delivery.

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 CATEGORY: ELECTRIC SYSTEMS
 FUNCTION: DRIVES

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
AC MOTORS	E SQUARE	84 TO 95% EFFICIENCY 150 HP 3600 RPM	DELCO PRODUCTS PO BOX 1042 DAYTON OH 45401	12000
AC MOTORS	SPARTON	89 TO 96% EFFICIENCY 250 HP 3600 RPM	LOUIS ALLIS 427 E STEWART ST MILWAUKEE WI 53201 414-481-6000	13000
AC MOTORS	XE DUTYMASTER	82 TO 96% EFFICIENCY 250 HP 3600 RPM	RELIANCE ELECTRIC 24701-T EUCLID AVE CLEVELAND OH 44117 216-266-7000	14500
AC MOTORS	MAC II	EFFICIENCY 85.5 TO 96.2% 300 HP 3600 RPM	WESTINGHOUSE ELECTRIC PO BOX 225 BUFFALO NY 14240	18000
VARIABLE SPEED	AFTROL II	15 HP, 230 V VARIABLE FREQUENCY 0 TO 120 HZ	GENERAL ELECTRIC 1100 LAWRENCE PKWY ERIE PA 16531	9500
VARIABLE SPEED	VSPEED	300 HP, 460 V, 3 PHASE	GRAHAM CO PO BOX 23880 MILWAUKEE WI 53223 414-355-8800	25000
VARIABLE SPEED	VAR SPEED	500 HP, 460 V VARIABLE FREQUENCY 6 TO 200 HZ	RELIANCE ELECTRIC 24701-T EUCLID AVE CLEVELAND OH 44117 216-266-7000	72000
VARIABLE SPEED	ACCUTROL 200	60 HP, 460 V, 3 PHASE	WESTINGHOUSE ELECTRIC PO BOX 819-W OLDSMAR FL 33557 813-855-4621	8200

 DRIVES
 ELECTRIC SYSTEMS

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CATEGORY: ELECTRIC SYSTEMS
FUNCTION: COMPRESSED AIR DRYERS

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
ABSORPTION	MPS50	100 SCFM, 100 PSIG HEATERLESS DRYER, 110 V USES 15% OF DRY AIR	ANDERSON INDUSTRIAL PROD PO BOX 9129 WETHERSFIELD CT 06109 203-721-7080	2500

COMPRESSED AIR DRYERS

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 CATEGORY: ELECTRICAL SYSTEMS
 FUNCTION: POWER FACTOR CORRECTION

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
CAPACITOR	CLASS 8117	MULTIPLE UNIT CAPACITORS AVAILABLE FOR 240/480/600 V PRICED FOR 360 KVAR/480 V	FEDERAL PACIFIC ELECTRIC 1605 E RODNEY FRENCH NEW BEDFORD MA 02744 617-996-8561	3709
CAPACITOR	CALMOUNT SERIES	SIZES 2 TO 75 KVAR, 480 V PRICED FOR 75 KVAR	MYRON ZUCKER 708 W LONG LAKE ROAD BLOOMFIELD HILLS MI 313-543-2277	1095
CAPACITOR	MAC II SERIES	IMPROVES MOTOR POWER FACTOR FOR 1 TO 200 HP MOTORS PRICE FOR 200 HP MOTORS	WESTINGHOUSE ELECTRIC DISTRIBUTION APPARATUS BLOOMINGTON IN 47401	400
CAPACITOR	TYPE MDP	MULTIPLE SIZES, VOLTAGES AVAILABLE PRICE FOR 480V, 300 KVAR	WESTINGHOUSE ELECTRIC DISTRIBUTION APPARATUS BLOOMINGTON IN 47401	4000

 POWER FACTOR CORRECTION
 ELECTRICAL SYSTEMS

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 CATEGORY: ENERGY MNGMT/CONTROLS
 FUNCTION: ECONOMIZER CONTROLS

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
ECONOMIZER CYCLE CONTROL	W859C 1040	MAX AMBIENT TEMP 125F MAX RETURN AIR TEMP 125F	HONEYWELL HONEYWELL PLAZA MINNEAPOLIS MN 55408 612-870-5355	457
ENTHALPY CONTROLLER	H205A 1012	MAXIMUM TEMPERATURE 150F	HONEYWELL HONEYWELL PLAZA MINNEAPOLIS MN 55408 612-870-5355	120
ENTHALPY CONTROLLER	HP973A 1006	RETURN AIR 65-85 DEG F 20-75% RH OUTDOOR AIR 32-100 DEG F 15-85% RH	HONEYWELL HONEYWELL PLAZA MINNEAPOLIS MN 55408 612-870-5355	231
SINGLE ZONE CONTROL SYS	W973	COMPLETE CONTROL PACKAGE FOR AIR HANDLING SYSTEM	HONEYWELL HONEYWELL PLAZA MINNEAPOLIS MN 55408 612-870-5355	1500

 ECONOMIZER CONTROLS

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 CATEGORY: ENERGY MNGMT/CONTROLS
 FUNCTION: ENERGY MANAGEMENT SYSTEM

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
MICROPROCESSOR EMS	W7000 II	10 OR 20 LOADS CONTROLLED TIME OF DAY ON/OFF DUTY CYCLING; DEMAND SHEDDING 7 DAY CLOCK WITH HOLIDAYS	HONEYWELL 1985 Douglas Drive North Golden Valley, MN 55422	9670
MICROPROCESSOR EMS	DSC-8500	UP TO 16 LOADS; ECONOMIZER CONTROL; TEMPERATURE RESETS; OPT ON/OFF TIME; DUTY CYCLING CHILLER OPTIMIZATION	JOHNSON CONTROLS 507 E MICHIGAN ST MILWAUKEE WI 53201 414-274-4000	12500
MICROPROCESSOR EMS	P/P 5000	HANDLES UP TO 32 LOADS OPTIMUM TIME OF DAY ON/OFF DUTY CYCLING; DEMAND SHEDDING 7 DAY CLOCK WITH HOLIDAYS	JOHNSON CONTROLS 507 E MICHIGAN ST MILWAUKEE WI 53201 414-274-4000	10000 *
MICROPROCESSOR EMS	16 SIXTY FOUR	UP TO 64 LOADS; PEAK SHEDDING; OPT ON/OFF TIME; DUTY CYCLING; 7 DAY CLOCK WITH HOLIDAYS	PACIFIC TECHNOLOGIES 11825 E 120 ST KIRKLAND WA 98033 206-823-7100	8780
MICROPROCESSOR EMS	8000C	UP TO 8 LOADS; PEAK SHEDDING OPT ON/OFF TIME; DUTY CYCLING;	SOLIDYNE 205 W 35 ST NATIONAL CITY CA 92050 619-427-9640	2000

 ENERGY MANAGEMENT SYSTEM

*Basic system.

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 CATEGORY: ENERGY MNGMT/CONTROLS
 FUNCTION: FACILITY MANAGEMENT SYS

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
BUILDING AUTOMATION	AI 2100 REX	HANDLES UP TO 48 POINTS DDC, PROCESS CONTROL, ENERGY MANAGEMENT PRICE PER POINT	AMERICAN AUTOMATRIX 1 TECHNOLOGY DRIVE EXPORT PA 15632 412-733-2000	125
BUILDING AUTOMATION	ALPHA/NET	HANDLES 3000 POINTS, EXPANDS ENERGY MANAGEMENT, FIRE AND SECURITY, MAINTENANCE SCHED, ACCESS CONTROL	AMF CONTROL SYSTEMS PO BOX 59469 DALLAS TX 75229 800-445-0121	110000
BUILDING AUTOMATION	MP-128	48 POINTS, EXPANDABLE ENERGY MANAGEMENT, FIRE AND SECURITY, MAINTENANCE SCHED, ACCESS CONTROL	FACILITEC CONTROLS 412 W 8 ST KANSAS CITY MO 64105 816-221-4292	10500
BUILDING AUTOMATION	DELTANET	HANDLES UP TO 200 POINTS ENERGY MANAGEMENT, FIRE AND SECURITY, MAINTENANCE SCHED, ACCESS CONTROL	HONEYWELL HONEYWELL PLAZA WEST MINNEAPOLIS MN 55408 610-870-5355	30000
BUILDING AUTOMATION	JC/85 SERIES	UNLIMITED EXPANDABILITY ENERGY MANAGEMENT, FIRE AND SECURITY, MAINTENANCE SCHED, ACCESS CONTROL; \$ PER POINT	JOHNSON CONTROLS PO BOX 423 MILWAUKEE WI 53201 414-274-4000	1000
BUILDING AUTOMATION	8600	ENERGY MANAGEMENT, FIRE AND SECURITY, MAINTENANCE SCHED, ACCESS CONTROL; \$ PER POINT	MARGAUX SYSTEMS 727 AIRPORT BLVD ANN ARBOR MI 48104	750
BUILDING AUTOMATION	SYSTEM 600	ENERGY MANAGEMENT, FIRE AND SECURITY, MAINTENANCE SCHED, ACCESS CONTROL; \$ PER POINT 100 TO 10000 POINTS	MCC POWERS 2942 MACARTHUR BLVD NORTHBROOK IL 60062 312-272-9555	800

 FACILITY MANAGEMENT SYS

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 CATEGORY: ENERGY MNGMT/CONTROLS
 FUNCTION: LOAD MANAGEMENT CONTROL

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
DEMAND CONTROLLER	2404	CONTROLS UP TO 24 LOADS; SHEDS ON PRIORITY BASIS OR ROTATING PRIORITY BASIS CAN ALSO DUTY CYCLE LOADS	DENCOR 2750 S SHOSHONE ENGLEWOOD CO 80110 303-761-2553	3800
DEMAND CONTROLLER	E/DC-1200	PREDICTIVE DEMAND CONTROL PRIORITIZES SHEDDING FOR EACH LOAD CONTROLS UP TO 32 LOADS	DYNAPAR PO BOX 570 BENSENVILLE IL 60106 312-595-7070	13000
DEMAND CONTROLLER	810A	MONITORS AND FORECASTS DEMAND HANDLES UP TO 60 LOADS CAPABILITIES CAN BE EXPANDED BY ADDITION OF MODULES	PACIFIC TECHNOLOGY 11825 120 ST NE KIRKLAND WA 98033 206-823-7100	11035
DEMAND CONTROLLER	DC-8	HANDLES 8 LOADS PRIORITIZES SHEDDING FOR EACH LOAD	POWER CONTROL PRODUCTS PO BOX 10013 CLEARWATER FL 33517 813-461-3833	1507

 LOAD MANAGEMENT CONTROL

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 CATEGORY: ENERGY MNGMT/CONTROLS
 FUNCTION: OPTIMIZER-CHILLER

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
CHILLER CONTROL	SYSTEM 400	OUTSIDE AIR RESET CONTROL FOR RECIPROCATING CHILLERS ONLY	CISCO 1240 NE 175 ST SEATTLE WA 98155 206-365-1234	507
CHILLER CONTROL	SYSTEM 700	OUTSIDE AIR RESET CONTROL FOR CENTRIFUGAL CHILLERS ONLY CONTROLS PUMPS AND CHILLER LEAD/LAG CONTROL	CISCO 1240 NE 175 ST SEATTLE WA 98155 206-365-1234	2271
CHILLER CONTROL	370	LEAD/LAG CONTROL OF 5 CHILLERS MONITORS CHILLED WATER TEMP	PACIFIC TECHNOLOGY 11825 120 ST NE KIRKLAND WA 98033 206-823-7100	2495

 OPTIMIZER-CHILLER

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 CATEGORY: ENERGY MNGMT/CONTROLS

 FUNCTION: OPTIMIZER-HEATING

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
OPTIMUM START/STOP	WP51A 1009	OPTIMUM START/STOP OF HEATING SYSTEM	HONEYWELL HONEYWELL PLAZA MINNEAPOLIS MN 55408 612-870-5355	506
OUTSIDE AIR RESET	T475A	MAXIMUM OUTDOOR TEMP 70F	HONEYWELL HONEYWELL PLAZA MINNEAPOLIS MN 55408 612-870-5355	175
OUTSIDE AIR RESET	FUEL MANAGER	VARIABLES HOT WATER TEMP BASED ON OUTSIDE AIR TEMP	SURGEONICS LTD 155 KISCO AVE MOUNT KISCO NY 10549 914-241-3203	350
OUTSIDE AIR RESET	TA240U	RESETS HOT WATER TEMP BASED ON OUTSIDE AIR TEMP; NIGHT SETBACK CONTROL 7 DAY CLOCK	TOUR & ANDERSSON 652 GLENROCK RD STAMFORD CT 06906 203-324-0106	1850

 OPTIMIZER-HEATING

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 CATEGORY: ENERGY MNGMT/CONTROLS
 FUNCTION: OPTIMIZER-HVAC

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
OPTIMUM START/STOP	ENERGYCENSOR4/12	OPTIMUM START/STOP DUTY CYCLING; MULTIPLE ZONES MULTIPLE TEMP RESETS 7 DAY CLOCK WITH HOLIDAYS	FUEL COMPUTER CORP 419 WHALLEY AVE NEW HAVEN CT 06511 203-865-3844	2700
OPTIMUM START/STOP	240 OTP	HEATING/COOLING CONTROL AUTOMATIC SWITCHOVER	TOUR & ANDERSSON 652 GLENROCK RD STAMFORD CT 06906 203-324-0106	1600

 OPTIMIZER-HVAC

 CATEGORY: ENERGY MNGMT/CONTROLS

 FUNCTION: OPTIMIZER-LIGHTING

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
DAYLIGHTING CONTROL	CONSERVOLITE	ADJUSTS FLUORESCENT LIGHT FIX- TURE OUTPUT TO MAXIMIZE USE OF NATURAL LIGHT REPLACES BALLAST	CONSERVOLITE PO BOX 215 OAKDALE PA 15071 412-787-8800	60
DAYLIGHTING CONTROL	M277-90	ADJUSTS FLUORESCENT LIGHT FIX- TURE OUTPUT TO MAXIMIZE USE OF NATURAL LIGHT	ENERTRON 1160 WICOMICO ST BALTIMORE MD 21230 301-837-1837	395
DAYLIGHTING CONTROL	PAESAR PRF	ADJUSTS FLUORESCENT LIGHT FIX- TURE OUTPUT TO MAXIMIZE USE OF NATURAL LIGHT	LUTRON Suter Road COOPERSBURG PA 18036 215-282-3800	940
FLUORESCENT DIMMER	FLEXIWATT II	REDUCES FLUORESCENT LIGHT OUTPUT IN PROPORTION TO DAYLIGHT CONTROLS UP TO 16 LAMPS	CONTROLLED ENVIRONMENT PO BOX 1109B ROCKVILLE MD 20850	14
FLUORESCENT DIMMER	MINIDIM	REDUCES FLUORESCENT LIGHT OUTPUT IN PROPORTION TO DAYLIGHT CONTROLS UP TO 16 LAMPS	ENERTRON 1100 WICOMICO ST BALTIMORE MD 21230	146

 - - OPTIMIZER-LIGHTING - -

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 CATEGORY: ENERGY MNGMT/CONTROLS

FUNCTION: THERMOSTAT-ELECTRIC

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
SETBACK THERMOSTAT	15015-0931-100	7 DAY CLOCK THERMOSTAT	AMMARK 22 RIVER ROAD FAIR LAWN NJ 07410 201-796-2500	70
SETBACK THERMOSTAT	15015-2531	MANUAL SETBACK CONTROL SINGLE ZONE HEATING ONLY	AMMARK 22 RIVER ROAD FAIR LAWN NJ 07410 201-796-2500	20
SETBACK THERMOSTAT	LI/TRONIC LT2	PHOTOCELL CONTROLS SETBACK	FEDERAL PACIFIC ELECTRIC 150 AVENUE L NEWARK NJ 07101 201-589-7500	38
SETBACK THERMOSTAT	T7400	HEATING/COOLING CONTROL 7 DAY CLOCK 3 HOUR MANUAL OVERRIDE 32-99 DEG F RANGE	HONEYWELL 1985 Douglas Drive North Golden Valley, MN 55422	370 *
SPACE THERMOSTAT	TP-1012/1033	HEATING (1012); COOLING (1033) HEATING RANGE 45-75 F COOLING RANGE 75-105 F	BARBER COLMAN 1300 ROCK ST ROCKFORD IL 61101 815-968-2402	115
SPACE THERMOSTAT	T7500B 1001	PROPORTIONAL CONTROL SETPOINT RANGE 60-90 DEG F	HONEYWELL 1985 Douglas Drive North Golden Valley, MN 55422	98

 THERMOSTAT-ELECTRIC

*Basic model.

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CATEGORY: ENERGY MNGMT/CONTROLS
FUNCTION: THERMOSTAT-PNEUMATIC

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
AIRSTREAM THERMOSTAT	LP910A 1007	TEMP RANGE 40-230 DEG F SINGLE PIPE SYSTEM	HONEYWELL HONEYWELL PLAZA MINNEAPOLIS MN 55408 612-870-5355	123
AIRSTREAM THERMOSTAT	T3200-1	PROPORTIONAL CONTROL	JOHNSON CONTROLS 507 E MICHIGAN AVE MILWAUKEE WI 53201 414-274-4000	228
SETBACK THERMOSTAT	TK1302/1303	HEATING (1302) COOLING (1303) 20 DEG F SETBACK/FORWARD HEATING RANGE 45-75 F COOLING RANGE 75-105 F	BARBER COLMAN 1300 ROCK ST ROCKFORD IL 61101 815-968-2402	120
SETBACK THERMOSTAT	TK13131	HEATING AND COOLING CONTROL HEATING RANGE 55-85 F COOLING RANGE 55-85 F	BARBER COLMAN 1300 ROCK ST ROCKFORD IL 61101 815-968-2402	171
SPACE THERMOSTA.	TK1002/1003	HEATING(1002) COOLING (1003) HEATING RANGE 45-75 DEG F COOLING RANGE 75-105 DEG F	BARBER COLMAN 1300 ROCK ST ROCKFORD IL 61101 815-968-2402	85
SPACE THERMOSTAT	TP970A	TEMPERATURES UP TO 150 DEG F TWO PIPE SYSTEM	HONEYWELL HONEYWELL PLAZA MINNEAPOLIS MN 55408 612-870-5355	55
SPACE THERMOSTAT	T4056	ADJUSTABLE DEAD BAND HEATING AND COOLING SENSORS	JOHNSON CONTROLS 507 E MICHIGAN AVE MILWAUKEE WI 53201 414-274-4000	159

THERMOSTAT-PNEUMATIC

09-85

 CATEGORY: ENERGY MNGMT/CONTROLS

 FUNCTION: TIME OF DAY CONTROL

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
TIME CLOCK-ELECTROMECH	4004-71S	24 HOUR CLOCK MANUAL OVERRIDE WEEKEND SCHEDULING CAPABILITY UP TO 7 ON/OFF EVENTS DAILY	AMF PARAGON 606 PARKWAY BLVD TWO RIVERS WI 54241 414-793-1161	47
TIME CLOCK-ELECTROMECH	7218-00	7 DAY CLOCK MANUAL OVERRIDE 4 ON/OFF EVENTS DAILY	AMF PARAGON 606 PARKWAY BLVD TWO RIVERS WI 54241 414-793-1161	203
TIME CLOCK-ELECTROMECH	7220 TIME CLOCK	24 HOUR CLOCK OPERATION MANUAL OVERRIDE	TORK 1 GROVE ST MOUNT VERNON NY 10550 914-664-3542	100
TIME CLOCK-ELECTROMECH	8007 DUTY CYCLE	24 HOUR CLOCK DAY OMISSION CAPABILITY UP TO 48 DAILY ON/OFF EVENTS	TORK 1 GROVE STREET MOUNT VERNON NY 10550 914-664-3542	203
TIME CLOCK-ELECTROMECH	W220 TIME CLOCK	7 DAY CLOCK OPERATION MANUAL OVERRIDE	TORK 1 GROVE ST MOUNT VERNON NY 10550 914-664-3542	92
TIME CLOCK-SOLID STATE	EC700 SERIES	HANDLES UP TO 12 LOADS 64 ON/OFF OPERATIONS DAILY 7 DAY CLOCK MANUAL OVERRIDE	AMF PARAGON 606 PARKWAY BLVD TWO RIVERS WI 54241 414-793-1161	891
TIME CLOCK-SOLID STATE	EC702	HANDLES UP TO 12 CIRCUITS HAS DUTY CYCLING CAPABILITY 1 TO 60 MINUTES; 7 DAY CLOCK MANUAL OVERRIDE	AMF PARAGON 606 PARKWAY BLVD TWO RIVERS WI 54241 414-793-1161	1031
TIME CLOCK-SOLID STATE	S800D	7 DAY CLOCK MANUAL OVERRIDE HANDLES 8 CIRCUITS UP TO 500 WEEKLY ON/OFF EVENTS	TORK 1 GROVE ST MOUNT VERNON NY 10550 914-664-3542	1140

 TIME OF DAY CONTROL
 ENERGY MNGMT/CONTROLS

-09-85

 CATEGORY: FIXED INSTRUMENTATION
 FUNCTION: METERING-ELECTRICAL

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
AMMETER	SERIES 63A	ANALOG DIAL 3.5" 0-50 AMPS AC	EMILO 123 N MAIN ST DUBLIN PA 18917 215-249-9330	45
AMMETER	582	50 MV MOVEMENT +/- 2% ACCURACY 0-3000 A 3.5" ROUND ANALOG DIAL	HOYT ELECTRICAL INST LINDEN ST PENACOOK NH 03303 603-753-6321	50
AMMETER/VOLTMETER	2S AKV 600	TORQUE BAND RANGE 0-600V 2" METER	MODUTEC INC 18 MARSHALL ST NORWALK CT 06856 203-853-3636	56
FREQUENCY METER	2163	50 OR 60 HZ NOMINAL MODELS ACCURACY +/- 0.3% OF MIDSCALE	SIMPSON ELECTRIC 853 DUNDEE AVE ELGIN IL 60120 312-697-2260	90
KILOWATT-HOUR	PC5-4/PA1-1000P	WATT TRANSDUCER WITH ELECTRONIC TOTALIZER BATTERY BACKUP	OHIO SEMITRONICS 1205 CHESAPEAKE AVE COLUMBUS OH 43212 614-486-9561	540
KILOWATT-HOUR	W4/1044-7	PULSE TRANSDUCER WITH ELECTRO- MECHANICAL TOTALIZER	OHIO SEMITRONICS 1205 CHESAPEAKE AVE COLUMBUS OH 43212 614-486-9561	620
VOLT, AMP, WATTS, P.F.	2524	2 REQUIRED FOR 3 PHASE/3 WIRE 3 REQUIRED FOR 3 PHASE/4 WIRE	YOKOGAWA CORP OF AMERICA 2 DART ROAD SHENANDOAH GA 30265 404-253-7000	1550
VOLTMETER	SERIES 63	ANALOG DIAL 3.5" UP TO 600VAC	EMILO 123 N MAIN ST DUBLIN PA 18917 215-249-9330	55
VOLTMETER	10406	RANGE 0 TO 250 VAC VISCIOUS DAMPED IRON VANE	SIMPSON ELECTRIC 853 DUNDEE AVE ELGIN IL 60120 312-697-2260	37
WATTHR, VOLTS, P.F.	636	RANGE TO 600 V, 50 A ACCURACY +/- 0.5%	RFL INDUSTRIES INSTRUMENTATION DIV BOONTON NJ 07002 201-334-3100	6650

09-85

 CATEGORY: FIXED INSTRUMENTATION
 FUNCTION: METERING-ELECTRICAL

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
WATTMETER	255		CLARKE-HESS 17 W 17 ST NEW YORK NY 10011 212-255-2940	1365
WATTMETER	SERIES 808	460 V	DRANETZ INDUSTRIAL PROD 1000 NEW DURHAM RD EDISON NJ 08818 201-297-3680	3435

 METERING-ELECTRICAL

-09-85

 CATEGORY: FIXED INSTRUMENTATION
 FUNCTION: METERING-GAS

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
POSITIVE DISPLACEMENT	AL-1400	ACCURACY +/- 1% PRICED FOR 3" LINE DIRECT READING TOTALIZER	AMERICAN METER 13500 PHILMONT AVE PHILADELPHIA PA 19116 215-673-2100	2102
TURBINE	MARK II SERIES	SIZES FROM 4" - 12" MAX FLOW TO 13 MM CUB FT/HR DIRECT OR DIAL READING PRICED FOR 4" SIZE	ROCKWELL INTERNATIONAL 411 N LEXINGTON AVE PITTSBURGH PA 15208 412-247-3000	2270
VORTEX SHEDDING	4050G	ACCURACY +/- 1% OF RATE ELECTROMECHANICAL TOTALIZER PRICED FOR 3" PIPE	EASTECH 26 W HIGHLAND AVE ATLANTIC HIGHLANDS NJ 201-291-3500	1470
VORTEX SHEDDING	10 LV3000	8 DIGIT NON-RESET DIRECT READ TOTALIZER PRICED FOR 3" LINE	FISCHER AND PORTER 51 WARMINSTER RD WARMINSTER PA 18974 215-674-6000	1820

 METERING-GAS

1-09-85

 CATEGORY: FIXED INSTRUMENTATION
 FUNCTION: METERING-LIQUID

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
ULTRASONIC	UFT-603 CW	PIPE SIZE 0.25 - 60 INCHES TEMPERATURE TO 800F FLOW RATES 0-2.5 FT/SEC OR 0-20 FT/SEC	DYNASONICS PO BOX 667 NAPERVILLE IL 60540 312-355-3055	3000
ULTRASONIC	DHT-HYDRA PORT	FLOW RATE 0 - 5 FT/SEC TEMPERATURE -10 - 140 DEG F	POLYSONICS PO BOX 22428 HOUSTON TX 77227 713-623-2134	5300

 METERING-LIQUID

-09-85

 CATEGORY: FIXED INSTRUMENTATION
 FUNCTION: METERING-OIL

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
PISTON	MINI MAJOR	SIZE 0.25 INCHES FLOW RANGE 0.6 - 48 GAL/HR PRESSURE TO 400 PSI STAINLESS STEEL	KENT METER SALES PO BOX 1852B OCALA FL 32678 904-732-4670	450
POSITIVE DISPLACEMENT	LS-21-212	OVAL GEAR METER MODELS FOR LIGHT AND HEAVY OIL FLOW RANGE 5-200 GAL/HR	BROOKS INSTRUMENT DIV 407 W VINE ST HATFIELD PA 19440 215-362-3500	396
POSITIVE DISPLACEMENT	46736	FLOW RATE 0.1-20 GAL/HR TEMP RANGE -20 - 140 DEG F	MARADYNE CORP 6503 BABERTON AVE CLEVELAND OH 44102 216-281-1050	159
POSITIVE DISPLACEMENT	TYPE S METER	FLOW RATE 5-50 GAL/MIN MAXIMUM PRESSURE 150 PSI	NEPTUNE MEASUREMENT PO BOX 792 GREENWOOD SC 29646 803-223-1212	445
POSITIVE DISPLACEMENT	LN-DSB2009-16-70	FLOW RATE 0-200 GAL/MIN ALUMINUM CONSTRUCTION	UNIVERSAL FLOW MONITORS 1751E NINE MILE ROAD HAZEL PARK MI 48030 800-521-6382	1185
TURBINE	FSB 1502	PRESSURE TO 6000 PSI FLOW RANGE 0.5 - 350 GAL/MIN PRICED FOR 200 GAL/MIN MODEL	FLO-TECH 403 S WASHINGTON BLVD MUNDELEIN IL 60060 312-566-9120	410

 METERING-OIL

-09-85

CATEGORY: FIXED INSTRUMENTATION
FUNCTION: METERING-PRESSURE

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
DIGITAL MANOMETER	2654-21	AVAILABLE FOR DIFFERENT PRESSURE RANGES 2 SECOND RESPONSE TIME ACCURACY +/- 0.2%	YOKOGAWA CORP OF AMERICA 2 DART ROAD SHENANDOAH GA 30265 404-253-7000	3158

METERING-PRESSURE

-09-95

 CATEGORY: FIXED INSTRUMENTATION
 FUNCTION: METERING-STEAM

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
FLOW MONITORING	DIGISTRIP 4S	HANDLES UP TO 64 INPUTS MODULARLY EXPANDABLE TO HANDLE CONTROL FUNCTIONS BUILTIN PRINTER	KAYE INSTRUMENTS 17 DE ANGELO DRIVE BEDFORD MA 01730 800-343-4624	7000
ORIFICE PLATE	1700/3400 SERIES	ACCURACY +/- 1.5% PRICED FOR 4" LINE INCLUDES PRESSURE TRANSMITTER AND TOTALIZER	AMERICAN METER 13500 PHILMONT AVE PHILADELPHIA PA 19116 215-673-2100	1650
ORIFICE PLATE	BC2421114	INCLUDE ORIFICE PLATE, TRANS- MITTER, RECORDER/TOTALIZER ACCURACY +/- 0.25% OF SPAN PRICED FOR 4" LINE	BAILEY METER 29801 Euclid Avenue WICKLIFFE OH 44092 216-585-8000	3150
ORIFICE PLATE	IEP500	SINGLE PEN RECORDER WITH TOTALIZER INCLUDES ORIFICE PLATE, FLANGE PRICED FOR 4" LINE	BRISTOL BABCOCK 40 BRISTOL ST WATERBURY CT 203-575-3000	2700
ORIFICE PLATE	HD	INCLUDES LCD DISPLAY, BYPASS AND ORIFICE PLATE PRICED FOR 4" LINE	CADILLAC METER CO PO BOX 1175T PORT TOWNSEND WA 98368 206-385-5500	3100
ORIFICE PLATE	ORIFICE PLATE	INCLUDES ORIFICE PLAT, FLANGES TRANSMITTER AND INTEGRATOR PRICED FOR 3.5" LINE	LEEDS & NORTHRUP PO BOX 279 UNION NJ 07083 201-686-5200	3675
VORTEX SHEDDING	10LV3000	8 DIGIT NON-RESET DIRECT READ TOTALIZER PRICED FOR 4" LINE	FISCHER AND PORTER 51 WARMINSTER RD WARMINSTER PA 18974 215-674-6000	1970
VORTEX SHEDDING	YF 100 SERIES	PRICED FOR 3" LINE REMOTE MOUNTED ELECTRONICS	YOKOGAWA CORP OF AMERICA 2 DART ROAD SHENANDOAH GA 30265 404-253-7000	1720

 METERING-STEAM

9-85

 CATEGORY: FIXED INSTRUMENTATION
 FUNCTION: METERING-TEMPERATURE

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
PYROMETER	2PYRE-J1000	RANGE 0 - 100 DEG F	MODUTEC INC 18 MARSHALL ST NORWALK CT 06856 203-853-3636	75
TEMPERATURE LOGGER	205B	INCLUDES PRINTER AND DISPLAY PROGRAMMABLE LOGGING SEQUENCE HANDLES UP TO 36 CHANNELS MULTIPLE THERMOCOUPLE TYPES	DORIC SCIENTIFIC 3883 RUFFIN RD SAN DIEGO CA 92123 619-565-4415	4339
TEMPERATURE LOGGER	PB 707	10 CHANNEL LOGGER LINEAR ANALOG OUTPUT MULTIPLE THERMOCOUPLE TYPES	HADES MANUFACTURING 151-T VERDI ST FARMINGDALE NY 11735 516-249-4244	435
TEMPERATURE LOGGER	OM-202-+-10-SCT	10 CHANNEL MONITOR/LOGGER PROGRAMMABLE INCLUDES PRINTER AND DISPLAY MULTIPLE THERMOCOUPLE TYPES	OMEGA ENGINEERING PO BOX 4047 STAMFORD CT 06907 203-359-7700	1294
TEMPERATURE LOGGER	DATA FORCE	10 CHANNEL DISPLAY TYPE K THERMOCOUPLES EXPANDABLE TO ADD CONTROL PRINTER AVAILABLE SEPARATELY	WAHL INSTRUMENTS 5750A HANNUM AVE CULVER CITY CA 90230 213-641-6931	5000
THERMOCOUPLE INDICATOR	707	MULTIPLE THERMOCOUPLE TYPES TOTAL ERROR < 2 F OVER RANGE	HADES MANUFACTURING 151-7 VERDI STREET FARMINGDALE NY 11735 516-249-4244	239

 METERING-TEMPERATURE

09-85

 CATEGORY: FIXED INSTRUMENTATION
 FUNCTION: METERING-WATER

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
MAGNETIC TURBINE	TM3000	SIZE 1.5 - 12 INCH FLOW RATE 4 - 6500 GAL/MIN BRONZE PRICE FOR 2"	KENT METER SALES PO BOX 1852B OCALA FL 32678 904-732-4670	375
POSITIVE DISPLACEMENT	DS 9000 SERIES	OVAL GEAR METER FLOW RATE UP TO 31 GAL/MIN STAINLESS STEEL CONSTRUCTION FOR DEIONIZED WATER	BROOKS INSTRUMENT DIV 407 W VINE ST HATFIELD PA 19440 215-362-3500	2000
POSITIVE DISPLACEMENT	C700	SIZE 0.5 - 2 INCH TEMP RANGE 0 - 50 C FLOW RATE 0.25 - 60 GAL/MIN PRICE FOR 2"	KENT METER SALES PO BOX 1852B OCALA FL 32678 904-732-4670	450
TURBINE	2 INCH TURBO	RANGE 8 - 160 GAL/MIN 2 INCH CAST IRON TOTALIZING REGISTER	BADGER METER 4545 W BROWN DEER ROAD MILWAUKEE WI 53223 414-355-0400	585
TURBINE	FSB-1502	PRESSURE TO 6000 PSI FLOW RANGE 0.5 - 350 GAL/MIN PRICED FOR 200 GAL/MIN MODEL	FLO-TECH 403 S WASHINGTON BLVD MUNDELEIN IL 60060 312-566-9120	425
VORTEX SHEDDING	4050W	ACCURACY +/- 1% OF RATE ELECTROMECHANICAL TOTALIZER PRICED FOR 3" PIPE	EASTECH 26 W HIGHLAND AVE ATLANTIC HIGHLANDS NJ 201-291-3500	1470

 METERING-WATER
 FIXED INSTRUMENTATION

19-85

 CATEGORY: HEAT EXCHANGERS
 FUNCTION: AIR TO AIR

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
PLATE	2 DUCT SERIES 4	MODULAR UNIT PRICE PER 1000 CFM ALUMINUM	DES CHAMPS LABS PO BOX 440 EAST HANOVER NJ 07936 201-884-1460	600
PLATE	M10 6SS	10000 SCFM NOMINAL TEMPERATURE UP TO 700 F EFFICIENCY 68%	DES CHAMPS LABS PO BOX 440 EAST HANOVER NJ 07936 201-884-1460	20150

 --- AIR TO AIR ---

09-85

 CATEGORY: HEAT EXCHANGERS
 FUNCTION: LIQUID TO LIQUID

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
PLATE	PLT	SIZE ON APPLICATION FLOW RATES DEPEND ON APPLIC PRICE TYP FOR SMALL, MED USES PRICE RANGE \$500 - \$750000	MUELLER COMPANY PO BOX 828 SPRINGFIELD MI 48801 417-831-3000	7500
PLATE	PLTE	SIZE ON APPLICATION FLOW RATES DEPEND ON APPLIC PRICE TYP FOR SMALL, MED USES PRICE RANGE \$1000 - \$100000	TRANTER 705 EAST HAZEL ST LANSING MI 48909 817-723-7125	7500
SHELL AND TUBE	6" HEAT EXCH	17 GPM PREHEAT WATER TO 140 F	BELL AND GOSSETT 4711 GOLF ROAD SKOKIE IL 60076 800-243-8160	1000

--- LIQUID TO LIQUID ---

-09-85

CATEGORY: HEAT EXCHANGERS

FUNCTION: WATER HEATING

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
DIRECT CONTACT	TE-100	SIZE RANGE 0.75 - 16 MMBTU/HR DIRECT FIRED EFFICIENCY EXCESS 100% SIZE FOR 2 MMBTU/HR UNIT	KEMCO SYSTEMS 3250 N 126 ST BROOKFIELD WI 53005 414-781-5200	22000

-- WATER HEATING --
-- HEAT EXCHANGERS --

9-85

 CATEGORY: HEATED MEDIUM DIST SYS
 FUNCTION: HIGH TEMPERATURE INSULATION

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
INSULATION-CERAMIC FIBER	CE CER FIB	TEMPERATURE UP TO 1400 F PRICED PER SQ METER	C-E REFRACTORIES PO BOX 828 T VALLEY FORGE PA 19482 215-337-1100	5
INSULATION-CERAMIC FIBER	BLANKET	TEMPERATURE UP TO 2300 F THICKNESS 1" DENSITY 8 LB/CUBIC FT PRICED PER SQ METER	CARBORUNDUM CORP PO BOX 808 NIAGARA FALLS NY 14302 716-278-6221	22
INSULATION-CERAMIC FIBER	COTRONIC BLANKET	TEMPERATURE UP TO 1200 C THICKNESS 1" PRICED PER SQ METER	COTRONICS 3379A SHORE PARKWAY BROOKLYN NY 11235 719-646-7996	35
INSULATION-CERAMIC FIBER	CERAFIBER	DENSITY 3-8 LB/CUBIC FOOT TEMP TO 2400 DEG F THICKNESS 0.25 - 2 INCH PRICED PER SQ METER	MANVILLE PO BOX 5108 DENVER CO 80217 800-243-8160	30

- HIGH TEMPERATURE -

19-95

 CATEGORY: HEATED MEDIUM DIST SYS
 FUNCTION: PIPING INSULATION

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
INSULATION-FIBERGLAS	FIBERFLEX FIBER6	THICKNESS 6"; R-VALUE 19 PRICED PER SQ METER	FIBERFLEX 574-T FERRY ST NEWARK NJ 07105 800-526-8047	3
INSULATION-FIBERGLAS	700 SERIES	THICKNESS 2.5"; R-VALUE 10.3 TEMPERATURE UP TO 200 F PRICED PER SQ METER	OWENS CORNING FIBERGLAS FIBERGLAS TOWER TOLEDO OH 43659 419-248-8000	3
INSULATION-MINERAL WOOL	JANOS MIN WOOL	THICKNESS 2"; R-VALUE 8.25 TEMPERATURE TO 1200 F PRICED PER SQ METER	JANOS INDUSTRIAL 86 W COMMERCIAL AVE MOONACHIE NJ 07074 201-933-5854	5
INSULATION-MINERAL WOOL	USG MIN WOOL	THICKNESS 2" PRICED PER SQ METER	UNITED STATES GYPSUM 101 S WACKER DRIVE CHICAGO IL 60606 312-321-4345	5
INSULATION-FIBERGLAS	MICROLOK 650	SUPPLIED IN 1 METER LENGTHS K = 0.23 BTU/SQFT/DEGF/HR TEMP TO 343 C; UP TO 30" THICK PRICED PER LINEAR METER	MANVILLE PO BOX 5108 DENVER CO 80217 800-243-8160	4

 PIPING

09-85

 CATEGORY: HEATED MEDIUM DIST SYS
 FUNCTION: STEAM TRAPS

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
CONTROL VALVES	ST 2"	TEMP RANGE 35-240 F STEEL CONSTRUCTION	OGONTZ PO BOX 479 WILLOW GROVE PA 19090 215-657-4470	1125
STEAM TRAP	U1010	0.5" INVERTED BUCKET TRAP STAINLESS STEEL 680 LB/HR CAPACITY AT 125 PSIG OPERATES TO 450 PSIG	ARMSTRONG MACHINE WORKS 8091 MAPLE ST THREE RIVERS MI 49093 616-273-1415	81
STEAM TRAP	CTV 1/2"	TEMP RANGE 60-240 F TUBULAR STAINLESS STEEL	OGONTZ PO BOX 479 WILLOW GROVE PA 19090 215-657-4470	100
STEAM TRAP	INVERTED BUCKET	PRESSURE TO 150 PSI PRICE FOR 0.5" INVERTED BUCKET TRAP	SARCO COMPANY PO BOX 119 ALLENTOWN PA 18105 215-797-5830	100

 STEAM SYSTEMS

09-85

 CATEGORY: HEATED MEDIUM DIST SYS
 FUNCTION: SURFACE INSULATION

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
INSULATION-FIBERGLAS	GP BLANKET	THICKNESS 6"; R-VALUE 19 TEMPERATURE LIMIT 200F PRICED PER SQ METER	GEORGIA PACIFIC 133 PEACHTREE ST ATLANTA GA 30303 800-243-8160	3
INSULATION-MINERAL WOOL	SHEET	THICKNESS 2" TEMPERATURE UP TO 1400 F PRICED PER SQ METER	WACO INC 292+ BELLS ROAD RICHMOND VA 23224 804-222-8440	5

 SURFACE

HEATED MEDIUM DIST SYS

-09-85

 CATEGORY: LIGHTING SYSTEMS
 FUNCTION: FLUORESCENT BALLASTS

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
ELECTRONIC	ELECTROBALLAST	120 V SOLID STATE	CONTROL TECHNOLOGY LIGHT 3000 HEMPSTEAD TURNPIKE LEVITTOWN NY 11576 516-579-7370	30
ELECTRONIC	SSB 1-277-2/40	USES 57 W TO OPERATE 2 X 34 W FIXTURE 277 OR 120 VOLT MODELS	ELECTRONIC BALLAST TECH 20695 S WESTERN AVE TORRANCE CA 90501	31
ELECTRONIC	2120-48 AD	120 V 0.4 AMPS LINE CURRENT	ELECTRONIC TRANSFORMER 575 ASHLEY PLACE GRANTS PASS OR 97526 503-476-6900	30
ELECTRONIC	OPTIMISER	AVAILABLE FOR 120 OR 277 V	GENERAL ELECTRIC NELA PARK CLEVELAND OH 44112 216-266-4256	31
ELECTRONIC	WNB-234	VOLTAGE 120 OR 277 V USE WITH 3' OR 4' TUBES	THOMAS INDUSTRIES PO BOX 180 SPARTA TN 38583 615-738-2241	25
STANDARD	MARK III	VOLTAGE 120 OR 277 V	ADVANCE TRANSFORMER 2950 N WESTERN AVE CHICAGO IL 60618 312-267-8100	25
STANDARD	412 L SLH TC-P	VOLTAGE 120 V	UNIVERSAL MFG CO 200 ROBIN ROAD PARAMUS NJ 07652 201-967-7600	21

 FLUORESCENT BALLASTS

09-85

 CATEGORY: LIGHTING SYSTEMS
 FUNCTION: LIGHTING SOURCES

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
HIGH EFF FLUORESCENT	OPTIMA 32	34 WATT PER 4 FOOT TUBE 53 LUMENS/WATT	DURO-TEST 2321 KENNEDY BLVD NORTH BERGEN NJ 07047	12
HIGH EFF FLUORESCENT	OPTIMA 50	34 WATT PER 4 FOOT TUBE 48 LUMENS/WATT	DURO-TEST 2321 KENNEDY BLVD NORTH BERGEN NJ 07047	13
HIGH EFF FLUORESCENT	MOD-U-LINE	HIGH EFFICIENCY U-TUBES 34 WATT PER TUBE 76 LUMENS/WATT	GENERAL ELECTRIC NELA PARK CLEVELAND OH 44112 216-266-4256	9
HIGH EFF FLUORESCENT	WATT MISER II	HIGH EFFICIENCY 4 FOOT TUBES 34 WATT; 71 LUMENS/WATT AVERAGE LIFE 20000 HOURS	GENERAL ELECTRIC NELA PARK CLEVELAND OH 44112 216-266-4256	4
HIGH EFF FLUORESCENT	CURVALUME	HIGH EFFICIENCY U-TUBES 34 WATTS PER TUBE	GTE SYLVANIA 100 ENDICOTT ST DANVERS MA 01923 617-777-1900	9
HIGH EFF FLUORESCENT	OCTRON	32 WATT PER 4 FOOT TUBE 80 LUMENS/WATT REQUIRES SPECIAL BALLAST	GTE SYLVANIA 100 ENDICOTT ST DANVERS MA 01923 617-777-1900	3
HIGH EFF FLUORESCENT	SUPERSAVER II	34 WATT PER 4 FOOT TUBE 76 LUMENS/WATT	GTE SYLVANIA 100 ENDICOTT ST DANVERS MA 01923 617-777-1900	3
HIGH EFF FLUORESCENT	SUPERSAVER III	34 WATT PER 4 FOOT TUBE 76 LUMENS/WATT	GTE SYLVANIA 100 ENDICOTT ST DANVERS MA 01923 617-777-1900	4
HIGH EFF FLUORESCENT	COLOR 84	40 WATTS PER 4 FOOT TUBE 86 LUMENS PER WATT	NORTH AMERICAN PHILLIPS 1 WESTINGHOUSE PLAZE BLOOMFIELD NJ 07003 609-449-0700	7
HIGH EFF FLUORESCENT	ECONOWATT	34 WATT PER 4 FOOT TUBE 74 LUMENS PER WATT	NORTH AMERICAN PHILLIPS 1 WESTINGHOUSE PLAZA BLUOMFIELD NJ 07003	3

09-85

 CATEGORY: LIGHTING SYSTEMS
 FUNCTION: LIGHTING SOURCES

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
HIGH EFF INCANDESCENT	MISER/WATT-MISER	CONSUME 15% LESS THAN STANDARD INCANDESCENT BULBS SIZES TO 135 W PRICE FOR 135 W	GENERAL ELECTRIC NELA PARK CLEVELAND OH 44112 216-266-4256	2
HIGH EFF INCANDESCENT	SUPERSAVER XL	CONSUMES 15% LESS ENERGY THAN STANDARD INCANDESCENT BULBS SIZES 34 TO 135 W PRICE FOR 135 W	GTE SYLVANIA 100 ENDICOTT ST DANVERS MA 01923 617-777-1900	2
HIGH EFF INCANDESCENT	WATT-WATCHER	CONSUMES 12.5% LESS ENERGY THAN STANDARD INCANDESCENTS SIZES 35 TO 135 WATT	NORTH AMERICAN PHILLIPS 1 WESTINGHOUSE PLAZE BLOOMFIELD NJ 07003 609-448-0700	2
HIGH PRESSURE SODIUM	LUCALOX	PRICE VARIES WITH SIZE SIZES 35 TO 1000 W 64 TO 140 LUMENS/WATT PRICE FOR 1000 W	GENERAL ELECTRIC NELA PARK CLEVELAND OH 44112 216-266-4256	125
HIGH PRESSURE SODIUM	LUMALUX	PRICE VARIES WITH SIZE SIZES 35 TO 1000 WATT 61 TO 140 LUMENS/WATT PRICE FOR 1000 W	GTE SYLVANIA 100 ENDICOTT ST DANVERS MA 01923 617-777-1900	126
HIGH PRESSURE SODIUM	UNALUX	DIRECT REPLACEMENT FOR MERCURY VAPOR LAMPS SIZES 150 TO 880 W PRICE FOR 360 W	GTE SYLVANIA 100 ENDICOTT ST DANVERS MA 01923 617-777-1900	54
HIGH PRESSURE SODIUM	CERAMALUX	PRICE VARIES WITH SIZE SIZES 35 TO 1000 W 100 TO 140 LUMENS/WATT	NORTH AMERICAN PHILLIPS 1 WESTINGHOUSE PLAZA BLOOMFIELD NJ 07003 609-448-0700	135
HIGH PRESSURE SODIUM	HPS VANDALITE	SIZES 50, 70 AND 100 WATT 72 TO 95 LUMENS/WATT INCLUDES FIXTURE AND DIFFUSER PRICE FOR 100 W	NORTH AMERICAN PHILLIPS 1 WESTINGHOUSE PLAZA BLOOMFIELD NJ 07003 609-448-0700	155
LOW PRESSURE SODIUM	MINISOX 18W	FOR AREAS UP TO 1500 SQ FT INCLUDES FIXTURE AND PHOTOCELL CONSUMES 18W, LIGHT EQUIVALENT TO 150W INCANDESCENT	NORTH AMERICAN PHILLIPS 1 WESTINGHOUSE PLAZA BLOOMFIELD NJ 07003 609-448-0700	110
LOW PRESSURE SODIUM	SOX 55W	FOR AREAS UP TO 3000 SQ FT INCLUDES FIXTURE AND PHOTOCELL CONSUMES 55W, 193 LUMENS/WATT	NORTH AMERICAN PHILLIPS 1 WESTINGHOUSE PLAZA BLOOMFIELD NJ 07003 609-448-0700	155

9-85

 CATEGORY: LIGHTING SYSTEMS
 FUNCTION: LIGHTING SOURCES

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
MERCURY VAPOR	GE MERC VAPOR	PRICE VARIES WITH SIZE SIZES 40 TO 1000 W 28 TO 63 LUMENS/WATT PRICE FOR 1000 W	GENERAL ELECTRIC NELA PARK CLEVELAND OH 44112 216-266-4256	51
MERCURY VAPOR	GTE MERC VAPOR	PRICE VARIES WITH SIZE SIZES 40 TO 1000 WATT 34 TO 63 LUMENS/WATT	GTE SYLVANIA 100 ENDICOTT ST DANVERS MA 01923 617-777-1900	135
MERCURY VAPOR	LIFEGUARD	PRICE VARIES WITH SIZE SIZES 40 TO 1000 WATT 40 TO 50 LUMENS/WATT	NORTH AMERICAN PHILLIPS 1 WESTINGHOUSE PLAZA BLOOMFIELD NJ 07003	200
METAL HALIDE	MULTI-VAPOR	PRICE VARIES WITH SIZE SIZES 175 TO 1000 WATT 80 TO 115 LUMENS/WATT PRICE FOR 1000 W	GENERAL ELECTRIC NELA PARK CLEVELAND OH 44112 216-266-4256	93
METAL HALIDE	SUPER METALARC	PRICE VARIES WITH SIZE SIZES 175 TO 1000 WATT 80 TO 125 LUMENS/WATT PRICED FOR 1000 W	GTE SYLVANIA 100 ENDICOTT ST DANVERS MA 01923 617-777-1900	106
METAL HALIDE	LIFEGUARD MH	PRICE VARIES WITH SIZE SIZES 175 TO 1500 WATT 70 TO 90 LUMENS PER WATT	NORTH AMERICAN PHILLIPS 1 WESTINGHOUSE PLAZA BLOOMFIELD NJ 07003	107
METAL HALIDE	HQ1	PRICE VARIES WITH SIZE SIZES 70 TO 3500 W 70 TO 90 LUMENS/WATT	OSRAM SALES PO BOX 7062 NEWBURGH NY 12550	350
SCREW-IN FLUORESCENT	CIRCLE-MISER	DIRECT REPLACEMENT OF 75 W INCANDESCENT BULB; REQUIRES 22 WATTS	GENERAL ELECTRIC NELA PARK CLEVELAND OH 44112 216-266-4256	15
SCREW-IN FLUORESCENT	SL SERIES	DIRECT REPLACEMENT FOR INCAN- DESCENT BULBS; LIFE - 7500 HR REDUCES ENERGY BY 75%	NORTH AMERICAN PHILLIPS Bank Street HIGHTSTOWN NJ 08520 609-448-4000	20

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 CATEGORY: LIGHTING SYSTEMS
 FUNCTION: LIGHTING CONTROL

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
CAPACITOR CONTROL	BP-450 NO-WATT	REDUCES LIGHTING POWER FOR FLUORESCENT TUBES ONE REQ'D PER 2 TUBE BALLAST PRICED IN QUANTITIES OF 100	REMTEC SYSTEMS 1341 W 130 ST GARDENA CA 90247	11
INFRARED SENSOR	IR 100	TURNS OFF LIGHTS AFTER PRESET INTERVAL WHEN NO OCCUPANCY DETECTED	BUILDING MONITORING SYST 942 EIGHTH AVE NEW YORK NY 10019	149
INFRARED SENSOR	INFRACOM	CONTROLS UP TO 2500 W FLUOR, 500.2 W INCAND EACH SENSOR COVERS 250 SQ FT UP TO 4 SENSORS PER UNIT	TISHMAN RESEARCH 666 FIFTH AVE NEW YORK NY 10103	135 *
PHOTOCELL	2104 PHOTOCELL	ADJUSTABLE SENSITIVITY - 2-50 FOOTCANDLES OPERATING TEMP -60 TO 150 F	TORK 1 GROVE STREET MOUNT VERNON NY 10550 914-664-3542	21
ULTRASONIC SENSOR	01-071 SENSOR	POWER REQ'D 24 VAC +/- 10% RANGE CEILING MOUNT 8 FT HIGH- 14' CIRCLE; 120 OR 277V WALL MOUNT RANGE 200 SQ FT	NOVITAS 1523 26 ST SANTA MONICA CA 90404 213-452-7890	137
ULTRASONIC SENSOR	C-600	CEILING MOUNT RANGE 600 SQ FT 120 OR 277 V	UNIVERSAL EMERGY CONTROL 2555 NICHOLSON ST SAN LEANDRO CA 94577 415-352-1802	78

 LIGHTING CONTROL
 LIGHTING SYSTEMS

*Base unit; \$80 per additional sensor.

09-85

 CATEGORY: PORTABLE INSTRUMENTATION
 FUNCTION: MEASUREMENT-ELECTRICAL

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
CLAMPON AMMETER	HE 94	RANGE 0 TO 100 A DIGITAL DISPLAY AC OR DC OPERATION	SIMPSON ELECTRIC 853 DUNDEE AVE ELGIN IL 60120 312-697-2260	625
CLAMPON AMP/VOLT/OHM	1000	VOLTAGE RANGE 0.1 - 999 V RESOLUTION 0.1 OR 1 V CURRENT RANGE 0.1 - 999 A RESISTANCE RANGE 0.1 - 500 OHM	TIF INSTRUMENTS 3661 NW 74 ST MIAMI FL 33147 305-696-7100	190
CLAMPON AMP/VOLT/OHM	243302	RANGES 20-200 KW; 20-200 A; 200-600V ACCURACY +/- 1% OF READING + 0.5% OF RANGE	YOKOGAWA CORP OF AMERICA 2 DANF ROAD SHENANDOAH GA 30265 404-253-7000	925
CLAMPON AMP/VOLTMETER	278002	OPERATING RANGE 1 - 999 V 1 - 999 A ACCURACY +/- 2% TEMPERATURE +/- 20 C	BIDDLE INSTRUMENTS 510 TOWNSHIP LINE ROAD BLUE BELL PA 19422 215-646-9200	165
CLAMPON AMP/VOLTMETER	ID 1000Z	OPERATING RANGE 0-1000 A 0- 600 V ACCURACY +/- 1.5% FS +/- 1 DIGIT TEMPERATURE +/- 20 C	EPIC INC 150 NASSAU ST NEW YORK NY 10038 212-349-2470	285
CLAMPON WATTMETER	KW480Z	ACCURACY +/- 1.5% +/- 1 DIGIT RANGE 600 V, 1200 A, 50/60 HZ TEMPERATURE +/- 20 C	EPIC INC 150 NASSAU ST NEW YORK NY 10038 212-349-2470	450
CLAMPON WATTMETER	2000A	HIGH/LOW RANGE RANGE 0.01 - 199.9 KW ACCURACY +/- 2% +/- 1 DIGIT	TIF INSTRUMENTS 3661 NW 74 ST MIAMI FL 33147 305-696-7100	390
MULTIMETER	MODEL 463	DIGITAL DISPLAY DISPLAYS VOLTAGE, AMPERAGE RESISTANCE	SIMPSON ELECTRIC 853 DUNDEE AVE ELGIN IL 60120 312-697-2260	210
POWER FACTOR METER	139.100	RANGE 0 LEAD TO 1 TO 0 LAG INPUT 4-200 A; 60-2000 A VOLTAGE 0-199.9 V; 0-600 V ACCURACY +/- 3%	AEMC CORP 99 CHAUNCEY ST BOSTON MA 02111 617-451-0227	780
POWER FACTOR METER	COS 0512	RANGE 0 LEAD TO 1 TO 0 LAG ACCURACY +/- 2.5% +/- 1 DIGIT AMBIENT TEMP + 20 C RANGE 0 LEAD TO 1 TO 0 LAG	EPIC INC 150 NASSAU ST NEW YORK NY 10038 212-349-2470	450

09-85

 CATEGORY: PORTABLE INSTRUMENTATION
 FUNCTION: MEASUREMENT-ELECTRICAL

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
POWER FACTOR METER	PF METER	RANGE 600 V, 500 A, 50/60 HZ ACCURACY +/- 3% F.S. AMBIENT TEMP 0-40 C	TIF INSTRUMENTS 3661 NW 74 ST MIAMI FL 33147 305-696-7100	290

----- MEASUREMENT-ELECTRICAL -----

-09-85

 CATEGORY: PORTABLE INSTRUMENTATION
 FUNCTION: MEASUREMENT-GAS ANALYSIS

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
CHEMICAL	10/5020	MEASURES CO ₂ , O ₂ RANGE CO ₂ 0-20%, O ₂ 0-20% TEMPERATURE +/- 30 ACCURACY +/- 0.5%	BACHARACH INSTRUMENTS 301 ALPHA DRIVE PITTSBURGH PA 15238 412-963-2000	225
CHEMICAL	1200-E	MEASURES CO ₂ RANGE 0 -16% ACCURACY +/- 0.5% TEMPERATURE +/- 30	DWYER INSTRUMENTS PO BOX 373 T MICHIGAN CITY IN 46360 219-872-9141	190
ELECTROCHEMICAL	200	MEASURES CO ₂ , CO, O ₂	BACHARACH INSTRUMENTS 301 ALPHA DRIVE PITTSBURGH PA 15238 412-963-2000	1750
ELECTROCHEMICAL	POCKET 50	MEASURES EFFICIENCY, NET STACK TEMPERATURE, O ₂ , CO ₂ ACCURACY EFF +/-1.5%, O ₂ +/- 0.3%; OIL/GAS FIRING ONLY	ENERGY EFFICIENCY SYSTEM 1211 STEWART AVE BETHPAGE NY 11714 516-938-6680	985
ELECTROCHEMICAL	KM9000	MEASURES O ₂ , CO ₂ , NET STACK T ACCURACY -0.1% - 0.2% O ₂ RANGE 0 - 21 %	KANE-MAY 6643 42 TERRACE NORTH WEST PALM BEACH FL 33407 305-848-6833	995
ELECTROCHEMICAL	GASANALYSIS	MEASURES EFFICIENCY, NET STACK TEMPERATURE, O ₂ ACCURACY O ₂ -0.1 - 0.4 % TEMP -3 - 0 % +/- 4 C	NEOTRONICS PO BOX 370 GAINESVILLE GA 30503 404-535-0600	1470
ELECTROCHEMICAL	P24	RANGE 0-20% CO ₂ , 0-25% O ₂ TEMP 0-1000 F FUELS GAS, OIL, SOLID FUEL	THERMCO INSTRUMENT PO BOX 309 T LA PORTE IN 46350 219-362-6258	1530

 MEASUREMENT-GAS ANALYSIS

05-85

 CATEGORY: PORTABLE INSTRUMENTATION

FUNCTION: MEASUREMENT-GAS FLOW

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
ANEMOMETER	SERIES 480	RANGE 0 - 5000 FPM ACCURACY HI RANGE +/- 3%+1%FS ACCURACY LO RANGE +/- 3%+2%FS RESP TIME 5 MILLISEC	KURZ INSTRUMENTS PO BOX 849 CARMEL VALLEY CA 93924 800-424-7356	395
ANEMOMETER-VANE	210	200-10000 FT/MIN RANGE TEMPERATURES UP TO 250 F	KERNCO INSTRUMENTS 422 KENAZO AVE EL PASO TX 915-852-3375	375
PITOT	SERIES 60C0P	RANGES 0-300;0-1250;0-2500; 0-5000;0-10000 FPM; ACCURACY +/- 2% F.S. FPM +/-5% PRESSURE; PRESSURE 0-10 INWG	ALNDR INSTRUMENT CO 7303 N CALDWELL AVE NILES IL 312-647-7866	735
PITOT TUBE AND MANOMETER	PITOT	PRESSURE 0-10 IN W.G. RANGE 400-12000 FPM TEMPERATURE LIMIT 1500 DEG F ACCURACY +/- 2% F.S.	DWYER INSTRUMENTS PO BOX 373-T MICHIGAN CITY IN 46360 219-872-9141	300

 MEASUREMENT-GAS FLOW

09-85

 CATEGORY: PORTABLE INSTRUMENTATION
 FUNCTION: MEASUREMENT-HUMIDITY

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
ASPIRATED PSYCHROMETER	PSYCHRO	WEIGHT 2.5 LB RESP TIME 1.5 - 2 MIN TEMP RANGE 0 - 120 DEG F ACCURACY +/- 0.3 DEG F	ENVIRONMENTAL TECTONICS SOUTHAMPTON PA 18968	119
ASPIRATED PSYCHROMETER	23015	RANGE -10 - 40 C ACCURACY +/- 1 DIVISION RESPONSE TIME 1.5 - 2 MINUTES MEASURES DRY, WET BULB	H-B INSTRUMENT CO 4303 N AMERICAN ST PHILADELPHIA PA 19140 215-329-6300	130
ASPIRATED PSYCHROMETER	PSYCHROMETER	HUMIDITY RANGE 10-95% TEMP RANGE -10 TO 110 DEG F ACCURACY +/- 0.3 DEG F WEIGHT 12 OZ	VISTA SCIENTIFIC 85 INDUSTRIAL DRIVE IVYLAND PA 18974 215-322-2255	125
ELECTRONIC PSYCHROMETER	6400	REL HUM 5 - 98% ACCURACY +/- 2% +/- 1 DIGIT RESOLUTION 0.1% TEMPERATURE -199.9 - 199.9 F	TESTOTERM INC PO BOX 468 MOUNT FREEDOM NJ 07970 201-989-8869	745

 MEASUREMENT-HUMIDITY

09-85

 CATEGORY: PORTABLE INSTRUMENTATION
 FUNCTION: MEASUREMENT-LIGHTING

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
LIGHTMETER	PO 94	RANGE 0 - 3000 LUX ACCURACY 3% OF READING + 0.5% F.S.	AEMC CORP 99 CHAUNCEY ST BOSTON MA 02111 617-451-0227	495
LIGHTMETER	408-2	RANGE 0 - 500 LUX ACCURACY +/- 5%	SIMPSON ELECTRIC 853 DUNDEE AVE ELGIN IL 601120 312-697-2260	350

 MEASUREMENT-LIGHTING

-09-85

 CATEGORY: PORTABLE INSTRUMENTATION
 FUNCTION: MEASUREMENT-TEMPERATURE

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
ANALOG ELECTRONIC	385-3L	RANGE -30 TO 70 F THERMISTOR TYPE ACCURACY +/- 1F AT CENTER	SIMPSON ELECTRIC 853 DUNDEE AVE ELGIN IL 60120 312-697-2260	105
DIGITAL ELECTRONIC	450	TYPE K THERMOCOUPLE ACCURACY +/- 0.25 C +/- 1 % RANGE -139.8 - 203.7 C	DORIC SCIENTIFIC 3883-T RUFFIN ROAD SAN DIEGO CA 92193 800-854-2708	355
DIGITAL ELECTRONIC	3105K	TYPE K THERMOCOUPLE ACCURACY +/- 0.5 F RANGE -40 - 2200 F SWITCHABLE F/C	H-B INSTRUMENT CO 4303 N AMERICAN ST PHILADELPHIA PA 19140 215-329-6300	330
DIGITAL ELECTRONIC	382	TYPE K THERMOCOUPLE ACCURACY +/- 2.5% + 1 C RANGE -440 - 2000 F SWITCHABLE F/C	NORAL INC 23602 MERCANTILE DRIVE CLEVELAND OH 44122 216-831-2345	285
DIGITAL ELECTRONIC	450AKT	TYPE K THERMOCOUPLE ACCURACY +/- 0.8 C +/- 1% READ RANGE -189 - 1372 C	OMEGA ENGINEERING PO BOX 4047 STAMFORD CT 06907 203-359-1660	355
DIGITAL ELECTRONIC	DIPSTICK	RANGE 0 TO 2000 F DIRECT IMMERSION OF THERMO- COUPLE INTO HOT FLUID	WAHL INSTRUMENTS 5750 HANNUM AVE CULVER CITY CA 90230 213-641 5931	600
MERCURY IN GLASS	20321	RANGE 20 - 500 F ACCURACY +/- 2 DIVISIONS RESPONSE TIME 2 MINUTES	H-B INSTRUMENT CO 4303 N AMERICAN ST PHILADELPHIA PA 19140 215-329-6300	10
PYROMETER	80 HT-3CPH	TEMP RANGE 1100 - 1750 DEG C SPECTRAL RESP 0.78 - 1.06 WORKING DIST 0 - 12 METERS ACCURACY +/- 1%	MIKRON INSTRUMENT PO BOX 211 RIDGWOOD NJ 07451 201-891-7330	1700
PYROMETER	RH2T	RANGE 400 - 3000 DEG C ACCURACY +/- 1% OF READING EMISSIVITY 0.1 - 1.0 TARGET RANGE 10 METERS	RAYTEK 1201 SHAFFER ROAD SANTA CRUZ CA 95060 408-458-1110	2000
PYROMETER	8500	TEMP RANGE 0-700 DEG C ACCURACY +/- 1 DEG C EMISSIVITY 0.4 - 1.0 RESOLUTION 1 DEG C	TESTOTERM INC PO BOX 468 MOUNT FREEDOM NJ 07970 201-989-8869	1125

-09-85

 CATEGORY: PORTABLE INSTRUMENTATION
 FUNCTION: MEASUREMENT-TEMPERATURE

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
PYROMETER	80-DHS	TEMP RANGE 600 - 1700 DEG C ACCURACY +/- 0.5 % FS +/- 1 DIGIT; EMISSIVITY RNGE 0.2 - 1 RESPONSE TIME 1 SEC;	WAHL INTERNATIONAL 5750 HANNUM AVENUE CULVER CITY CA 90230 213-641-6931	2250

 MEASUREMENT-TEMPERATURE

-09-85

 CATEGORY: PORTABLE INSTRUMENTATION
 FUNCTION: METERING-FLOW

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
ROTAMETER	BROOKS ROTAMETER	LIQUID/GAS APPLICATION	BROOKS INSTRUMENT DIV 407 W VINE ST HATFIELD PA 19440 215-362-3500	700
ROTAMETER	10A1152	METAL TUBE, STAINLESS STEEL LIQUID FLOW UP TO 450 L/HR	FISCHER AND PORTER 51 WARMINSTER ROAD WARMINSTER PA 18974 215-674-6000	865
ROTAMETER	M2000	LIQUID FLOW UP TO 20000 L/HR OTHER INSTRUMENTS AVAILABLE FOR LOWER FLOW	FLUID SERVICES PO BOX 898 HIGHLAND PARK IL 60035 312-433-7010	750
ROTAMETER	ROTAMETER	LIQUID 5 - 5000 GAL/HR GLASS, PLASTIC, METAL CONSTR PRICE DEPENDS ON APPLICATION	Universal Flow Monitors 1751E NINE MILE ROAD HAZEL PARK MI 48030 313-398-3704	1000
ROTAMETER	WAUKEE ROTAMETER	LIQUID/GAS APPLICATION ALUMINUM CONSTRUCTION	WAUKEE ENGINEERING 5641 W FLORIST AVE MILWAUKEE WI 53218 414-462-8200	750

 METERING-FLOW
 PORTABLE INSTRUMENTATION

-09-85

 CATEGORY: RENEWABLE ENERGY

 FUNCTION: SOLAR HEATER

TYPE	MODEL NUMBER	OPERATING CHARACTERISTICS	SUPPLIER	PRICE US \$
FLAT PLATE	SS 12	32 SQUARE FOOT PANEL SELECTIVE SURFACE SRCC RATING NO 29.95 PRICE PER SQ FT	AMERICAN SOLAR KING 7200 IMPERIAL DRIVE WACO TX 76710 817-776-3860	20
FLAT PLATE	MSC32	32 SQUARE FOOT PANEL SELECTIVE SURFACE SRCC RATING NO 31.62 PRICE PER SQ FT	MORNINGSTAR MFG 138 INDUSTRIAL ROUTE W ORANGE PARK FL 904-264-2649	12
FLAT PLATE	OPTIMA-2 48SC	32 SQUARE FOOT PANEL SELECTIVE SURFACE SRCC RATING NO 30.35 PRICE PER SQ FT	NOVAN ENERGY 1630 N 63 ST BOULDER CO 80301 303-447-9193	20
FLAT PLATE	CF2S6C	32 SQUARE FOOT PANEL SELECTIVE SURFACE SRCC RATING NO 31.99 PRICE PER SQ FT	US SOLAR CORP PO BOX K HAMPTON FL 32044 800-874-2190	13

 SOLAR HEATER

 RENEWABLE ENERGY

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