

# System Control Engineering



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# System Control Engineering

A.B.N 61 815 305 496

A.C.N 006 491 881



## *Quality Products at Competitive Prices*

- *Covering all of Australasia*
- *Australian owned and operated*
- *Representing over 30 supply companies*
- *Major supplier to the service industry for over 40 years*
- *Operating across Gas, Electrical, HVAC & R Industries*
- *Over 10,000 line items in our extensive range*
- *Sales offices in all states including WA, by All Controls (agent), and New Zealand (System Control NZ Ltd)*

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ROBERTSHAW PILOTS  
PILOT BURNERS  
THERMOCOUPLES

THERMOPILES

2

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SOLENOID - GAS, OIL, AIR, WATER & STEAM / COMBINATION / BUTTERFLY / BALL / CHECK / STRAINERS, VALVE EMERGENCY STOP BUTTONS

3

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MAIN BURNERS - COMMERCIAL - ATMOSPHERIC & INFRARED  
INDUSTRIAL GAS, OIL & DUAL FUEL  
PACKAGED GAS, OIL & DUAL FUEL  
GAS BOOSTER

## SECTION 1

BURNER - GAS	Atmospheric	<i>Zip, Tube, Gas Log, Blade, Duck Bill Inshot</i>	Polidoro Beckett Gas
	Package Burner Complete	<i>AZUR, BLU, MAX 40GS/GSD, GS/M, RS/RSD, RS/M, RS/M BLU, RS500/M BLU, RS/P BLU, P/M, MODUBLOC SE, GULLIVER BS/ BSD/BSM, RS/E - EV BLU, SP BLU, MODUBLOC SM BLU, SE - SV BLU</i>	Ecoflam Riello
	Air Heat, In Duct & Fan Assisted	<i>4630, Zephyr</i>	BVA North American
	Aspirator Mixer	<i>3065</i>	North American
	Flame Retention Nozzle & Blast tips	<i>462*, 4682</i>	North American
	Flat Flame	<i>4831, 4832, 4836 BIO, ZIO</i>	North American Kromschroder
	Fuel Directed (Adjustable Flame Shape)	<i>4384, 4482, 4808</i>	North American
	High Pressure Inspirator	<i>3070</i>	North American
	High Velocity	<i>Fire-all, Tempest, Hi-Vam, Hi-Ram BIC, BICA</i>	North American Kromschroder
	Immersion Tube	<i>4762 BIOA, ZIOA</i>	North American Kromschroder
	Line Burner - Premix	<i>4630</i>	North American
	Nozzle Mix	<i>Fire-all, 4422, 4514, 4545, Magna-Flame BIO, ZIO</i>	North American Kromschroder
	Tunnel Burner - Premix	<i>4659</i>	North American
	Infra-Red - Radiant Tiles / Tubes	<i>BIO 4724, Evenglow, 4726</i>	Kromschroder North American
BURNER - OIL	Package Burner	<i>Minor, Maior, Max 40G/GD, GULLIVER RG/RGD, RL, RL/1, RL/M MODUBLOC LE, RL BLU, RL/M BLU, RL/B MZ BLU</i>	Ecoflam Riello
	Nozzle Mix	<i>5514</i>	North American
BURNER - DUAL FUEL	Air Heat	<i>Hi-Vam</i>	North American
	High Velocity	<i>Tempest (6435)</i>	North American
	Immersion Tube	<i>6758</i>	North American
	Nozzle Mix	<i>6422, 6425, Fireall, Magna Flame</i>	North American
	Package Burner	<i>RLS, RLS/M MX, RLS/M MZ, RLS/BP MX, RLS/E MX, LSE</i>	Riello





## BURNER - GAS

### ATMOSPHERIC



P3\*

#### ZIP TUBES - POLIDORO

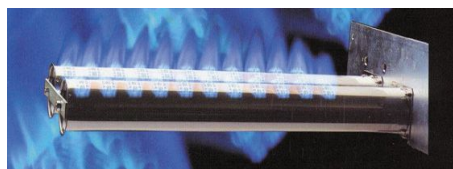
- Used for cross lighting, centre or end entry
- c/w injectors & nuts
- Lengths available 200 - 1200 mm
- 1 - 7.3 MJ/h rating



W0115  
W0117

#### INSHOT BURNER - BECKETT GAS

- Designed primarily for residential heating appliances utilising a forced or induced draught combustion system.
- Capacities: 10 - 70 MJ/h
- Typical applications:  
Residential heating furnaces  
Room heaters  
Hot water boilers



P0\*

#### TUBE BURNERS - POLIDORO

- Designed for use with all types of boilers, space heaters & other thermal applications
- Burners are entirely stainless steel
- Design of the burner port provides flame stability for all types of gas
- Low noise level
- Suitable for all types of gas (change of injector)
- Lengths from 300 mm to 970 mm
- 50 - 60 mm in diameter
- 24 - 127 MJ/h ratings



P02\*

#### GAS LOG FIRES - POLIDORO

- Suitable for gas operated log fires
- LPG and Natural Gas
- Maximum of 40 MJ/h

## **BURNER - GAS cont....**

### **BLADE BURNERS - POLIDORO**



**P0\***

- Specifically designed for instantaneous water heaters and wall hung boilers where an even flame spread of low height is required
- Suitable for most gases including LPG (change of injector)
- Low noise
- Adaptable to any combustion chamber
- Available 7 piece to 20 piece
- Rated 56 - 160 MJ/h

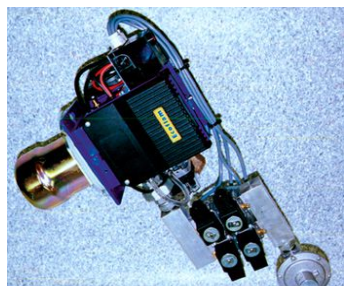


**P34\***

### **DUCK BILL / MONGOLIAN BURNERS - SCE**

- Suitable for commercial wok applications
- Available with 18, 23 & 32 jets

## **PACKAGE BURNER COMPLETE**



**EC4\***

### **AZUR - ON / OFF - ECOFLAM SMALL TO MEDIUM CAPACITY**

- AZUR 30 16 to 37 kW
- AZUR 60 35 to 72 kW
- AZUR 80 58 to 93 kW

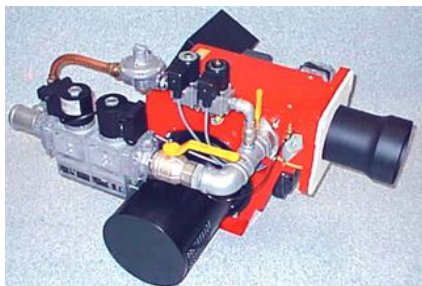


**EC4\***

### **BLU - ON / OFF - ECOFLAM MEDIUM TO LARGE CAPACITY**

- BLU 120 60 to 117 kW
- BLU 170 75 to 179 kW
- BLU 250 98 to 240 kW
- BLU 350 118 to 350 kW
- BLU 500 190 to 500 kW
- BLU 700 250 to 700 kW

## BURNER - GAS cont....



**EC4\***

### BLU PAB - HI / LOW AND MOD - ECOFLAM

- BLU 120 PAB /R 60 to 117 kW
- BLU 170 PAB /R 75 to 179 kW
- BLU 250 PAB /R 98 to 240 kW
- BLU 350 PAB /R 118 to 350 kW
- BLU 500 PAB /R 190 to 500 kW
- BLU 700 PAB /R 250 to 700 kW
- BLU 1000 PAB /R 300 to 1000 kW
- BLU 1200 PAB /R 400 to 1200 kW
- BLU 1400 PAB /R 400 to 1300 kW

R = Air Gas Ratio Control



**R313\***

### RIELLO - 40GS SERIES

- One stage package gas burner
- Heat Output 11 - 220 kW
- Easy to install & adjust
- Reduced noise output
- Safe working



**R321\***

### RIELLO - 40GSD SERIES

- Two stage package gas burner
- Heat Output 29 - 220 kW
- Easy to install & adjust
- Reduced noise output
- Safe working



**R35\***

### RIELLO - GS/M SERIES

- 2 Stage (Progressive or Modulating) gas burner
- Heat Output 22 - 194 kW
- Easy to install & adjust
- Reduced noise output
- Safe working



**R316\***

### RIELLO - GULLIVER RS SERIES

- Single stage gas burner
- Heat Output 160 - 330 kW
- High combustion performance (for small size)
- Features Microprocessor based flame control panel (featuring diagnostic functions)
- Easy to install & adjust
- Reduced noise output



## BURNER - GAS cont....



R323\*

### RIELLO - GULLIVER RSD SERIES

- 2 Stage Gas Burner
- Heat Output 160 - 345 kW
- High combustion performance (for small size)
- Features Microprocessor based flame control panel (featuring diagnostic functions)
- Easy to install & adjust
- Reduced noise output



R316\*

### RIELLO - GULLIVER RS SERIES

- Heat Output 163 - 465 kW
- Single stage operation
- Fitted with microprocessor control panel (featuring operation & fault diagnosis indicators)
- Flexibility of use and excellent operation at all firing rates
- Designed for use in hot or superheater water boilers, hot air or steam generators & diathermic oil boilers
- Simple use and maintenance
- Reduced noise output



R326\*

### RIELLO - RS SERIES

- Heat Output 81 - 2290 kW
- 2 Stage Progressive operation
- Designed for use in hot water boilers or superheaters, hot air or steam generators or diathermic oil boilers
- Low sound emissions
- Reduced dimensions, simple use and maintenance
- Wide range of accessories available



R354\*

### RIELLO - RS/M SERIES

- Heat Output 52 - 2290 kW
- 2 Stage Progressive or Modulating (requires PID logic controller & respective probes) operation
- Designed for use in hot water boilers or superheaters, hot air or steam generators or diathermic oil boilers
- Low sound emissions
- Reduced dimensions, simple use and maintenance
- Wide range of accessories available

## BURNER - GAS cont....

### RIELLO - RS/M BLU SERIES



R326\*

- Heat Output 90 - 1860 kW
- 2 Stage Progressive or Modulating (requires PID logic controller & respective probes) operation
- Designed for use in hot water boilers or superheaters, hot air or steam generators or diathermic oil boilers
- Low sound emissions
- High efficiency levels (reduce fuel consumption & running costs)

### RIELLO - RS500/M BLU GAS BURNER



R354\*

- Heat Output 1000 - 5169 kW
- 2 Stage or Modulating (requires PID Logic Regulator or external 4 - 20mA Signal) operation
- Monoblock structure (all necessary components combined into a single unit)
- Designed for use in hot water boilers and industrial steam generators
- High modulation ratio on all firing rates
- Advanced combustion head guarantees reduced pollution emissions (NOx < 80 mmg/kWh)
- Easy installation & maintenance

### RIELLO - RS/P BLU SERIES



R326\*

- Heat Output 700 - 4500 kW
- 2 Stage or Modulating (requires PID) operation
- Designed for use in hot water boilers & industrial steam generators
- Modular monoblock structure (all necessary components can be combined in a single unit)
- High efficiency & stability
- Innovative combustion head ensures reduced noise & pollutants

### RIELLO - GAS P/M SERIES



R355\*

- Heat Output 80 - 4885 kW
- Progressive 2 Stage operation or full modulation
- Features an advanced modulation control system and probes
- Suited to applications requiring versatility of control (process, steam, refrigeration absorption) where a variable output is needed

## BURNER - GAS cont....

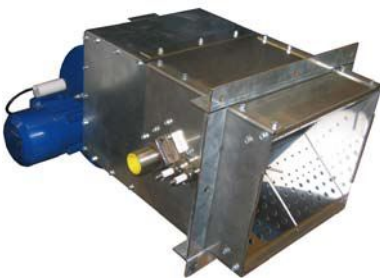


R35\*\*

### RIELLO - MODUBLOC SE SERIES

- Heat Output 1070 - 9580 kW
- Modulating operation
- Innovative electronic module, provides control of the air / fuel ratio & PID control of the generator temperature or pressure
- Designed for use in hot water boilers & industrial steam generators
- Monoblock structure (all necessary components can be combined in a single unit)
- High modulation ratio on all firing rates
- High efficiency & stability (obtains fuel consumption & operating cost reductions)

## == AIR HEAT - IN DUCT & FAN ASSISTED ==



NBP10\*

### SERIES BVA ADB-LV - AIR HEAT BURNER

- High turn down
- Stainless steel

#### Capacities

- LD12 - 144Kw
- LD24 - 288Kw
- LD36 - 432Kw
- LD48 - 576Kw



EC4\*

## == PACKAGE BURNER LOW NOx ==

### MAX - ON / OFF AND HI / LOW - ECOFLAM

- MAX GAS 40 22kW to 45kW
- MAX GAS 70 25kW to 70kW
- MAX GAS 120 50kW to 110kW
- MAX GAS 170 56kW to 170kW
- MAX GAS 250 65kW to 230kW



N4630\*

### 4630 - REGEN - NORTH AMERICAN

- Premix modular burner
- Clean, even combustion in air streams up to 205°C
- Can be fired down
- 20 - 305 MJ/h at 1 kPa mixture pressure
- Stable up to 3 kPa mixture pressure

## BURNER - GAS cont....



**R314\***

### RIELLO - GULLIVER BS SERIES

- Single Stage (Low Nox) Gas Burner
- Heat Output 16 - 246 kW
- Fitted with microprocessor based flame control panel (featuring diagnostic functions)
- Easy installation & maintenance
- Reduced noise output



**R323\***

### RIELLO - GULLIVER BSD SERIES

- 2 Stage (Low Nox) Gas Burner
- Heat Output 16 - 246 kW
- Fitted with microprocessor based flame control panel (featuring diagnostic functions)
- Easy installation & maintenance
- Reduced noise output



**R352\***

### RIELLO - GULLIVER BSM SERIES

- 2 Stage (Progressive or Modulating) Gas Burner
- Heat Output 26 - 250 kW
- Low NOx
- Easy installation & maintenance
- Reduced noise output



**R354\***

### RIELLO - RS/E - EV BLU SERIES

- Heat Output 500 - 4500 kW
- Modulating operation
- Designed for use in hot water boilers & industrial steam generators
- Monoblock structure (all necessary components can be combined into a single unit)
- Fast & easy installation
- High modulation ratio at all firing rates
- Highly efficient & stable



**R35\*\***

### RIELLO - SP BLU SERIES

- Heat Output 1634 - 10400 kW
- Fast & easy installation
- Designed for use in hot water boilers and industrial steam generators
- High efficiency & stability
- Advanced combustion head reduces pollution emissions
- Low sound emissions



## BURNER - GAS cont....



R35\*

### RIELLO - MODUBLOC SM BLU SERIES

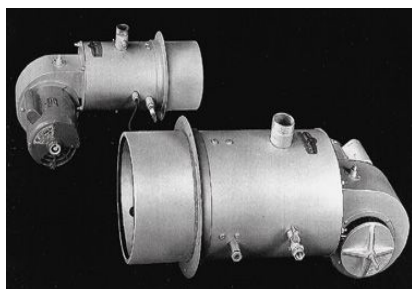
- Heat Output 1300 - 8300 kW
- 2 Stage or Modulating (requires installation of a PID logic controller or external 4 - 20 mA signal) operation
- Monoblock structure (all necessary components are combined into a single unit)
- Designed for use in hot water boilers and industrial steam generators
- High modulation ratio on all firing rate ranges
- High efficiency and stability (resulting in reduced operating costs)
- Advanced combustion head reduces pollution emissions



R35\*\*

### RIELLO - MODUBLOC SE - SV BLU SERIES

- Heat Output 1000 - 10050 kW
- Modulating operation
- Monoblock structure (all necessary components are combined into a single unit)
- Designed for use in hot water boilers and industrial steam generators
- High modulation ratio on all firing rate ranges
- Advanced combustion head reduces pollution emissions
- Low sound emissions (fan unit fitted on line with the combustion head)



N4988\*

### 4988 - ZEPHYR BURNER - SCE

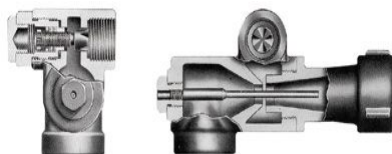
- Low noise, low NO<sub>x</sub>
- Versatile air heat burner for in-duct or fan assisted applications
- High turndown 50:1 or more
- Models for 500, 1000, 2500, 4000, 6000 & 9000 MJ/h.



## **BURNER - GAS cont....**

### **ASPIRATOR MIXER**

#### **3065 - NORTH AMERICAN**



**N3065\***

- Low cost high accuracy Air/Gas mixer
- Simple gas adjuster built-in
- Mixer capacity can be altered by changing rods
- Easily accessible

### **FLAME RETENTION NOZZLE & BLAST TIPS**

#### **4622 & 4624 - NORTH AMERICAN**



**N462\***

- Small, high output tips for premix systems
- 7 to 51 MJ/h models



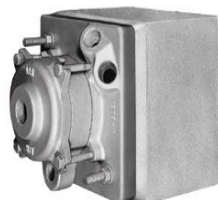
**N4682\***

#### **4682 - NORTH AMERICAN**

- Robust burner nozzles for premix systems
- Well defined medium to high velocity flames
- 20 - 200 mm sizes

### **FLAT FLAME BURNERS**

#### **4831 - NORTH AMERICAN**



**N4831\***

- No forward velocity, heats only the adjacent wall
- From 73 to 130 MJ/h



**N4832\***

#### **4832 - NORTH AMERICAN**

- Models from 247 to 2764 MJ/h
- Large uniform heating area
- UV or Flame Rod



**N4836\***

#### **4836 - NORTH AMERICAN**

- Models from 247 to 6963 MJ/h
- Roof section design
- UV or Flame Rod

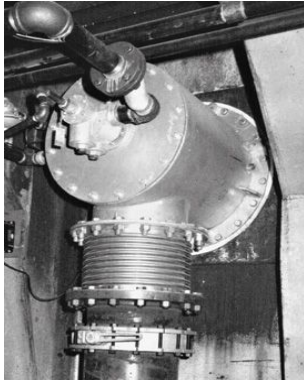


**KR361\***

#### **BIO - K, ZIO - K - KROMSCHRODER**

- From 90 kW to 630 kW
- UV or Flame Rod
- Light weight design

## **BURNER - GAS cont...**



**N4384\***

### **FUEL DIRECTED (ADJ FLAME SHAPE)**

#### **4384 - NORTH AMERICAN**

- Capacity range 4294 to 64144 MJ/h
- 3:1 Flame length adjustment on site
- Low NO<sub>x</sub>
- Low noise, low air pressure



**N4482\***

#### **4482 - NORTH AMERICAN**

- High temperature version of 4384 for furnaces up to 1400°C
- Low NO<sub>x</sub>, low noise

**N4808\***

#### **4808 - NORTH AMERICAN**

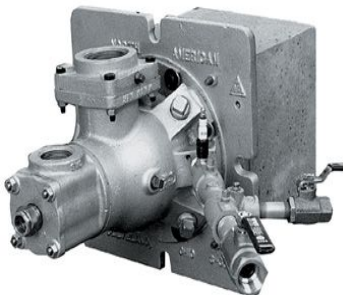
- 11400 to 19728 MJ/hr
- Changes heat release pattern not just flame pattern
- Manual or automatic flame shaping



**N3070\***

#### **3070 - NORTH AMERICAN**

- High output
- Excellent mixing
- Can be used with compressed air to develop low pressure air supply
- Range 18 to 8102 MJ/h



**N4425\*MB**

### **HIGH VELOCITY**

#### **4425 MB FIRE-ALL - NORTH AMERICAN**

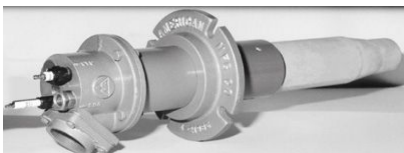
- Medium to high velocity with reduced tile nozzle
- Low noise / low NO<sub>x</sub>
- High excess air / excess fuel
- Range 222 to 3440 MJ/h
- High turndown



**N444\***

#### **444\* SERIES - TEMPEST- NORTH AMERICAN**

- 76 to 2295 MJ/h models
- Direct spark ignited
- Ultra high velocity
- High turndown
- Suitable in furnaces up to 1600°C
- Available in various tile shapes & types including silicon carbide & composite ceramic



## BURNER - GAS cont...



**N4570\***

### 4570 - HI VAM - NORTH AMERICAN

- Gas & or Light Oil
- Ultra high velocity
- All metal lightweight burner
- Capacities from 8440 to 17830 MJ/h
- Direct spark or pilot ignition



**N4575\***

### 4575 - HI RAM - NORTH AMERICAN

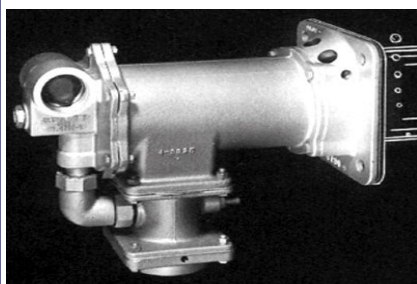
- Capacity up to 26375 MJ/h
- Ultra high velocity



**KR362\***

### BIC, BICA - KROMSCHRODER

- Lightweight design
- Silicon carbide nozzle
- Burner lengths up to 8 metres for special applications
- Available with integral pilot burner
- Range 54 to 1296 MJ/h



**N4762\***

### IMMERSION TUBE

### 4762 - NORTH AMERICAN

- High heat release
- Comprehensive selection data
- 897 to 4430 MJ/h models
- Pilot or direct spark ignition



**KR36\***

### BIOA-H, ZIOA - H - KROMSCHRODER

- Lightweight design
- From 20 to 1000 kW
- UV or Flame rod
- Direct spark ignited



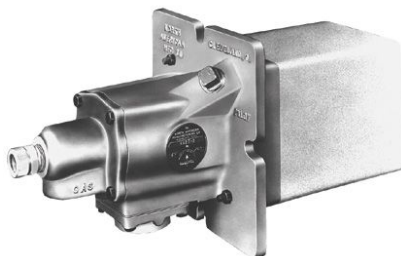
**N4630\***

### 4630 - REGEN - NORTH AMERICAN

- Stable premix burner delivering a line of flame over long distances
- 0.09 kPa to 3 kPa mixture pressure
- Capacities from 20 to 305 MJ/h per 300 mm (at 1 kPa)
- Expandable by adding sections

## BURNER - GAS cont...

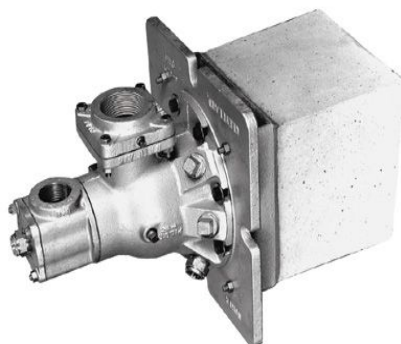
### NOZZLE MIX



**N4423\***

#### 4423 FIREALL - NORTH AMERICAN

- Versatile, robust, proven design
- Capacities from 66 to 456 MJ/h
- High turndown
- High temperature version 4424
- Pilot or spark ignited
- High excess air ability



**N4422\***

#### 442\* - NORTH AMERICAN

- Robust design
- Capacities 203 to 4832 MJ/h
- High turndown
- Stable at high excess air and excess fuel
- Pilot or spark ignited
- Short flame - fast mixing
- Low NO<sub>x</sub>
- Options include swing away head, metal firing head, high back pressure, dual fuel

#### HIGH TEMPERATURE VERSION - 4425



**N4514\***

#### 4514 - NORTH AMERICAN

- Rugged & versatile
- 1572 to 23000 MJ/h models
- High turndown
- Suitable for preheated air up to 350°C



**N4545\***

#### 4545 - FLAME JET - NORTH AMERICAN

- Economical general purpose burner
- 1560 - 13080 MJ/h models



**N4795\***

#### 4795 - MAGNA-FLAME - NORTH AMERICAN

- Long flame, high output burner
- 8200 to 56500 MJ/h
- Custom models available



**N4796\***

#### 4796 - MAGNA-FLAME - NORTH AMERICAN

- Wide flame, high output burner
- Up to 74000 MJ/h
- Low NO<sub>x</sub>
- Custom models available



**KR361\***

#### BIO - ZIO - KROMSCHRODER

- Compact / Lightweight design
- 20 to 1000 kW
- Direct spark ignited
- Low NO<sub>x</sub> models available



## BURNER - GAS cont...



### TUNNEL BURNER

#### 4659 - NORTH AMERICAN

N4659\*

- High intensity premix nozzle & tile assembly



### INFRA-RED & RADIANT - TILES

#### BURNER TILES - NORTON CERAMICS To Suit

W0450

- Domestic Appliances
- Camping radiators
- Infra-red radiators
- Food service appliances
- Option of low NO<sub>x</sub>



#### INFRA-RED BURNERS, CHICKEN BROODERS, CERAMIC TILES, BUNSEN BURNERS - JACKWAL

JA\*

- Large range of sizes and ratings for almost every infra-red application



#### BIO, ZIO - KROMSCHRODER

KR367\*

- Light weight modular design
- From 20 to 1000 kW



#### 4724 - RADIANT TUBE - NORTH AMERICAN

N4724\*

- High even heat release
- Suitable for preheated air up to 537°C
- Adjustable primary air for a wide range of tube applications
- 243 to 2574 MJ/h



#### 4725 - EVENGLOW - NORTH AMERICAN

N4725\*

- Even heat release from the start of the tube
- 3 ignition methods - Direct spark, Pilot (auto), Pilot (manual)



#### 4726 - RADIANT TUBE - NORTH AMERICAN

N4726\*

- Adjustable flame length for short tubes
- Simple & economical
- 147 to 1560 MJ/h

## BURNER - OIL

### PACKAGE BURNER



EC3\*

#### MINOR - LIGHT OIL BURNERS - ECOFLAM ON/OFF OR HIGH/LOW OPERATION

- Minor UNO 20 - 39 kW
- Minor 4 20 - 53 kW
- Minor 8 45 - 93 kW
- Minor 12 70 - 140 kW
- Minor 20 110 - 230 kW
- Minor 30 175 - 326 kW



EC3\*

#### MAIOR - LIGHT OIL BURNERS - ECOFLAM ON/OFF OR HIGH/LOW OPERATION

- Maior 10 AB 59 - 118 kW
- Maior 15 AB 106 - 178 kW
- Maior 25 AB 142 - 296 kW



EC3\*

#### MAIOR - LIGHT OIL BURNERS - ECOFLAM HIGH/LOW OPERATION

- Maior 35 AB 237 - 415 kW
- Maior 45 AB 296 - 533 kW
- Maior 60 AB 415 - 711 kW
- Maior 80 AB 474 - 949 kW
- Maior 130 AB 830 - 1425 kW



R115\*

#### RIELLO - 40G SERIES

- Light Oil Burners
- Single stage operation
- 11 Models available
- Heat Output: 12 - 240 kW (depending on model)
- Reduced noise output
- Easy to install & maintain



R12\*

#### RIELLO - 40GD SERIES

- Light Oil Burners
- Two stage operation
- 4 Models available
- Heat Output: 19 - 240 kW (depending on model)
- Reduced noise output
- Easy to install & maintain

## **BURNERS - OIL cont.....**



**R1\***

### **RIELLO - GULLIVER RG SERIES**

- Light Oil Burners
- Single stage operation
- 10 Models available
- Heat Output: 16.6 - 309.5 kW (depending on model)
- Reduced noise output
- Easy to install & maintain



**R23\*\***

### **RIELLO - GULLIVER RGD SERIES**

- Light Oil Burners
- Two stage operation
- 5 Models available
- Heat Output: 14 - 296 kW (depending on model)
- Reduced noise output
- High level of thermal unit efficiency
- Easy to install & maintain



**R118\***

### **RIELLO - RL/1 SERIES**

- Light Oil Burners
- Single stage operation
- Heat Output: 178 - 332 kW (depending on model)
- Reduced noise output
- Easy to install & maintain
- Suitable for use in hot water or super heated water boilers, hot air or steam generators, diathermic oil boilers



**R128\***

### **RIELLO - RL SERIES**

- Light Oil Burners
- Two stage operation
- Heat Output: 95 - 2443 kW (depending on model)
- Reduced noise output
- Easy to install & maintain
- Designed for use in hot or superheater water boilers, hot air or steam generators & diathermic oil boilers

## BURNERS - OIL cont.....



R142\*

### RIELLO - RL/M SERIES

- Light Oil Burners
- Two stage or Modulating (req. Regulator & Probes) operation
- Heat Output: 90 - 2431 kW (depending on model)
- Reduced noise output
- Easy to install & maintain
- Designed for use in hot or superheater water boilers, hot air or steam generators & diathermic oil boilers



R14\*

### RIELLO - MODUBLOC LE SERIES

- Light Oil Burner
- Modulating Operation (operates through Electronic Module)
- Electronic Module controls air / fuel ration & PID control of generator temperature or pressure
- Heat Output: 1070 - 10000kW (depending on model)
- High modulation ratio at all firing rates
- Reduced noise emissions

## LOW NOx



EC3\*

### MAX - LIGHT OIL BURNER - ON / OFF ECOFLAM

- |           |                |
|-----------|----------------|
| • MAX 4   | 20kW to 59kW   |
| • MAX 8   | 47kW to 105kW  |
| • MAX 12  | 60kW to 130kW  |
| • MAX 15  | 73kW to 190kW  |
| • MAX 20  | 86kW to 237kW  |
| • MAX 30  | 110kW to 319kW |
| • MAX P15 | 77kW to 190kW  |
| • MAX P25 | 102kW to 300kW |



### MAX - LIGHT OIL BURNER - HI / LOW ECOFLAM

- |             |                |
|-------------|----------------|
| • MAX P15AB | 77kW to 190kW  |
| • MAX P25AB | 102kW to 300kW |



## BURNERS - OIL cont.....



R128\*

### RIELLO - RL BLU SERIES

- Light Oil Burners
- Two stage operation
- Heat Output: 95 - 356 kW (depending on model)
- 3 Position Servo Motor (for correct air output & air damper closing when the burner is off)
- Status Panel (hour meter, ignition meter & fault diagnosis)
- Reduced noise output
- Easy to install & maintain
- Designed for use in hot or superheater water boilers, hot air or steam generators & diathermic oil boilers



R142\*

### RIELLO - RL/M BLU SERIES

- Light Oil Burners
- Two stage or Modulating (req. Regulator & Probes) operation
- Heat Output: 188 - 1023 kW (depending on model)
- Reduced noise output
- Easy to install & maintain
- Designed for use in hot or superheater water boilers, hot air or steam generators



R14\*

### RIELLO - RL/B MZ BLU SERIES

- Light Oil Burners
- Two stage operation
- Heat Output: 600 - 4450 kW (depending on model)
- Reduced noise output
- Easy to install & maintain
- Designed for use in hot or superheater water boilers, hot air or steam generators

## NOZZLE MIX

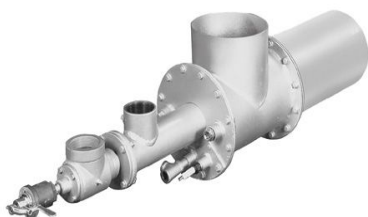


N5514\*

### 5514 - FIRE-ALL - NORTH AMERICAN

- Suitable for light & heavy oils
- High turndown
- Ranges from 1888 to 26058 MJ/h
- Low pressure atomiser

## BURNER - DUAL FUEL



**N6570\***

### AIR HEAT

#### 6570 - HI VAM - NORTH AMERICAN

- High velocity air heater
- All metal design
- Portable
- 8440 to 17830 MJ/h
- Gas and/or light oil



**N6435\***

### HIGH VELOCITY

#### 6435 - TEMPEST - NORTH AMERICAN

- High velocity
- Gas and/or light oil
- Wide range 137 to 1688 MJ/h
- Suitable for preheated air to 425°C
- Low air pressure atomiser

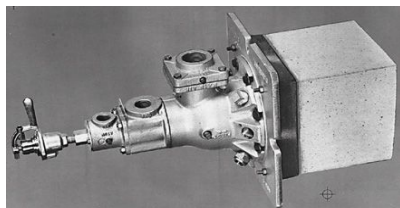


**N6758\***

### IMMERSION TUBE

#### 6758 - NORTH AMERICAN

- Gas / Light oil immersion tube burner
- Simple, versatile
- Range 148 - 1560 MJ/h



**N642\***

### NOZZLE MIX

#### 6422, 6425 - NORTH AMERICAN

- Robust furnace burner for gas & / or light oil
- Low air pressure atomiser
- High turndown
- Fast mixing, compact flame
- 274 to 4726 MJ/h

## BURNER - DUAL FUEL cont....



**N6514\***

### 6514 - FIREALL - NORTH AMERICAN

- Gas and heavy or light oil firing
- High turndown
- 1888 to 26060 MJ/h
- Robust design
- Low air pressure atomiser



**N679\*  
N6819\***

### 6795, 6796, 6819 - MAGNA FLAME - NORTH AMERICAN

- Quiet, high capacity gas / light or heavy oil burner
- 14137 to 56608 MJ/h
- 6796 wide flame version
- 6819 refractory lined burner for preheated air to 593°C

## PACKAGE BURNER

### RIELLO - RLS SERIES



**R4\***

- Dual Fuel Burner
- 2 Stage Operation
- Heat Output: 100 - 1395kW (depending on model)
- Status panel provides; hour meter, ignition meter & fault diagnosis information
- Wide range of accessories available
- Reduced sound emissions
- Easy to install & maintain
- Designed for use in hot or superheater water boilers, hot air or steam generators

### RIELLO - RLS/M MX SERIES



**R4\***

- Dual Fuel Burner
- Low NOx
- 2 Stage Operation
- Heat Output: 200 - 1840kW (depending on model)
- Wide range of accessories available
- Reduced sound emissions
- Easy to install & maintain
- Designed for use in hot or superheater water boilers, hot air or steam generators

## BURNER - DUAL FUEL cont....



R4\*

### RIELLO - RLS/M MZ SERIES

- Dual Fuel Burner
- Low NOx
- 2 Stage Operation
- Heat Output: 550 - 2150 kW (depending on model)
- Wide range of accessories available
- Reduced sound emissions
- Easy to install & maintain
- Designed for use in hot or superheater water boilers, hot air or steam generators



R4\*

### RIELLO - RLS/BP MX SERIES

- Dual Fuel Burner
- Low NOx (in both operating modes)
- 2 Stage Operation
- Heat Output: 600 - 4500 kW (depending on model)
- Reduced sound emissions
- Easy to install & maintain
- Designed for use in hot water boilers, overheated water boilers & steam boilers



R4\*

### RIELLO - RLS/E MX SERIES

- Dual Fuel Burner
- Low NOx (in both operating modes)
- 2 Stage Operation
- Heat Output: 600 - 4500 kW (depending on model)
- Reduced sound emissions
- Easy to install & maintain
- Designed for use in hot water boilers, overheated water boilers & steam boilers



R4\*

### RIELLO - MODUBLOC LSE SERIES

- Dual Fuel Burner
- Modulating Operation
- Heat Output: 1070 - 9580 kW (depending on model)
- Electronic Control Module (controls air/fuel ratio & PID control of generator pressure or temperature)
- High modulation ratio at all firing rates
- Reduced sound emissions
- Easy to install & maintain
- Designed for use in hot water boilers, overheated water boilers & steam boilers



PILOT BURNER - COMMERCIAL	Robertshaw Pilots <i>RS1830-717, RS76510, RS2CHR6206, RS5CHR7612, RS2CH6062, RSSHR-44, RS1890-100, RS6CH24-1,</i>	Robertshaw
	Pilot for use with Thermocouple <i>1,2 &amp; 3 Way, Target 1723 525, 470, 509 Q314 Series</i>	Catoba Polidoro Honeywell
	Pilot for use with Thermopile <i>701</i>	White Rodgers
	Pilot for use with Electronic Ignition <i>E49</i>	White Rodgers
	Pilot for Mercury Sensor <i>B Series</i>	White Rodgers
PILOT BURNER - INDUSTRIAL	<i>BP / 2 ZAI, ZMI, ZKIH, ZIO 4011, 4015, 4020, 5025</i>	Brahma Kromschroder North American
THERMOCOUPLES	Robertshaw	
	Standard	
	Quick Response	
	Interruptor Blocks	
	Universal Kits	
THERMOPILES	Normal & Co-axial <i>G01A 1951</i>	White Rodgers Robertshaw



## ROBERTSHAW PILOTS



### UNILINE PILOT

- RS1830-717**
- Uniline
  - 3 way pilot



### 3CHA PILOT

- RS76510**
- 3CHA
  - Natural gas pilot
  - Available in LPG version



### 2CH PILOT

- RS2CHR6206**
- 2CH pilot
  - LPG
  - Right hand
  - Available in left hand



### 2CH PILOT

- RS2CH6062**
- 2CH pilot - right hand
  - Natural gas



### 5CH PILOT

- RS5CHR7612**
- 5CHR - 7612
  - Natural gas



### 4SHR PILOT

- R4SHR-44**
- Pilot assembly
  - Thermocouple, thermopile & electrode
  - Available in Natural Gas
  - Includes electrode, thermocouple & thermopile



### FMEA PILOT

- RS1890-100**
- Pilot burner for FMEA valve
  - Available in Natural Gas or LPG



### 6CH PILOT

- RS6CH24-1**
- 3 way pattern
  - Alternative to Honeywell Q327 Pilot
  - Available in Natural Gas or LPG

## **PILOT BURNER - COMMERCIAL**

\*\*\*\* Examples Only - Many Other Models Available \*\*\*\*

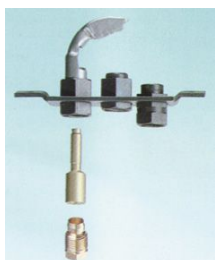
### **— PILOT FOR USE WITH THERMOCOUPLE —**



**CB1\***

#### **MULTI FLAME PATTERN - CATOBA**

- 2 & 3 way flame pattern
- Flame adjustment
- Accepts standard thermocouple & electrode
- Option of Natural Gas or LPG
- Can be used for electronic ignition



**CB1723**

#### **TARGET 1723 - CATOBA**

- Target pilot style
- Accepts standard electrode
- Can be used for thermocouple or flame sensor operation
- Option of Natural Gas or LPG



**P1525M**

#### **525F - POLIDORO**

- 3 way flame pattern
- Accepts a standard thermocouple
- Aerated flame resists draught
- Can be used for electronic ignition

**P1470**

#### **470F - POLIDORO**

- Vertical flame - 3 way
- Accepts standard electrode or thermocouple



**P1509**

#### **509F - POLIDORO**

- 509F Burner
- Supplied with NG injector
- Thermocouple & flame sensor
- Right bracket



**HWQ314A\*\*\*\***

#### **PILOTS - HONEYWELL**

- Orifice type pilot burner
- Option of Natural Gas or LPG



## **PILOT BURNER - COMMERCIAL cont...**



### **== PILOT FOR USE WITH ELECTRONIC IGNITION ==**

#### **E49 - WHITE RODGERS**

**W0129**

- Long stable flame spray head (80°)
- Integral electrode, sensor and leads - 150 mm
- Designed for electronic ignition
- Option of Natural Gas or LPG



### **===== PILOT FOR MERCURY SENSOR =====**

#### **B SERIES - WHITE RODGERS**

**W013\***

- Complete with mercury flame sensor, pilot burner and orifice fitting
- Options of port arrangement
- Option of Natural Gas or LPG

## **PILOT BURNER - INDUSTRIAL**



**B3\***

#### **BP/2 PILOT - BRAHMA**

- Light industrial or commercial use
- Vertical flame, atmospheric
- Option of flame length 40 to 100 mm
- Fitted with electrode and flame sensor as standard
- Option of single or double probe
- Option of Natural Gas (2MC) or LPG (2PC)



**KR340\***

#### **ZAI - KROMSCHRODER**

- Light industrial or commercial use
- Vertical flame, atmospheric
- Option of flame length 40 to 100 mm
- Fitted with electrode and flame sensor as standard
- Option of Natural Gas or LPG
- Capacity - 3 kW



**KR341\***

#### **ZMI - KROMSCHRODER**

- Up to 3.4 kW capacity
- Available in 16 & 25 mm diameter
- Option of Natural Gas or LPG
- Lengths of 150 to 500 mm (others on request)
- Forced air supply

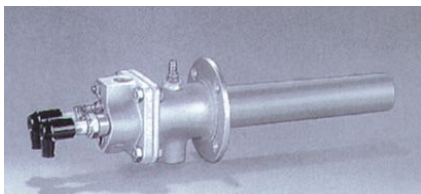


**KR34\***

#### **ZKIH - KROMSCHRODER**

- Up to 7.0 kW capacity
- For electronic ignition, ionization supervision, forced air supply
- Option of Natural Gas or LPG
- Lengths of 150 - 600 mm (others on request)
- Forced air supply

## **PILOT BURNER - INDUSTRIAL cont..**

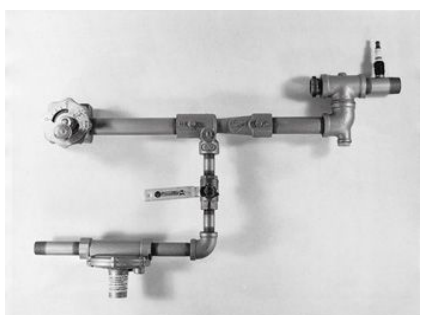


**KR361\***

### **ZIO - KROMSCHRODER**

- Up to 20 kW capacity
- Pilot burner for specialized large burners, electric ignition and ionization supervision, forced air supply
- Option of Natural Gas or LPG

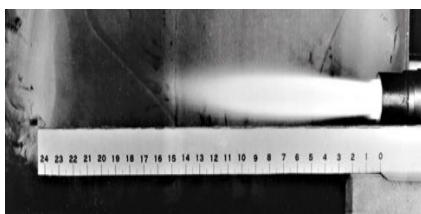
Lengths of 100 - 600 mm (others on request)



**N4011\***

### **4011 PRE MIX GAS PILOT SETS - NORTH AMERICAN**

- Up to 32 MJ/h capacity
- Electrical ignition, forced air supply
- Option of Natural Gas or LPG
- Reliable lighting throughout the range
- Wide range of air and gas pressure conditions



**N4015\***

### **4015 PRE MIX GAS PILOT SETS - NORTH AMERICAN**

- Up to 130 MJ/h capacity
- For electronic ignition, forced air supply
- Suitable for large capacity oil or gas fired industrial burners
- Reliable lighting throughout the range
- Wide range of air and gas pressure conditions



**N4020\***

### **4020 NOZZLE MIX GAS PILOTS - NORTH AMERICAN**

- Up to a nominal 897 MJ/h
- For electronic ignition, forced air supply
- For large capacity oil or gas burners
- Sizes 20 to 80 mm



**N5025**

### **5025 LIGHT OIL PILOTS - NORTH AMERICAN**

- Nominal out put - 122 MJ/h
- For electronic ignition, forced air supply
- Require an oil delivery pressure of 700 kPa and an air pressure of 3.5 kPa

## THERMOCOUPLES

### ROBERTSHAW

#### THERMOCOUPLE - ROBERTSHAW

**RST3318N**

- Length 460mm
- 11 / 32 connection

Usable with Rheem hot water services

**RSTS440N**

- Length 440mm
- TS version available: includes safety switch



#### THERMOCOUPLE - ROBERTSHAW

**RST33265**

- Length 600mm
- 11 / 32 connection
- Commercial cooking

**RSTS550N**

- Length 550mm
- TS version available: includes safety switch



#### THERMOCOUPLE - ROBERTSHAW

**RST3329AN**

- Length 915mm
- 11 / 32 connection



### STANDARD

#### THERMOCOUPLE - BRIVIS

**HWQ309A1970B**

- Length 24"
- Screw in Type



#### THERMOCOUPLE - BRIVIS

**HWQ309A2135B**

- Length 21"
- Clip in Type



#### EUROSIT (RHEEM) - SIT

**Z01614**

- Length 450 mm
- Overtemp Switch
- Silver Nut



## THERMOCOUPLES cont....



**CB21\***

### SINGLE THERMOCOUPLE

- Lengths stocked from 320 to 1200 mm
- Optional connections of 11/32", 8, 9 or 10 mm
- Option of plain or threaded head

### QUICK RESPONSE

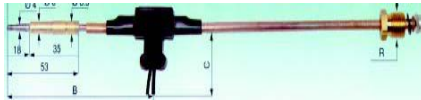


**CB21\***

### QUICK RESPONSE THERMOCOUPLE

- Available in lengths 400 to 1200 mm
- Cold junction end connection 11/32", 8, 9 or 10 mm
- Option of plain or threaded head

### INTERRUPTOR BLOCKS



**CB21\***

### INTERRUPTOR BLOCK/WIRE THERMOCOUPLE

- Available in lengths 400 to 1200 mm
- Cold junction end connections of 11/32", 8, 9 or 10 mm
- Option of plain or threaded head



**CC10\***

### INTERRUPTOR BLOCKS

- Cold junction end connection 11/32", 8, 9 or 10 mm
- Brass construction
- Easily adaptable



**Z01616**

**Z01617**

### SIT THERMOCOUPLE WITH INTERRUPTOR

- 600 mm Length
- 9 mm Nut
- Non Threaded Head
- Threaded Head



## **THERMOCOUPLES cont....**

### **UNIVERSAL KITS**



**CC4\***  
**CB22\***

#### **UNIVERSAL - INAMET**

- Available in lengths 600, 900, 1200, 1500
- Fits all pilot burners
- Unique conical locking nuts
- Complete set of split nuts supplied
- Easy installation



**W0151**

#### **UNIVERSAL - WHITE RODGERS**

- Lengths - 18 to 72 Inch
- Fits Honeywell, Robertshaw & White Rodgers
- Easy installation
- Long life



**HWQ340A1066**  
**HWQ340A1074**  
**HWQ340A1090**  
**HWQ340A1108**

#### **HONEYWELL UNIVERSAL THERMOCOUPLE**

- Universal Kit
- 450 mm (18")
- 600 mm (24")
- 900 mm (36")
- 1200 mm (48")

## **THERMOPILES**



**JD01204**

#### **G01A - WHITE RODGERS**

- Thermopile / pilot generator
- 750 millivolt operation
- 900 mm length
- Long life
- Fibreglass cable lead with split spade terminal



**RS1951/536**

#### **1951 - ROBERTSHAW**

- Thermocouple / pilot generator
- 750 millivolts
- Length: 915 mm
- Coaxial



## VALVES

## SECTION 3

BALL / ISOLATING		ART 06*, 07*, 09*, 11*, 12*, 132, 144, 216, 26* Dura Valve	Itap SCE
NON-RETURN		ART 103, 130, 100 GRSF	Itap Kromschroder
ADJUSTABLE PORT		Needle Valves 1004, 1008, 1807, 1808	SCE North American
BUTTERFLY	Manual	DK 1123 1145, 1155	Kromschroder SCE North American
	Motorised	070 + Motor 1126 LFC, DK, MK, BVA, BVG 1146, 1156	Itap/NEP SCE Kromschroder North American
<b>OPTIONS:</b> Standing Pilot, Electronic, Fast Open, Slow Open, Motorised, Valve Emergency Stop Buttons, Normally Open, Double Block, Hi / Low, Modulating / Combination			
SOLENOID	Gas	501, MINISIT, EUROSIT, AC3, D3 220 Series, UNITROL 7000 Series 6801 25M, 36C, 36E, 36G, 36H, 784 E8, E6, EG12, EG15, EG25, EG30, EG40, GVC TK25 VG, VGP, VAD, VAG, VAN, VAS, VAS/L, VAS/N, VCS, VS, VD, VK, CG, GVS, GVI, GVE, EG25*M, EG30*M GB 1518, 1519 L0201, L0201K V800 & VR8300	S.I.T Robertshaw Negaban White Rodgers Brahma Theobald Kromschroder  Alcon North American Triflex Honeywell
	Oil / Air / Steam	E7 MG, MA VR ACD 1008, 1813, 1196	Brahma Staiger Kromschroder Alcon North American
SLAM SHUT	Gas	S100, S300 JSAV	Jeavons Kromschroder

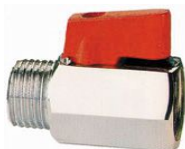
## VALVES

## SECTION 3

PRESSURE RELIEF	Gas	<i>J48K, J48KH</i> <i>VSBV25R40</i> <i>SMVSS032510</i> <i>RE7659, 3148, PRV9432, 8555, A3146 A8017</i>	Jeavons Kromschroder Samtech Rego
	Oil	<i>7177</i>	North American
	Water	<i>RSHT55-1400</i>	RMC
	FILLER GUN	<i>7659</i>	Robertshaw



## BALL VALVES



I007\*

### MINI BALL VALVES - ITAP

- ART 125 FxF
- ART 126 MxF
- Sizes available 8 - 20 mm
- Maximum working pressure 1540 kPa
- Suitable for cold water, hot water, oils and compressed air

\* Not approved for use with potable water



I024\*

I025\*

I026\*

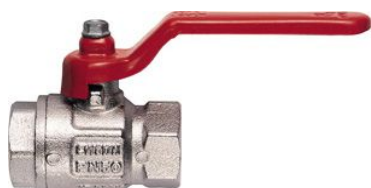
I027\*



### VIENNA - GENERAL PURPOSE BALL VALVE

- ART 116 F x F Lever Handle
- ART 117 M x F Lever Handle
- Sizes available 8 - 50mm
- ART 118 F x F T - Handle
- ART 119 M x F T - Handle
- Sizes available 8 - 25mm
- Maximum working pressure 2000 - 4900kPa
- Suitable for water, steam, gasoline, oils and compressed air

\* Not approved for use with potable water



I028\*

I033\*

I034\*

I036\*



### GENERAL PURPOSE BALL VALVES - ITAP

- ART 090 F x F Lever Handle
- Sizes available 8 - 100mm
- ART 091 M x F Lever Handle
- Sizes available 8 - 50mm
- ART 092 F x F T Handle
- ART 093 M x F T Handle
- Sizes available 8 - 32mm
- Maximum working pressure 1380kPa
- Suitable for water, steam, gasoline, oils and compressed air

\* Not approved for use with potable water

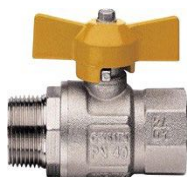


I046\*

I047\*

I048\*

I049\*



### AGA GAS APPROVED LONDON BALL VALVES - ITAP

- ART 066 FxF Lever Handle 8 - 50mm
- ART 067 MxF Lever Handle 8 - 50mm
- Sizes available 8 - 50mm
- ART 068 FxF T Handle 8 - 25mm
- ART 069 MxF T Handle 8 - 25mm
- Sizes available 8 - 25mm
- Maximum working pressure 500kPa
- AGA Approval Number 6227
- Suitable for gas, dry steam, pneumatic and hydraulic installations

## BALL VALVES cont...



### AGA GAS APPROVED BALL VALVES - ITAP

- ART 070 F x F Lever Handle
- ART 071 M x F Lever Handle
- Sizes available 15 - 50mm
- ART 072 F x F T Handle
- ART 073 M x F T Handle
- Sizes available 15 - 25mm
- Maximum working pressure 500kPa
- AGA Approval Number 5256
- Suitable for gas, dry steam, pneumatic and hydraulic installations

I04\*



\* Not approved for use with potable water



### AGA GAS APPROVED FLAT HANDLE BALL VALVES - ITAP

- ART 266 F x F Flat Handle
- ART 267 M x F Flat Handle
- Sizes available 8 - 50mm
- Maximum working pressure 500 kPa
- AGA Approval Number 6227
- Suitable for gas

I046\*F

I047\*F



\* Not approved for use with potable water



### FLAT HANDLE BALL VALVE - ITAP

- ART 216 F x F Flat Handle
- Sizes available 8 - 50mm
- Maximum working pressure 2000 kPa
- Suitable for water, oil and dry steam

I030\*

I031\*

\* Not approved for use with potable water



### 3 WAY BALL VALVES - ITAP

- ART 128
- Sizes available 8 - 50mm
- Maximum working pressure 2480kPa
- T' Port & L' Port options
- Suitable for water, oil and compressed air

I008\*

\* Not approved for use with potable water

## BALL VALVES cont...



**I040\*\*\***

### DURA VALVE - COPPER TO COPPER

- Sizes available 15 - 20mm
- AGA Approval Number 5592

*\* Not approved for use with potable water*



**I010\***

### BIBCOCK VALVE - ITAP

- ART 132 Lever Handle
- Sizes available 15 - 25mm
- Maximum working pressure 1500kPa
- Suitable for water, oil and compressed air

*\* Not approved for use with potable water*



**I011\***

### BIBCOCK LOCKABLE VALVE - ITAP

- ART 144 Lockable Handle
- Sizes available 15 - 20mm
- Maximum working pressure 1500kPa
- Suitable for water, oil and compressed air

*\* Not approved for use with potable water*

## VALVE - NON RETURN



**I012\***

### YORK CHECK VALVE - ITAP

- ART 103
- Sizes available 10 - 100 mm
- Spare Filter ART 102 Stainless Steel
- Soft seat



**I015\***

### SWING CHECK - ITAP

- ART 130
- Sizes available 10 - 100 mm
- Soft seat

## **VALVE - NON RETURN cont...**



**I008\***

### **EUROPA CHECK VALVE - ITAP**

- ART 100
- Sizes available 20 & 25 mm
- Soft seat



**KR480\***

### **GRSF WITH FLAME ARRESTOR - KROMSCHRODER**

- Stainless steel filter (GRS)
- Bronze Filter GRSF
- Sizes available 15 - 75 mm

## **ADJUSTABLE PORT VALVES**



**I018\***

### **NEEDLE VALVES - SCE**

- Precise Control
- Sizes available MxF - 6 mm FxF - 8 mm



**N1807\***

### **1807 - LIMITING ORIFICE VALVE - SCE**

- V-Port for setting gas/air ratio
- Sensitive V-Port for fine settings
- Concealed screwdriver adjustment
- Sizes available 15 - 75 mm (NPT)



**N1004\***  
**N1008\***

### **1004 / 1008 SERIES - ADJUSTABLE PORT VALVE - NORTH AMERICAN**

- 1004 - Low pressure air model
- 1008 - High pressure air, gas, oil, steam & water models
- Low torque - sliding gate & rotary plug
- Sizes available 40 - 355 mm



**N1808\***

### **1808 - ADJUSTABLE PORT COCK - NORTH AMERICAN**

- Size available 15 mm



## BUTTERFLY VALVE - MANUAL



**KR\*\***

### DK SERIES - KROMSCHRODER

- For air and gas
- Temperature ranges 100 - 650°C
- Sizes 15 - 500 mm



**N1123\***

### 1123 MANUAL BUTTERFLY - SCE

- Position indicator with locking device
- Controls Air or Gas
- Maximum pressure dependant on size
- Maximum temperature of 200°C
- Minute pressure drop when fully open
- Sizes 20 - 150 mm



**N1145\***

### 1145 SERIES - WAFER VALVE - NORTH AMERICAN

- Sandwiched between flanges
- Sizes available 75 - 1050 mm
- For air temperatures up to 370°C
- Stainless steel shaft
- Minimal pressure drop when fully open
- Control low pressure air or gas flow
- Locking device on handle



**N1155\***

### 1155 SERIES WAFER VALVE - NORTH AMERICAN

- Sizes available 75 - 1050 mm
- Temperatures 120°C
- Minimal pressure drop when fully open
- Locking device on handle

## BUTTERFLY VALVE - MOTORISED



**N1126\***

### 1126 SERIES - MOTOR OPERATED BUTTERFLY - SCE

- Swing through disc handle
- Movement by motor arm & linkage
- Sizes 20 - 150 mm (larger are flanged)
- Maximum pressure dependant on size
- Maximum temperature 200°C
- Optional high temperature "H" 370°C



## BUTTERFLY VALVE - MOTORISED cont...



**I040\***

### BALL VALVE WITH MOTOR - ITAP / NEP

- Available in sizes 20 & 50 mm
- NEP motor 24 / 240v AC
- Hi / Low or modulating models

AGA Approved Ball Valve - Number 5256



**G079080BVA BVA**

- Butterfly valve for air
- Nominal Diameter: 40 - 150 mm
- Pressure (max): 500 mbar

**G079080BVG BVG**

- Butterfly valve for gas
- Nominal Diameter: 40 - 150 mm
- Pressure (max): 500 mbar



**G214\***

### LFC - LINEAR FLOW CONTROL - KROMSCHRODER

- Regulating flow of gaseous media
- Large control ratio of 25:1
- Running times 7.5 to 60 seconds
- Optional electronic position feedback
- Motor drive GT31 Hi/Low or electronic
- 50 kPa pressure rating



**G079\***

### DK SERIES - KROMSCHRODER

**Motor Drive GT Hi/Low or Electronic  
Fit between DIN Flanges**

#### **DKG - Control of gas in a ratio 10:1**

- Maximum 30 kPa maximum of 60°C

#### **DKL - Control of air**

- Maximum 30 kPa, Temp -20 to 100°C

#### **DKR - Control air and flue gas**

- Maximum 30 kPa maximum of 650°C

## BUTTERFLY VALVE - MOTORISED cont...



**KR144\***

### MK BUTTERFLY FOR AIR - KROMSCHRODER

- For Hi/Low control of cold & hot air - max 550°C
- Solenoid operated
- Position indicator - CPI
- Fast or Slow opening
- Sizes 32 - 100 mm
- Suitable for pulse firing



**N1146\***

### 1146 - WAFER VALVE - NORTH AMERICAN

- Sandwiched between flanges
- Air temperature up to 370°C
- Stainless steel shaft
- Sizes 75 - 1050 mm



**N1156\***

### 1156 - WAFER VALVE - NORTH AMERICAN

- Sandwiched between flanges
- For clean air or gas up to 120°C
- Cast Iron body & disk
- pneumatic or electric actuator

## THERMO ELECTRIC - VALVES



**CB0125\***

### CTB / 0 - 501 - SIT

- Manual push button operation
- Thermo - electric operation
- Size - 8 mm MxM
- Two types - Low pressure 5 kPa maximum - High pressure 150 kPa maximum

## **THERMO ELECTRIC - VALVES cont...**



**RS220RTSP595**  
**RS220RTSP596**  
**RS220RTSP676**

### **ROBERTSHAW GAS WATER HEATER CONTROL 220R SERIES**

- Pilot Valve
- Main Valve
- Pressure regulator pilot
- Pressure regulator main
- Built-in energy cut-off safety device
- Thermocouple
- LPG / NAT plus *NEW DUX Solar*
- AGA Approval number 5414



**Z0151**  
**Z0149**  
**Z0150**  
**Z0152**

### **MINISIT VALVES**

#### *Temperature Ranges*

- 0°C to 40°C
- 40°C to 110°C
- 100°C to 340°C
- 120°C to 200°C

Minisit replacement tube & bellows also available



**Z014\*\***

### **EUROSIT VALVES**

#### *Temperature Ranges*

- Hot Water Rheem 630.151
- Rinnai 630.013 - 8°C to 33°C
- Hi Temp 630.336 - 100°C to 340°C
- Braemar 630.534 - 13°C to 38°C
- Fryer 630.340 - 120°C to 200°C



**Z01633**

### **AC3 CONTROL VALVES**

- Temperature Range: 35°C to 75°C silver nut
- Multifunctional safety control with thermoelectric flame failure device
- Pressure adjuster with override device
- On / Off Thermostat
- Three position control knob: off, pilot, on
- Temperature selection knob
- Resettable safety thermostat
- Pilot outlet with gas flow preselection screw
- Aquamax version available
- Inlet & pilot filters
- Inlet & outlet pressure test points

## **THERMO ELECTRIC - VALVES cont...**



**NY06801**

### **6801 - NEGABAN GAS HEATER CONTROL VALVE**

- Pilot Valve
- Hi / Low function
- Main Valve
- Igniter
- Thermocouple
- Gas control knob



**Z014\***

### **D3 SERIES - S.I.T**

- Single valve
- Thermo - electric operation
- Manual control
- Sizes available 15 & 20 mm

AGA Approval Number 3530



**JD02601\***

### **784 SERIES - WHITE RODGERS**

- Single valve
- Thermo - electric operation
- Manual control
- Extended handle available
- Sizes available 10 & 15 mm

AGA Approval Number 5004



## ROBERTSHAW - VALVES



**RSBMVRL57C5531**

### UNITROL 7000 GAS VALVE - ROBERTSHAW

- Combination Control
- Millivolt Only
- Natural Gas
- Size 3/4 Inch
- Slow Opening
- Pressure Rating 3.5 kPa
- AGA Approval Number 4985



**RSBGORL6032**

### UNITROL 7000 GAS VALVE - ROBERTSHAW

- Natural Gas
- Combination control
- Size 3/4 Inch
- 6040 Model available for LPG
- Pressure Rating 3.5 kPa
- Modulating Thermostat
- Controlled Gas Valve
- Gas operated
- AGA Approval Number 4985



**RSBMVRL5507**

### UNITROL 7000 GAS VALVE - ROBERTSHAW

- Combination control
- Millivolt
- Thermopile only
- 20mm LPG
- Pressure Rating 3.5 kPa
- AGA Approval Number 4985



**RSBMVRLS7C5515**

### UNITROL 7000 GAS VALVE - ROBERTSHAW

- Combination control
- Thermopile and Thermocouple
- Slow opening
- Size 3/4 Inch (Natural Gas)
- 5523 Model available for LPG
- Millivolt System Only
- Pressure Rating 3.5 kPa
- AGA Approval Number 4985



## ROBERTSHAW - VALVES cont...



**RSBERL4512**

### UNITROL 7000 - ROBERTSHAW

- Natural Gas
- Combination gas control
- 120 or 240 Volt AC
- Size 3/4 Inch
- LPG Version 4520
- Pressure Rating 3.5 kPa
- AGA Approval Number 4985



**RSBERL3501**

### UNITROL 7000 - ROBERTSHAW

- Combination gas valve
- Natural Gas
- 24 Volt AC / 12 Volt DC
- Size 3/4 Inch (Natural Gas)
- Pressure Rating 3.5 kPa
- AGA Approval Number 4985



**RSDERHC-S7C**

### UNITROL 7000 - ROBERTSHAW

- D Series
- Combination gas valve
- 24 Volts AC
- Size 1 Inch (Natural Gas)
- Pressure Rating 3.5 kPa
- AGA Approval Number 4985

## **WHITE RODGERS - VALVES**



**W007\***

### **25M - WHITE RODGERS**

- Combination / Double Block with regulator
- Inlet / Outlet size 15 mm
- Voltages 12v DC, 24 / 110 / 240v AC
- Pressure rating 5kPa
- Standard flow - 25M 42S (40MJ/h)
- High flow - 25M 82S (60MJ/h)

AGA Approval Number 5153

Types:

25M 22 - 001

25M 42S - 5



**W008\***

### **36C - WHITE RODGERS**

- Regulator / combination
- Sizes available 20 mm
- Voltages - 750mv, 24v, 120v, 240v
- Pressure rating 3.5 kPa

AGA Approval Number 2784

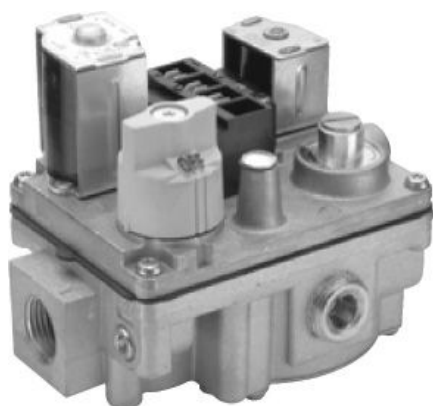
Types:

36C03U-438

36C03U-439

36C03C-435

36D22H-401



**W0102\***

### **36E ON / OFF - WHITE RODGERS**

- ON / OFF operation
- Electronic control
- Redundant valve
- Capacities up to 140MJ/h
- Outlet / Inlet 15 or 20 mm
- Pressure rating 5 kPa
- Optional slow opening
- Optional pilot tap

AGA Approval Number 5099

Types:

36E06-301

36E06-302

36E16P-401

36E16P-510

## **WHITE RODGERS - VALVES cont...**



**W0103\***

### **36E TWO STAGE - WHITE RODGERS**

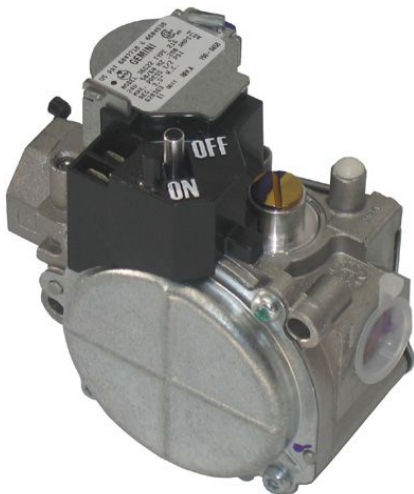
- High / Low operation
- Electronic control
- Redundant valve
- Capacities up to 140MJ/h
- Outlet / Inlet 15 or 20 mm
- Pressure rating 5 kPa
- Optional slow opening
- Optional pilot tap

AGA Approval Number 5099

Types:

36E20-301

36E96-229



**W0103**

### **36G ON / OFF - WHITE RODGERS**

- On / Off Operation
- Electronic Control
- Voltage 24VAC
- Redundant Valve
- Capacities up to 120MJ/h
- Outlet / Inlet 15mm
- Pressure Rating 5Kpa
- Optional Slow Opening (High / Low)
- AGA Approval Number 6770

Comes in 2 Stage or On / Off models



**W010\***

### **36H ON / OFF - WHITE RODGERS**

- On / Off Operation
- Voltage 24 / 240 VAC
- Electronic Control
- Redundant Valve
- Capacities up to 400MJ/h
- Outlet / Inlet 20mm
- Pressure Rating 5Kpa
- Optional Slow Opening (High / Low)
- AGA Approval Number Awaiting

## HONEYWELL - VALVES



**HWVR8301A4878**

### VR8300 - HONEYWELL

- Combination Gas Control
- Standing Pilot
- Dual Solenoid
- 3/4 x 3/4
- Natural Gas
- Slow Opening
- Reg setting 3.5" WC
- 24 VAC

AGA Approval Number: 5913



**HWV800A1179**

### V800 - HONEYWELL

- Combination Gas Control
- Single Block
- Standing Pilot
- Natural Gas
- 3/4 x 3/4

AGA Approval Number: 2124



**HWVR8300A4805**

### VR8300 - HONEYWELL

- Combination Gas Control
- Adjustable Pilot
- Standing Pilot
- Dual Solenoid
- Reg Setting 3.5" WC
- 3/4 x 3/4

AGA Approval Number: 5913



## SOLENOID VALVES - FAST OPEN



**KR1401\***

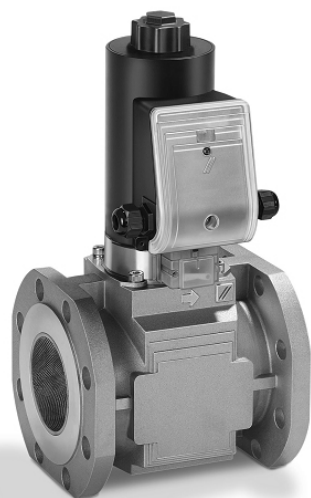
### VGP SERIES - KROMSCHRODER

Solenoid Operated

#### FAST OPEN - FAST CLOSE

- VGP 10 to 25
- Maximum pressure 20 kPa
- 240 / 110 volt AC
- Sizes available 10 - 25 mm

AGA Approval Number: 5567



**KR159\***

### VAS KROMSCHRODER - FLANGED

Solenoid Operated

Valvario Series

Voltages 120 / 230V AC and 24V DC

#### FAST OPEN - FAST CLOSE

- Adjustable flow
- Maximum Pressure 50kPa
- Sizes available 50 - 125mm
- Optional CPI switch
- Optional slow opening
- Body type: 7, 8, & 9 available

AGA Approval Number: 3968



**KR159\***

### VAS KROMSCHRODER - SCREWED

Solenoid Operated

Valvario Series

Voltages 120 / 230V AC and 24V DC

#### FAST OPEN - FAST CLOSE

- Adjustable flow
- Maximum Pressure 50kPa
- Sizes available 10 - 125mm
- Optional CPI switch
- Body type: 1, 2 & 3 available

AGA Approval Number: 3968



## **SOLENOID VALVES - FAST OPEN cont...**



### **E / EG SERIES - BRAHMA**

Solenoid Operated Valves  
Compact Design - Full Gas Flow  
Voltages 240 / 110 / 24 AC

**B2218**  
**B2222**  
**B22331**  
**B22431**  
**B22411**  
**B23431**  
**B24101**  
**B25101**  
**B26101**  
**B267101**

### **FAST OPEN - FAST CLOSE**

• 6 mm	E8/L	Cable Connection	200 kPa
• 6 mm	E8/S	GFD	10 kPa
• 10 mm	E6G	S10 GFD	50 kPa
• 15 mm	E6G	S10 GFD	50 kPa
• 15 mm	EGG	S 08	100 kPa
• 15 mm	EG12 S	GFD	25 kPa
• 15 mm	EG15 S	GFD	25 kPa
• 20 mm	EG25 S*	GFD	10/35 kPa
• 25 mm	EG30 S*	GFD	20/30 kPa
• 40 mm	EG40 S	GFD	20 kPa

### **OPTIONAL ELECTRICAL CONNECTION:**

GMO - Permanent

CFD / DFD / GFD - DIN Plug

OPTIONAL "R" FLOW ADJUSTMENT

AGA Approval Number: 4314



### **VG SERIES - KROMSCHRODER**

Voltages - 240/ 110 AC and 24v DC

### **FAST OPEN - FAST CLOSE**

- VG \*\* R0\* - ND 31
- Pressure Rating 20 to 36 kPa
- Sizes available 10 - 100 mm

### **Optional**

- CPI Switch for VG & VS Series
- Max flow adjustment
- Slow Opening
- 2 Step

**KR140\***

**KR14222**  
**KR14252**  
**KR14254**  
**KR14256**  
**KR14258**  
**KR14260**

### **HIGH PRESSURE - FAST CLOSE**

• 8 mm	VG 8	R 18	180 kPa
• 15 mm	VG 15 / 12	R 18N31	180 kPa
• 25 mm	VG 25 / 15	R 18N31	180 kPa
• 40 mm	VG 40 / 33	R 10N33	100 kPa
• 50 mm	VG 50 / 39	R 10N35	100 kPa
• 60 mm	VG 65 / 49	R 10N33	100 kPa

AGA Approval Number: 3968

## SOLENOID VALVES - FAST OPEN cont...



**AC2008**  
**AC2010**  
**AC3050**

### GB SERIES - ALCON

Voltages - 240 / 110 / 24 volt AC

### FAST OPEN - FAST CLOSE

- 20 mm GB6B 10 kPa
- 25 mm GB7B 10 kPa

### GAS EXPLOSION PROOF VALVES

- 15 mm GB4B EXM 14 kPa

- ◆ VALVE NO LONGER AVAILABLE
- ◆ COIL REPLACEMENTS ONLY



**KR160\***

### VS SERIES - KROMSCHRODER

Solenoid Operated  
Moduline Series

### FAST OPEN - FAST CLOSE

- VS \*\*\* ML0\* NT3
- Pressure Rating 20 to 36 kPa
- Sizes 15 to 50 mm
- Optional flow adjustment
- Optional CPI Switch for VG & VS Series
- Optional slow opening
- Double block (VD Series)
- Two stage On / Off

AGA Approval Number: 5320

## SOLENOID VALVES - SLOW OPEN



**KR159\***

### VAS/L - KROMSCHRODER

Solenoid Operated  
Valvario Series  
Voltages 120 / 230V AC and 24V DC

### SLOW OPEN - FAST CLOSE

- VAS.../L
- Maximum Pressure 50kPa
- Sizes available 10 - 125mm
- Optional CSI switch

AGA Approval Number: 3968

## SOLENOID VALVES - SLOW OPEN cont...



### EG SERIES - BRAHMA

#### SLOW OPEN - FAST CLOSE

**B24301**  
**B25301**  
**B26301**  
**B267301**

Voltages 240 / 110 / 24v AC

- 15 mm EG15 L GFD 25 kPa
- 20 mm EG25 L GFD 10 kPa
- 25 mm EG30 L2 GFD 20 kPa
- 40 mm EG40 L GFD 20 kPa

AGA Approval Number 4314



### VS & VG SERIES - KROMSCHRODER

Voltages 240 / 110v AC 24v DC

#### VS\*\* - \*\* MLO\* L

**KR1610\***

- Sizes 15 to 50 mm
- Pressure rating 10 to 36 kPa

AGA Approval Number 5320

#### VG \*\* R0\* - LD31

**KR141\***

- Sizes available 15 to 100 mm
- Pressure rating 20 or 36 kPa

Optional CPI Swtiches for VG & VS Series]

AGA Approval Number 3968

## SOLENOID VALVES - MOTORISED



### VK SERIES - KROMSCHROEDER

Motorised - Hi - Flow / Hi Pressure

**KR18\*\***

- Explosion proof - optional
- Optional IP65 rating
- On / Off or two step
- Sizes available 40 - 200mm BSP & Flanged
- Voltage - 240 / 110v AC
- Pressure up to 800 kPa

AGA Approval Number: 3968

## SOLENOID VALVES - MOTORISED cont...



**N1518\***

### 1518 SERIES MOTORISED MANUAL RESET - NORTH AMERICAN

- Open / Shut indicator
- Proof of open & closure switch
- Opening time 6 - 12 seconds
- Sizes available 20 - 150 mm
- Maximum pressure 860 kPa



**B25\***

### EG25\*M & EG30\*M SERIES MOTORIZED SOLENOID VALVES - BRAHMA

- Power driven modulation (for two flame levels)
- Operating pressure up to 500mbar
- 20 mm & 25 mm connections
- Mesh strainer (prevents particles greater than 1 mm from getting into the valve)
- 230 VAC or 110 VAC supplies available
- IP40 rated
- Die-cast aluminium body

AGA Approval Number: Awaiting



**N1519\***

### 1519 SERIES - MOTORISED AUTO RESET - NORTH AMERICAN

- Auto shut-off
- Maximum pressure 860 kPa
- Voltage 240/110 AC
- Sizes 20 - 200 mm

## VALVE EMERGENCY STOP BUTTONS



**L0201K**

### EMERGENCY STOP SWITCH (KEYED)

- Lockable
- Up to 6 contacts per button
- PLC inputs
- 'H' bridge contact
- Simple mounting
- Compact design



**L0201**

### EMERGENCY STOP SWITCH (KEYLESS) - TWIST RESET

- Up to 6 contacts per button
- PLC inputs
- 'H' bridge contact
- Simple mounting
- Compact design

## NORMALLY OPEN - VALVES



**KR143\***

### VAN SERIES - KROMSCHRODER

- Vent valves
- VAN \*\* R0\* - N31
- Voltage 240/110v AC, 24v DC
- Sizes 15 to 40 mm
- Maximum pressure 20 kPa

AGA Approval Number: 2725



## DOUBLE BLOCK - VALVES



### EG SERIES - BRAHMA

2 valves easily joined with 2 fixing brackets plus "O" ring

Voltages - 240 / 110 / 24v AC

**B2\*\***

- 15 mm EG 15 x 2 + Kit 25 kPa
- 20 mm EG 25 x 2 + Kit 10/35 kPa
- 25 mm EG 30 x 2 + Kit 20/30 kPa
- 40 mm EG 40 x 2 + Kit 20 kPa

AGA Approval Number: 4314



### GVC SERIES - BRAHMA

Voltages 240 / 110 / 24v AC

Indication light On/Off

Electrical plug connection

**B2450  
B2550  
B2650  
B26750**

- Optional slow opening
- 15 mm GVC 15 25 kPa
- 20 mm GVC 25 50 kPa
- 25 mm GVC 30 50 kPa
- 40 mm GVC 40 20 kPa

AGA Approval Number: 4314

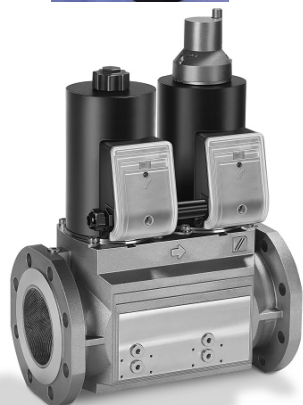


### VD SERIES - KROMSCHRODER DOUBLE BLOCK FAST OPEN - FAST CLOSE

**KR1615\***

- VD\*\*\* ML0\* NNT3
- Pressure rating 20 or 36 kPa
- Voltages 240 / 110v AC 24v DC
- Optional "D" Adjustable
- Optional "L" Slow opening

AGA Approval Number: 5320



### VCS SERIES - KROMSCHRODER

Solenoid Operated

Valvario Series

Voltages 120 / 230V AC and 24V DC

**KR159\***

- VCS
- Maximum Pressure 50kPa
- Sizes available 10 - 125mm
- Optional CPI switch

AGA Approval Number: 4496

## TWO STAGE - HI / LOW - VALVES



### EG SERIES - BRAHMA

Voltages 240 / 110 / 24v AC

- B24401** • EG 15 SRP - EB7 - SR - GFD8 10 kPa
- B2542** • EG 25 SRP3 - EBP - SR - GFD8 10 kPa
- B26401** • EG 30 SRP2 - EBP - SR - GFD8 10 kPa
- B267\*** • EG 40 SRP2 - EBP - SR - GFD8 10 kPa

AGA Approval Number: 4314

### VS Z SERIES - KROMSCHRODER

- KR1625\*** • VS \*\*\* ML0\* ZN 3

Voltages - 240 / 110 AC 24v DC

Pressure rating 20 or 36 kPa

Optional "D" Flow Adjustment

Optional "L" Slow opening

AGA Approval Number: 5320

## COMBINATION - VALVES



### TK 25 SERIES - THEOBALD

Double block 15 mm

Voltages 240 / 110/ 24 AC

Maximum pressure 6.5 kPa

Flanges & "O" ring supplied

**TH02\***

◆ VALVE NO LONGER AVAILABLE

◆ COIL REPLACEMENTS ONLY



### VAD / VAG - KROMSCHRODER

Valvario Series

Voltages 120 / 230V AC and 24V DC

- KR159\*** • VAD - Governor with solenoid valve
- VAG - Air/Gas control with solenoid valve
- Maximum Pressure 50kPa
- Sizes available 15 - 50mm

AGA Approval Number: 4496



### GVS SERIES - ON / OFF & REGULATOR - KROMSCHRODER

- KR1630\*** • GVS 1\*\* ML02 T3 20 kPa

Voltages 240 / 110 AC 24v DC

Sizes 15 to 50 mm

AGA Approval Number: 5319

### GVI SERIES-AIR/GAS RATIO -KROMSCHRODER

- KR1634\*** • GVI 1\*\* ML02 TS 20 kPa

Includes gas pressure regulator

Gas Regulator Included

Voltages 240 / 115 AC 24v DC

Sizes 15 - 50 mm

AGA Approval Number: 5319

## COMBINATION - VALVES cont...



### CG SERIES - KROMSCHRODER

Combination Valves, Double Block Solenoid, Gas Regulator, Filter, Pressure Switch

<b>KR22070</b>	CG 10 R70 - D1TA	15 mm	7 kPa
<b>KR22022</b>	CG 225 R01 - VT 2WF	25 mm	10 kPa
<b>KR22012</b>	CG 340 R01 - DT 2WF1	40 mm	10 kPa
<b>KR22101</b>	CG 35 R05 - DT 2	DN40 / 50	50 kPa
<b>KR22106</b>	CG 45 F05 - DT2	DN40 / 50	50 kPa

Types Available "D" On/Off Regulator  
"V" Air/Gas Regulator

- Voltages - 240 / 110 v AC 24v DC

AGA Approval Number: 4496



### VS COMBINATION - KROMSCHRODER

Solenoid Operated

- Double block moduline
- Gas regulator
- CPI
- 15 - 50 mm
- Pressure rating up to 20kPa
- Voltage 240 / 110v AC, 24v DC
- Complete gas train

**KR1640125**

AGA Approval Number: 5319



### RVS SERIES - KROMSCHRODER

Regulating / Electronic Control / Safety

- RVS \*\*\* / E ML02 T60 E3
- 20 - 50 mm with screwed flanges
- Pressure Rating up to 100kPa
- E Reference 0-10v DC, 0-20mA, 4-20mA, 0-135 OHM
- Voltage - 240 / 110 AC
- Pressure up to 100 kPa

**KR16352\***

## VALVES - OIL - AIR - WATER - STEAM



### 1008 SERIES - ADJUSTABLE PORT VALVE - NORTH AMERICAN

**N1008\***

- Drive motor available
- Sizes available 10 - 150 mm
- Suitable for high pressure oil, air, water and steam

## VALVES - OIL - AIR - WATER - STEAM cont.



**B2213**

### E7 / L AFD - BRAHMA

- Application - Light Oil
- Maximum pressure 20 Bar
- Flow 0.055 M<sup>3</sup>/hr
- 6 mm pipe size
- 240v - DIN plug connection



**ST20244P**

### MA 321 - 005P - STAIGER

- Application - Air bleed
- 3 Way body
- 6 mm connection
- Flow 0.06 M<sup>3</sup>/h
- 240 v AC



**ST01270**

### MG 232 E - STAIGER

- Application - Oil / Water / Steam / Gas and compressed air
- Maximum pressure 10 Bar
- Sizes available 15 - 25 mm

**ST03252**

### MG 252 - 001 P - STAIGER

- Application - Oil / Water / Steam / Gas and compressed air
- Maximum pressure 10 Bar
- Sizes available 15 - 25 mm



**KR144\***

### VR SERIES - KROMSCHRODER

Application: - Air (ideal for pulse firing)

- Sizes available 40 - 100 mm
- Voltages - 240 / 110v AC 24v DC
- Maximum pressure 15 kPa



## **VALVES - OIL - AIR - WATER - STEAM cont.**



### **ACD SERIES - ALCON**

**AC30\***

- Application - Light Oil / Air / Water / Gas
- Maximum pressure 4 - 14 bar
- Sizes 10 - 50 mm
- Voltage 12 / 24v DC 24 / 110 / 240v AC



### **1813 SENSITROL - NORTH AMERICAN**

**N1813\***

- Fine adjustment valve for setting fuel - air ratio on oil burners
- Sizes 8 - 15mm



### **1196 - AIR CYCLING VALVE - NORTH AMERICAN**

**N1196\***

- Application - Pulse firing burner systems
- Optional Electrical / Pneumatic Drive
- 24 / 110 / 240v AC

## **VALVES - SLAM SHUT**



### **S100 - JEA VONS**

**J017\***

- Low pressure 18 - 560 mbar
- Medium pressure 561 - 1400 mbar
- High pressure 1 - 6 bar
- Pressure rating 16 bar
- Sizes DN 50 - 100
- Manual reset



### **S300 - JEA VONS**

**J016\***

- High pressure OPSO
- Maximum pressure: 20 bar
- Simple manual reset facility
- Adjustable tip-off pressure (gives wide range of set points)
- Internal or external impulse



## VALVES - SLAM SHUT cont...



### JSAV - KROMSCHRODER - SCREWED

**KR060\***

- Pressure rating 4 bar
- Sizes 25 - 40 mm screwed
- Pressure ranges up to 550mbar
- Manual reset



### JSAV - KROMSCHRODER - FLANGED

**KR0602\***

- Pressure rating 4 bar
- Sizes 50 - 80 mm
- Pressure ranges up to 550mbar
- Manual reset

## VALVES - PRESSURE RELIEF

### ===== GAS =====



### J48K - JEAVONS

**J004\***

- Diaphragm pressure relief
- Relief pressure up to 15 kPa
- Sizes available 20 - 50 mm

### J48KH - JEAVONS

**J005\***

- High pressure spring loaded
- Relief pressure up to 76 kPa
- Sizes available 20 - 50 mm



### VSBV25R40 - KROMSCHRODER

**KR06072**

- Inlet pressure: 4 bar (maximum)
- Adjustable opening pressure: 20 - 500 mbar
- Reduces temporary pressure surges in the controlled system
- Avoids sudden pressure surges in the case of gas leakages
- Free of non ferrous metals



### SMVSS032510 - SAMTECH

**SMVSS032510**

- Size 25 mm (1 Inch)
- Pressure: 6 bar (maximum)
- 400 - 2100 mb

## **VALVES - PRESSURE RELIEF cont...**



**RE3148D**

### **3148 - REGO**

- Automatic fill limiter valves (AFL)
- Suits Australian or Internationally produced tanks for automotive LP Gas conversion
- Incorporates a double check system to automatically stop filling at desired level



**REPRV9432T150**

### **PRV9432T150 - REGO**

- Relief valve
- Cryogenic 1/2" 150 PSI
- Suitable for use with oxygen, carbon dioxide and non-corrosive gasses
- Pressure setting ranges up to 450 PSI



**RE8555D11.6**

### **8555D11.6 - REGO**

- Dot multivalve for liquid withdraw
- Container connection 3/4" M.NGT
- Service connection CGA 555
- Filling connection 1 3/4" M.ACME
- Pressure relief 375 PSIG
- Vapor withdraw from DOT cylinders with up to 200 lbs propane capacity



**REA3146**

### **A3146 - REGO**

- Back pressure valve for containers
- Excess flow valve to provide protection
- Inlet 3/4" NPT F
- Outlet 3/4" NPT M



**REA8017DP**

### **A8017DP - REGO**

- Multipurpose valve for liquid withdraw for LP Gas and NH3 containers
- Inlet connection 1/4" NPT
- Outlet connection 1" NPT



**N7177\***

### **7177 DIAPHRAGM RELIEF VALVES - NORTH AMERICAN**

- Cast iron body, stainless steel trim
- Nitrile seat
- Diaphragm - neoprene
- Maximum temperature 65.5°C

### **OIL**

## VALVES - PRESSURE RELIEF cont...



**RSHT55-1400**

===== WATER =====

### **RMC - PRESSURE / TEMPERATURE RELIEF VALVE**

- Inlet / Outlet 15 mm
- 10 Kilowatt Capacity
- Maximum Temperature 99°C
- Pressure 1400 kPa
- Size 68 mm (w) x 98 mm (h)
- High Quality Brand
- Auxiliary pressure relief device (prevents pressure building up in the event of a blockage in the drain line)
- Female BSP thread on the outlet
- Plastic coated temperature probe

## FILLER GUN



**RE7659xH2**

### **7659 - ROBERTSHAW**

- Filler gun & accessories for LPG
- Incorporates filler handle in locked closed position
- Fill & excess flow valve
- Suit safe filling of a wide range of LPG

## GAS DETECTORS, COMBUSTION ANALYSERS, RATIO CONTROLS, PROTECTION SYSTEMS, CONTROL PANELS

## SECTION 4

### GAS DETECTOR - PORTABLE

DGS 10 Gas Leak Detector Spray Leakator Junior, Leakator 10, CD98 O <sub>2</sub> Sample Draw, CO <sub>2</sub> Diffusion, Sniffit CO Monitors HL7701 CO Detector 8108 O <sub>2</sub> Monitor	Digitron Samtech Bacharach      Mextech North American
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### GAS DETECTOR - FIXED

Wall Mount Continuous CO <sub>2</sub> RGD Series, SGA Stove Timer Switch SE192KG, SE301A, SE301B, PS175, PS180, PS185, SE148KM, SE149KM, CE400P, ES400, TC011, TC012, TS292KG, TS292KM, TS293KM, SE230KG, SE230KM, SE195KM, SE195KG, SE120KM, SE120KG, SE126KM, SE126KG, SE139K	Bacharach Seitron SCE Tecnocontrol
--	---

### COMBUSTION ANALYSER

Fixed	O <sub>2</sub> A	Albion
Portable	Fyrite Tech 60 ,Fyrite -Pro, PCA, PCA2, Fyrite Insight	Bacharach

### ELECTRONIC RATIO CONTROLS

Industrial	8000 Series Controllers ERC + O <sub>2</sub> Monitor	North American Albion
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### GAS SAFETY PROTECTION SYSTEMS

Gasguard GG* Series Gas Check LSV, K-LSV	SCE SCE Kromschroder
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### CONTROL PANELS

Custom Designs	SCE
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## GAS DETECTOR - PORTABLE



**DG-DGS-10**

### DGS 10 - DIGITRON

- Audible & visual indicators (adjustable)
- Long flexible goose neck (400 mm)
- Luminous sensing tip (LED Light)
- Small sensor head
- High accuracy & sensitivity
- Sensitivity 10 ppm Methane

Detects - Butane, LPG Gas, Methane, Natural Gas & Propane



**BA02010**

### LEAKATOR JUNIOR - BACHARACH

- One button operation
- Visual & Audio Indicators / Alarms
- 30cm flexible probe
- 2 Sensitivity levels
- Long battery life
- Intrinsically safe

Detects - Propane, Natural Gas, Butane, Ethanol, Gasoline, Paint Thinners, Hexane, Hydrogen & Acetone

Sensitivity (Methane Based):

- 20ppm in high sensitivity mode
- 50ppm in low sensitivity mode



**BA02009**

### LEAKATOR 10 - BACHARACH

- Simple to use
- Visual & audible alarms
- 30 hour battery life
- 20ppm usable sensitivity (methane)
- 50cm flexible probe

Detects the following gases: Acetone, Acetylene, Benzene, Butane, Ethanol, Ethylene Oxide, Gasoline, Hexane, Hydrogen, Industrial Solvents, Methane, Paint Thinners, Propane and Natural Gas.



**BA\*\***

### CO<sub>2</sub> MONITOR - BACHARACH

- Compact and lightweight
- Simple and safe to use
- Rapid detection of changing CO<sub>2</sub> levels
- Quick, intelligent charge in less than 2 hours
- Up to 8 hours use on full charge
- Easy calibration in fresh air
- Automatic data logging provides complete CO<sub>2</sub> exposure record

## GAS DETECTOR - PORTABLE cont...



**HL7701**

### HAND HELD CO DETECTOR

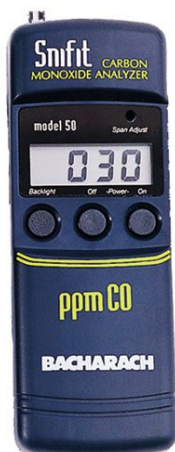
- Large 3 & 1/2" LCD Display
- Audible & Visual Alarms
- Display Backlight
- Ultra portable, user friendly, design
- 6 Operating modes
- Fast sampling rate
- Supplied with protective carry case
- Measuring Range 0 ~ 1000 ppm
- Measuring Resolution 1 ppm
- Precision 5% or 10 ppm
- Warm-up Time <2 seconds
- Operating Temperature 0°C ~ +50°C
- Operating Humidity 0 - 99% RH



**SMRVS100401**

### GAS LEAK DETECTOR SPRAY - SAMTECH

- Detects gas leaks in pipes that are under pressure
- Practical and economical
- Suitable for all gases (flammable and nonflammable)
- Non - flammable
- Non - toxic
- 90% Biodegradable



**BA\*\***

### SNIFFIT 40 & 50 - BACHARACH

- CO<sub>2</sub> Analyser
- Range: 0 - 1, 999ppm
- Resolution: 1ppm
- Sensor Accuracy: +/- 5% of reading
- Operating Temperature: 0 - 40°C

The Sniffit analyser can be used to measure Carbon Monoxide levels in room air. Typical applications include: Hot water heaters, ovens, furnaces, fireplaces and anywhere high concentrations of CO may be detected.



**N8108-0**

### 8108 - NORTH AMERICAN

- Simple hand held O<sub>2</sub> monitor
- Low battery light
- Range: 0 - 25% Oxygen Volume
- Resolution: 0 - 1%
- Accuracy: +/- 0.2%
- Sample time: Approx 20 seconds
- Display time: 30 seconds

## GAS DETECTOR - FIXED



**BA2004**

### CD 98 - CO<sub>2</sub> ANALYZER - BACHARCH

- Two sampling modes: sample draw or diffusion
- Two different measuring ranges: 0 - 5,000 ppm CO<sub>2</sub> or 0-50% CO<sub>2</sub>
- Maintenance free dual wavelength infrared sensor
- Easy calibration in fresh ambient air
- Probe and hose assembly for sampling in hard to reach locations
- Internal pump provides continuous sampling with fast response and accurate readings
- Continuous or snapshot data logging with the push of a button



**BA\*\***

### CONTINUOUS CO<sub>2</sub> - BACHARACH

- Simple & rapid continuous monitor
- Audible & visual alarms
- Maintenance free dual wavelength infrared sensor
- Rugged housing
- IrDA link for gas or air calibration



**SE0305**

### RGD - GAS LEAKAGE DETECTOR - SEITRON

- Natural gas sensor
- Test button
- Function lamps
- Suitable for use with gas cut off valves when alarm is raised
- Push button resetable



**SE0306**

### RGD - GAS LEAKAGE DETECTOR - SEITRON

- Natural gas
- Function Lamps
- Valves 230V AC or 12V DC
- Audible and visible alarm
- High reliability measurement precision
- Auto reset



**SE0310**

### RGD - GAS LEAKAGE DETECTOR - SEITRON

- LPG gas sensor
- Test button
- Function lamps
- Suitable for use with Brahma valves
- Audible and visible alarm
- Push button reset

## GAS DETECTOR - FIXED cont...



**SE0315**

### RGD - GAS LEAKAGE DETECTOR - SEITRON

- Carbon Monoxide detector (CO)
- Test button
- Function lamps
- 240v AC output relay
- Suitable for use with Brahma valves
- Audible and visible alarm



**SE03\*\***

### SGA - REMOTE SENSOR - SEITRON

- MET natural gas
- GPL LPGas
- Carbon Monoxide (CO)
- Can be used as an extra sensor with the RGD models



**L0012**

### Stove Timer Switch - SCE

- Timer Switch
- Changeable timer settings
- Suitable for home safety
- For use with gas safety valves
- Ideal for elderly people or any person who might leave their stove running



## GAS DETECTOR - FIXED cont...



**TCSE192KG**

### SE192KG - GAS DETECTOR - TECNOCONTROL

- LPG gas detector
- Catalyst sensor
- Connects to Central Unit (see SE139K)
- Dimensions 110 x 75 x 70 mm
- Wall Mounted
- 12 VDC

Suitable for heating plants and industrial applications.



**TCSE301A**

### SE301A - ALARM - TECNOCONTROL

- Audible and visible alarm
- Piezoelectric siren - 115 db Output
- Red signalling lamp
- Dimensions 160 x 115 x 80 mm
- Wall mounted
- IP43 rated
- 230 VAC



**TCSE301B**

### SE301B - ALARM - TECNOCONTROL

- Audible and visible alarm
- Piezoelectric siren - 115 db Output
- Red signalling lamp
- Dimensions 160 x 115 x 80 mm
- Wall mounted
- IP43 rated
- 12 VDC



**TCPS175**

### PS175 - AUXILIARY POWER SUPPLY TECNOCONTROL

- Parallel battery equipped (for continuous operation) - batteries are rechargeable
- Metal box
- 230 VAC operated
- Supplied current: 1.2 Amps
- Battery: 12 VDC 7 Ah
- Dimensions 285 x 220 x 95 mm



## GAS DETECTOR - FIXED cont...



**TCPS180**

### PS180 - AUXILIARY POWER SUPPLY TECNOCONTROL

- Parallel battery equipped (for continuous operation) - batteries are rechargeable
- Metal box
- 230 VAC operated
- Supplied current: 2.5 Amps
- Battery: 12 VDC 7 Ah
- Dimensions 285 x 220 x 95 mm



**TCPS185**

### PS185 - AUXILIARY POWER SUPPLY TECNOCONTROL

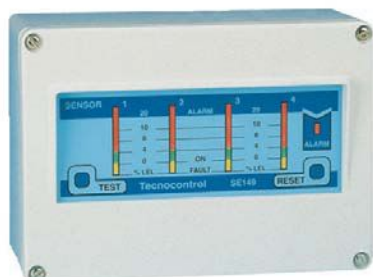
- Parallel battery equipped (for continuous operation) - batteries are rechargeable
- Metal box
- 230 VAC operated
- Supplied current: 6 Amps
- Battery: 12 VDC 18 Ah
- Dimensions 455 x 260 x 220 mm



**TCSE148KM**

### SE148KM - METHANE DETECTING CENTRAL UNIT - TECNOCONTROL

- Connects to remote sensor SE292KM or SE293KM
- LED gas concentration indicator bar
- Two alarm levels
- 30 second alarm delay (avoids false alarms due to negligible gas presence)
- 230 VAC
- Dimensions 160 x 115 x 80 mm



**TCSE149KM**

### SE149KM - METHANE DETECTING CENTRAL UNIT FOR 4 ZONES - TECNOCONTROL

- Four remote sensors of type SE292KM or SE293KM
- Four LED gas concentration level bars (indicate each sensors gas concentration level in real time)
- Two alarm levels
- 30 second alarm delay (avoids false alarms due to negligible gas presence)
- 230 VAC - 12 VDC
- Dimensions 160 x 115 x 80 mm

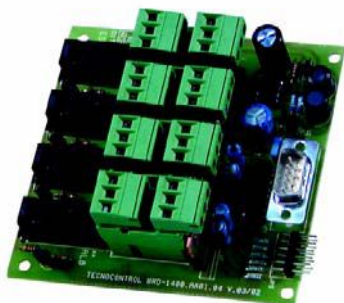
## GAS DETECTOR - FIXED cont...



**TCCE400P**

### CE400P - MICROPROCESSOR CENTRAL UNIT 4 TO 8 ZONES - TECNOCONTROL

- Menu driven (intuitive) programming
- Display backlight
- 4 relay inputs (for remote sensors)
- 4 relay outputs (for control applications)
- 5 commutation relays
- 3 programmable alarm levels
- Auxiliary power output 12 VDC 1 Amp max
- Dimensions 284 x 227.5 x 123 mm
- 230 VAC

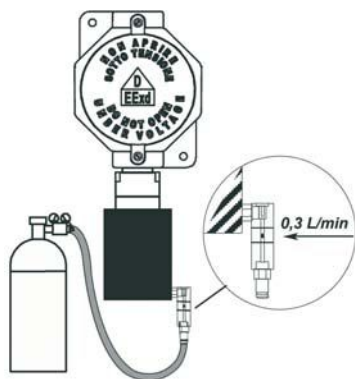


**TCES400**

### ES400 - EXPANDER CARD FOR CE400P TECNOCONTROL

Expands input and output capabilities of Central Unit CE400P to a total of:

- 8 relay inputs (for sensors)
- 8 relay outputs (for control applications)
- 9 commutation relays
- Connection to PC / Connection to a printer



**TCTC011**

### TC011 - SENSOR INSULATION INDUSTRIAL APPLICATIONS - TECNOCONTROL

- Insulates sensors element from atmospheric gases so it can only be struck by the calibration sampling gas
- Calibration set made up of a cylinder bell whose internal diameter perfectly fits to our sensors where the sensitive element is housed
- Sealing guaranteed by an internal O-ring and the proper flow rate is marked by a flow meter placed at the rim



**TCTC012**

### TC012 - SENSOR INSULATION DOMESTIC APPLICATIONS - TECNOCONTROL

- Insulates sensors element from atmospheric gases, so it can only be struck by the calibrating gas

## **GAS DETECTOR - FIXED cont...**



**TCTS292KG**

**TS292KG - LPG DETECTOR / TRANSMITTER  
IP 65 RATING - TECNOCONTROL**

- LPG detector
- High IP rating making it suitable for difficult industrial premises where dust concentrations are high
- Labyrinth housing aids dust resistance
- Simplified connections due to coupling terminals
- 4 - 20 mA output signal



**TCTS292KM**

**TS292KM - METHANE DETECTOR /  
TRANSMITTER - IP 65 RATING  
TECNOCONTROL**

- Methane detector
- High IP rating making it suitable for difficult industrial premises where dust concentrations are high
- Labyrinth housing aids dust resistance
- Simplified connections due to coupling terminals



**TCTS293KM**

**TS293KM - METHANE DETECTOR /  
TRANSMITTER - EXPLOSION PROOF  
TECNOCONTROL**

- Methane detector
- Suitable for applications where there is a high risk of flammability
- Ideal for installation into areas which contain high dust concentrations
- Suitable for Zone 1 & Zone 2 areas

Available with explosion proof joints ZT163 (optional)



**TCSE230KG**

**SE230KG - LPG DETECTOR - DOMESTIC  
TECNOCONTROL**

- Visible and audible alarm
- Alarm stops when gas concentration drops to an acceptable level
- Power lamp (green LED)
- Fault condition lamp (yellow LED)
- Remote sensor connectable - see SE195KG
- Operates an electro valve through a relay
- IP 42 rating

## GAS DETECTOR - FIXED cont...



**TCSE230KM**

### SE230KM - METHANE DETECTOR - DOMESTIC TECNOCENTROL

- Visible and audible alarm
- Alarm stops when gas concentration drops to an acceptable level
- Power lamp (green LED)
- Fault condition lamp (yellow LED)
- Remote sensor connectable - see SE195KG
- Operates an electro valve through a relay
- IP 42 rating



**TCSE195KM**

### SE195KM - AUXILIARY METHANE GAS DETECTION SENSOR

- For use with Methane Detector - SE230KM
- Pre-set alarm threshold
- IP 44 rating
- Suitable for household applications, e.g.: boiler rooms, cellars
- Used where sensor is exposed to dust or moisture



**TCSE195KG**

### SE195KG - AUXILIARY LPG GAS DETECTION SENSOR

- For use with LPG Detector - SE230KG
- Preset alarm threshold
- IP 44 rating
- Suitable for household applications, e.g.: boiler rooms, cellars
- Used where sensor is exposed to dust or moisture



**TCSE120KM**

### SE120KM - METHANE DETECTOR TECNOCENTROL

- Visible and audible alarm
- Alarm stops when gas concentration drops to acceptable levels
- Power lamp (green LED)
- Fault condition lamp (yellow LED)
- Dimensions 105 x 65 x 43 mm
- 230 VAC



## GAS DETECTOR - FIXED cont...



**TCSE120KG**

### SE120KG - LPG DETECTOR - TECNOCONTROL

- Visible and audible alarm
- Alarm stops when gas concentration drops to acceptable levels
- Power lamp (green LED)
- Fault condition lamp (yellow LED)
- Dimensions 105 x 65 x 43 mm
- 230 VAC



**TCSE126KM**

### SE126KM - METHANE DETECTOR - 1 ZONE WITH RECESSED SENSOR - TECNOCONTROL

- LED gas concentration level indicator bar
- Two alarm levels
- 30 second alarm delay (avoids false alarms due to negligible gas presence)



**TCSE126KG**

### SE126KG - LPG DETECTOR - 1 ZONE WITH RECESSED SENSOR - TECNOCONTROL

- LED gas concentration level indicator bar
- Two alarm levels
- 30 second alarm delay (avoids false alarms due to negligible gas presence)
- Dimensions 160 x 115 x 80 mm



**SE139K**

### SE139K - GAS DETECTION CENTRAL UNIT 1 ZONE WITH REMOTE SENSOR TECNOCONTROL

- Detects either LPG or Methane (dependant upon connected sensor)
- LPG Detection: see LPG sensor SE192KG
- Methane Detection: see Methane sensor SE192KM

#### Unit Features

- LED gas concentration level indicator bar
- Two alarm levels
- 30 second alarm delay (avoids false alarms due to negligible gas presence)
- 230 VAC / 12 VAC / 12 VDC
- Dimensions 71 x 90 x 73 mm



## COMBUSTION ANALYSER

### ===== FIXED =====



**AL0203**

#### O<sub>2</sub> MONITOR - ALBION

- Simple sample draw monitor for accurate O<sub>2</sub> sampling
- Not affected by stack temperature.
- Alarm output
- mV output

### ===== PORTABLE =====



**BA0038**

#### FYRITE TECH 60 - BACHARACH

- Suitable for gas, oil & propane
- Automatic power off feature
- Carry pouch provided
- Accurate operation
- Easy to use
- Light weight
- Ergonomically designed
- Long battery life
- Flue Gas Temp: 0°C - 537°C



**BA003\*\***

#### FYRITE PRO - BACHARACH

- 6 optional models to choose from
- Hand held - all readings on one screen
- Models - O<sub>2</sub>, CO<sub>2</sub>, CO, Draft, Eff, XS air, Stack Temp
- Optional IR printer
- Portability - 24hrs of continual operation
- Comes with protective carry case
- A magnetic sleeve allows hands free operation



**BA001\*\***

#### PCA SERIES - BACHARACH

- Stores 10 readings
- Hand held
- All readings on one screen
- Models O<sub>2</sub>, CO, draft and NO<sub>x</sub>
- 2 year warranty on cells and unit
- Options for PC interface
- Infra-red printer output
- Comes with case

## COMBUSTION ANALYSER cont...

### PCA2 SERIES - BACHARACH



BA001\*\*

- *Smart Sensors*, pre-calibrated to eliminate calibration after replacement
- Measures six gases: CO, O<sub>2</sub>, Low and High CO, NO, NO<sub>2</sub> (for true NO<sub>x</sub>) and SO<sub>2</sub>
- Stores 100 readings
- Hand held
- All readings on one screen which features zoom capabilities
- Displays a graphical hot spot bar
- Flow fail and sensor life remaining display icons
- Visible and audible low battery alert
- Backlight and function keys
- Automatic CO purge with separate purge pump
- Field replaceable thermocouples
- Options for PC interface (Serial or IrDA)
- Supports ZIV protocol for PC data transfer
- Infrared printer output
- 10 fuel codes
- 2 year warranty on cells and unit

### FYRITE INSIGHT - RESIDENTIAL COMBUSTION ANALYZER



BA002\*\*

#### Five Tools in ONE!

- Combustion & Efficiency analyzer
- 8 different fuels
- Room air CO test instrument
- Flue gas CO tester (CO air free)
- Dual channel digital thermometer
- Digital manometer (draft, gas, pressure, ESP, up to +100 INWC)

#### Graphic LCD Display

- Backlight, customizable readout and zoom feature

#### New B-Smart Technology

- Self calibration
- Easy access to sensors

#### User Diagnostics

- O<sub>2</sub> and sensor life
- Calibration reminders

## ELECTRONIC RATIO CONTROL

### 8000 SERIES - NORTH AMERICAN

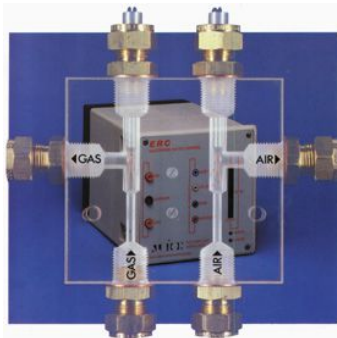


**N8\*\***

- Programmable ratio control
- In built "out of ratio alarms"
- Dual fuel
- Inputs for other devices eg O<sub>2</sub> trim

#### Various Models Offer

- Characterised valves
- Flue gas re-circulation
- Compensated air flow
- Manual / Auto
- Process temperature control + P.I.D
- Oxygen / Fuel



**AL0200**

### ERC + O<sub>2</sub> MONITOR - ALBION

- Precise air/gas ratio control
- High turndown capability
- Compensates for changes in media temperature & pressure
- Saves energy, easy to install & commission

## CONTROL PANELS



**L\*\***

### SCE PROVIDES IN HOUSE

- Design
- PLC Software
- CAD Drawings and documentation
- Manufacture
- Factory testing

### FOR

- Gas fired kilns and furnaces, including pulse fired applications
- Boilers and heaters
- Dryers
- Heating and airconditioning systems
- Powder coating lines
- Vacuum systems
- Material handling
- Equipment test modules

Contact us with your specialised requirements.



## GAS SAFETY PROTECTION SYSTEMS



**L01\*\*\***

### GAS GUARD GG SERIES - SCE

- For laboratories and kitchens
- Key switch
- Fire alarm
- Provision for field emergency stop button
- Control panel integral with gas valves or remote
- Low gas pressure protection
- All valves AGA approved
- For any pipe size
- Widely used in N.S.W & QLD



**L0040**

### GAS CHECK - SCE

- For multi-storey buildings, kitchens, boiler rooms, class rooms and laboratories
- A wide range of fire alarm, gas detection and emergency stop devices
- Low gas pressure protection
- All valves AGA approved
- Meets guidelines of the "Office of Gas Safety" - Victoria
- Pipe sizes 6 mm - 150 mm



**KR3267**

### LSV, K-LSV - KROMSCHRODER

- Safety valve for laboratories
- EC type tested and certified design
- CE Approved
- Control panels SK32\*\* and SK10 (sold separately)



## IGNITORS

### IGNITION TRANSFORMERS

### STEP DOWN TRANSFORMERS

## ELECTRODES

### PIEZO IGNITORS

### FLAME SENSORS

## SECTION 5

### IGNITION ELECTRODES / SENSORS

#### Commercial

*Z8038, Z8042, Z8050*  
*RS14060920, RS14061520*  
*Z8030, Z8032, Z8034*  
*Z8020, Z8035*  
*B.30.2, B.90.4*  
*Square*  
*Flame Sensors, Electrode*  
*50067, 501/21/2*  
*760 Series*

**Robertshaw**  
**Eurolec**

**Polidoro**  
**Catoba**  
**PSE**

**Apco**  
**White Rodgers**

#### Industrial

*4051, 4055*

**SCE**  
**North American**

### IGNITOR - PIEZO

#### Piezo Push-Button

*AE-3630, P210015*  
*JU0020*  
*CC03555*

**Ineco**  
**Junkers**  
**Electrolux**

### IGNITORS - ELECTRONIC

**Regesa, Ispra**

### IGNITION TRANSFORMER - WOUND

#### 110V

*T11M, T16M, T16MC*  
*TZI*

**Brahma**  
**Kromschroder**

#### 240v

*T11M & MC, T13M & AN, T14L, T16M*  
*& MC, T17M, T18 B & D,*  
*T 18D*  
*TZI*

**Brahma**  
**Kromschroder**

#### 415v

*T17M*

**Brahma**

### IGNITION TRANSFORMER - ELECTRONIC

#### 110V

*TSC1*

**Brahma**

#### 240v

*TSC1, TC1L, TC2L*

**Brahma**

### TRANSFORMERS - STEP DOWN

#### 240 / 24V

*1.0AMP, 1.25AMP, 1.75AMP, 2AMP*

**Miscellaneous**





## **IGNITION ELECTRODES / SENSORS**

### **COMMERCIAL**

#### **UNIVERSAL ELECTRODE / EARTH ROD**



**Z8038**

- Electrode
- Earth rod
- Length 36mm
- Supplied with diamond shaped bracket

#### **IGNITOR**



**Z8042**

- Electrode
- Suitable for ovens & grillers

#### **FLAME SENSOR**



**Z8050**

- Length 24cm
- Porcelain - 4cm
- Rod - 11cm
- Tear drop shaped bracket

#### **ROBERTSHAW**



**RS14060920**

- Spark plug & lead
- Length 1200mm

#### **ROBERTSHAW**

**RS14061520**

- Spark plug & lead
- Length 550mm

#### **EUROLEC - ELECTRODE**



**Z8030**

- Length 500mm
- Supplied with lead & spring

#### **EUROLEC - ELECTRODE**



**Z8032**

- Length 850mm
- Supplied with spring & clip

## **IGNITION ELECTRODES / SENSORS cont...**



### **ELECTRODE - EUROLEC**

**Z8034**

- Right angle
- Sleeved lead



### **UNIVERSAL ELECTRODE**

**Z8020**

- 45mm porcelain body
- 100mm flame rod



### **IGNITION ELECTRODE**

**Z8035**

- 110mm porcelain body
- 120mm flame rod



**P40\***

### **IGNITION ELECTRODE - POLIDORO**

- Suit Polidoro pilot
- Round shape
- Long reach spark



**CB2058**

### **ELECTRODE / FLAME ROD - CATOBA**

- Ceramic 53mm x 7mm x 6mm
- Fits Catoba pilot
- Square shape



**PS0042**

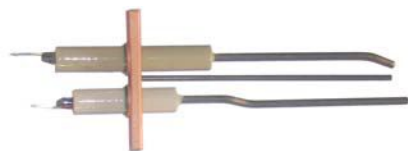
### **FLAME SENSOR - PSE**

- Diamond Bracket
- Rod length - 75 mm
- Ceramic - 38 mm
- Lead - 1000 mm
- Double Lock Stake
- Kanthal wire

## **IGNITION ELECTRODES / SENSORS cont...**

### **COMMERCIAL**

#### **ELECTRODE - PSE**



**PS0070**

- Combination Electrode / Sensor
- Earth rod with bracket
- 200 mm reach
- Small length version available (PS0060)

#### **50067 - APCO**



**AP050067**

- Electrode with integral lead
- Teardrop bracket

#### **50121/2 - APCO**



**AP050121**

- Flame sensor with integral lead
- Teardrop bracket

#### **760 SERIES - WHITE RODGERS**



**W0250**

- Ignition electrode
- Earth electrode

### **INDUSTRIAL**

#### **FLAME ROD / IGNITOR - SCE**

**Z8000**



- 300 mm x 6 mm
- Optional clip and rubber boot

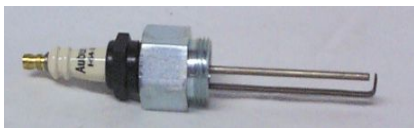
#### **4051 - AIR ASSISTED - NORTH AMERICAN**



**N4051\***

- Improves ignition by increasing spark area
- Reduces gas pilot components
- Reduces pilot maintenance
- Long life - durable
- To suit a large range of burners

## IGNITION ELECTRODES / SENSORS cont..



**N4055\***

### 4055 - DIRECT SPARK - NORTH AMERICAN

- For use with industrial burners, including North American burner models 4422, 4425, 4575, 4832 & 4836
- Available in various lengths

## PIEZO IGNITORS



**CC03630**

### AE - 3630 - INECO

- Suitable for atmospheric burners
- Spring kit version - 16 mm mounting
- Nut version - 18 mm mounting
- Up to 120°C



**CC03500**

### P 210015 - INECO

- Lock nut version
- Suitable for atmospheric burners
- Large flange model



**JU0020**

### PIEZO - JUNKERS

- Heavy duty large style
- Suitable for atmospheric burners



**CC03555**

### PIEZO - ELECTROLUX

- Comes with Lock Nut

## IGNITORS - ELECTRONIC

### COMMERCIAL



**ZE08020**

### ELECTRONIC IGNITOR - ISPRA CONTROLS

- 2 Point
- 240 Volt



**ZE08040**

### ELECTRONIC IGNITOR - ISPRA CONTROLS

- 4 Point
- 240 Volt



## IGNITORS - ELECTRONIC cont...



**ZE08060**

### ELECTRONIC IGNITOR - ISPRA CONTROLS

- 6 Point
- 240 Volts



**ZE08080**

### ELECTRONIC IGNITOR - ISPRA CONTROLS

- 8 Point
- 240 Volt



**RG01020**

### ELECTRONIC IGNITOR - REGESA

- 1.5 volt DC
- 2 Outlet



**RG02020**

### ELECTRONIC IGNITOR - REGESA

- 9 volt DC
- 2 Outlet



**RG030\***

### ELECTRONIC IGNITOR - REGESA

- 12 volt DC or 110 volt AC
- 2 Outlet + 6



**RG080\***

### ELECTRONIC IGNITOR - REGESA

- 240 volt
- 2 or 4 Outlet
- Bottom or side mounting
- Available with push button in 4 outlet



**RG08028**

### ELECTRONIC IGNITOR - REGESA

- 240 volt
- 1 Outlet
- Re - Ignitor

## IGNITION TRANSFORMERS - WOUND

### 110 VOLT



**B0215**

#### T11/M - 110 VOLT / 50Hz - BRAHMA

- Single high output (1x 9 kV)
- Intermittent ignition (33%)
- Longlife transformer
- Secondary current - 20 mA
- Shell shape



**B0230**

**B0235**

#### T16/M & MC - 110 VOLT / 50Hz - BRAHMA

- Dual output (2 x 5 kV)
- Intermittent ignition (33%)
- Longlife Transformer
- Secondary current - 20 mA
- Shell shape

(MC Model is **Bottom Entry**)



**KR38016**

#### TZI 5/15 - 110 VOLT / 50Hz - KROMSCHRODER

- Single output (1 x 5 kV)
- Intermittent ignition (15%)
- Secondary current - 11 mA
- Compact dimensions
- Can use single electrode for ignition & monitoring



**B0115**

**B0116**

### 240 VOLT

#### T11/M & MC - 240V / 50Hz - BRAHMA

- Single high output (1x9 kV)
- Intermittent ignition 33%
- Secondary current - 20 mA
- Longlife transformer
- Shell shape

(MC Model - **Bottom Entry**)



**B0118**

**B0119**

#### T13/M & AN - 240V / 50Hz - BRAHMA

- Continuous ignition (100%)
- Single output (1 x 8 kV)
- Longlife transformer
- Secondary current - 16 mA
- Top side entry

(AN Model - **Bottom Side Entry**)



**B0120**

#### T14/L - 240V / 50Hz - BRAHMA

- Intermittent ignition (25%)
- Double output (2 x 4.5 kV)
- Secondary current - 25 mA

## **IGNITION TRANSFORMERS cont....**



**B0130  
B0135**

**T16/M & MC - 240V / 50Hz - BRAHMA**

- Dual output (2 x 5 kV)
- Intermittent ignition (33%)
- Longlife transformer
- Secondary current - 20 mA
- Side entry x 2

(MC Model has **Bottom Entry**)



**B0140**

**T17/M - 240V / 50Hz - BRAHMA**

- Dual output (2 x 5 kV)
- Continuous ignition (100%)
- Longlife transformer
- Side entry x 2
- Secondary current - 16 mA



**B0145  
B0155  
B0165**

**T18B & D - 240V / 50Hz - BRAHMA**

- Continuous ignition (100%)
- Double output (2 x 4.5 kV)
- End entry x 2
- Secondary current - 19 mA
- Large industrial type

(D Model has **Bottom Entry**)



**KR38002**

**TZI 5/15 - 240V / 50Hz - KROMSCHRODER**

- Single output (1 x 5 kV)
- Intermittent ignition (15%)
- Compact dimensions
- Can use single electrode for ignition and monitoring
- 110v option available
- Secondary current 11mA

## IGNITION TRANSFORMERS cont....



**KR38010  
KR30011**

**TZI 7.5/33 or 100-240v /50Hz -  
KROMSCHRODER**

- Single output (1 x 7.5 kV)
- Option of Intermittent ignition (33%) or continuous (100%)
- High operational reliability
- Ignition of gas/oil burners
- Can use single electrode for ignition and monitoring
- Secondary current - 12 mA
- Open - for cabinet mounting
- Compact dimensions



**KR38036**

**TZI 5/15 - 240V / 50Hz - KROMSCHRODER**

Ignition transformer for high voltage spark ignition of gas or oil burners. Suitable for ignition and monitoring with one or two electrodes.

- Single output (1 x 5 kV)
- Intermittent ignition (15%)
- IP65 enclosure
- Compact dimensions
- Can use single electrode for ignition and monitoring
- 110v option available
- Secondary current 11mA



**B0310**

### 415 VOLT

**T17/M - 415 VOLT - BRAHMA**

- Double output (2 x 4 kV)
- Continuous ignition (100%)
- Secondary current - 16 mA
- Large industrial type

## ELECTRONIC IGNITION TRANSFORMERS



**B0604**

### 110 VOLT

**TSCI - 110v - BRAHMA**

- Single output ( 1 x 15000 v)
- Continuous Ignition 100%
- Top entry
- Compact design



## ELECTRONIC IGNITION TRANSFORMERS



**B0504**

### TSCI - 240V - BRAHMA

- Single output ( 1 x 15000 v)
- Continuous Ignition 100%
- Top entry
- Compact design



**B0530**

### TC1L - 240V - BRAHMA

- Single output (1 x 13000 v)
- Intermittent ignition - 50%
- Secondary current 25mA
- Compact design
- Available with inbuilt anti emission filter



**B0540**

### TC2L - BRAHMA

- Double output (2 x 10,000 v)
- Intermittent ignition - 50%
- Secondary current - 30 mA
- Compact design

### TC2LVCS - BRAHMA

**B0560**

- Continuous Ignition 100%

## STEP DOWN TRANSFORMERS



**Z030\***

### 240 VAC / 24 VAC

- Available in 1.0, 1.25, 1.75, 2 amp
- Compact size
- Solid structure





FLAME SAFEGUARDS  
DETECTORS  
BURNER CONTROLS

## SECTION 6

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### BURNER CONTROL / SEMI AUTOMATIC

<i>RE3</i>	Brahma
<i>84-510 Series</i>	Crouzet
<i>IFW</i>	Kromschroder
<i>LFE10</i>	Landis & Stfa

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### BURNER CONTROL WITH INTEGRAL HSI IGNITOR / SENSOR

<i>50 A 72, 768G</i>	White Rodgers
<i>H4M</i>	Ram

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### BURNER CONTROL WITH INTEGRAL IGNITION

<i>CE, CM, SM, MM, AT5</i>	Brahma
<i>3EM, 5 EM</i>	Ram
<i>S86 Universal Replacement</i>	Honeywell
<i>35 - 615300 - 113 Series</i>	Fenwal

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### PROGRAMMING CONTROLS FOR GAS BURNERS

<i>MPI</i>	Brahma
<i>85.207.103</i>	Crouzet
<i>BCU 370 / 440 / 460 / 480,</i>	Kromschroder
<i>IFS, MPT, PF</i>	
<i>DKG, TF832.3, DMG, MMI,</i>	Satronic
<i>MMG, TMG</i>	Landis & Stfa

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### SENSOR - UV

<i>UV1, FD1, FD2</i>	Brahma
<i>85.207 Series</i>	Crouzet
<i>UV Series</i>	Kromschroder
<i>QRA</i>	Landis & Stfa
<i>UV</i>	Pactrol
<i>UVZ, UVD</i>	Satronic

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### SENSOR - IONIZATION

PSE
Cast

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### INDUSTRIAL UV CELL HOLDER

SCE
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## **BURNER CONTROL / SEMI AUTOMATIC**



### **RE 3 CONTROL - BRAHMA**

**B1115**

- Plug in Base
- UV Cell or Flame Rod Sensing
- Green Light - Power On
- Red Light - Flame On
- Two Electrical Change-over Contacts
- 240 or 110 volt AC
- AGA Approved Number 5367 Class 3D



**B1190**

### **UV 1 BRAHMA UV Detector**



### **84-510-508 CONTROL - CROUZET**

**C33508**

- Plug in Base
- UV Cell - Type 85.207.103 or Flame Rod Sensing
- Yellow Flashing Light - Flame On
- Two Electrical Change-over Contacts
- 240 volt AC
- AGA Approved Number 6324 Class 3D



### **IFW15 CONTROL - KROMSCHRODER**

**KR28162**

- Plug in Base
- UV Cell - Series UVS\* or Flame Rod Sensing
- Amber Light - Flame On
- Electrical Open Contact
- Electrical Closed Contact
- 240 or 110 volt AC
- AGA Approved Number 4131 Class 3D



### **LFE 10 CONTROL - LANDIS & STAefa**

**Z3050**

- Plug in Base
- UV Cell - Series QRA\* or Flame Rod Sensing
- Electrical Open Contact
- Electrical Closed Contact
- 240 or 110 volt AC
- AGA Approved Number 5517 Class 3D

## **BURNER CONTROL WITH INTEGRAL H.S.I**



**W02\*\***

### **50A72-2\*\* H.S.I CONTROL - WHITE RODGERS**

- Plug in Connectors
- Re-Start Attempt
- Single Gas Valve
- Flame Sensor
- Hot Surface Ignitor
- LED Indicator
- 240 volt AC
- AGA Approved Number 5431 Class 2Cb



**W04\*\***

### **768G-214 WHITE RODGERS H.S.I IGNITOR/SENSOR**

- Silicon Nitride
- 240 volt



**RAM0210**

### **H4M7-01 H.S.I CONTROL - RAM**

- Plug in Electrical Connectors
- Re-Start Attempt
- Single Gas Valve
- Volatile Lock - Out
- Flame Sensor
- Hot Surface Ignitor
- Flame Failure Safety Time - 5 sec
- LED Diagnostics
- 24 volt AC
- AGA Approved Number 5522 Class 2Cb

**RAM0255**

### **H4M7-02 RAM H.S.I CONTROL**

Same features and approval as the H4M7-01 but has

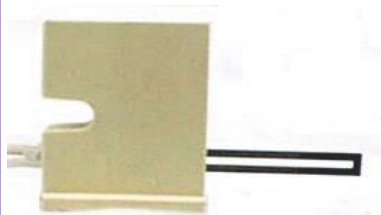
- Pilot & Main Gas Valves
- Air pressure circuit / lock out

**RAM0215**

### **H4M C9-01 RAM H.S.I CONTROL**

All the same features as the H4M7-01 but has

- Air Pressure Proving / Fan
- AGA Approved Number 5522 Class 2Ca



**W0420**

### **401 H.S.I IGNITOR - NORTON**

- Silicon Carbide
- 24 volt AC

**OTHER VERSIONS AVAILABLE**

## **BURNER CONTROL WITH INTEGRAL IGNITION**



**B1150**

### **CE11 U MICROFLAT - BRAHMA**

- Restart Attempt
- Plug in Electrical Connections
- Single Gas Valve
- Volatile Lock-out
- Pre-Purge 1.5 sec
- Flame Failure Safety Time - 5 or 10 sec
- Ionization flame electrode control
- 240 or 110 volt AC
- AGA Approved Number 5391 Class 2 Cb

**B1154**

### **CE12 U MICROFLAT - BRAHMA**

Same features and approval as CE11 U but has

- Pilot / Main Gas (2 Valves)



## **BURNER CONTROL WITH INTEGRAL IGNITION cont..**



**B1156**

### **CE31 U MICROFLAT - BRAHMA**

Same features as CE11 U but has

- Air Pressure Proving / Fan
- AGA Approved Number 5391 Class 2Ca



**B1152**

### **CM11 U MICROFLAT - BRAHMA**

Same feature and approval as CE11 U but has

- Remote Flame Failure Reset Push Button
- Non Volatile Lockout



**B1154**

### **CM12 U MICROFLAT - BRAHMA**

Same features and approval CM11 U but has

- Pilot / Main Gas (2 Valves)
- Non volatile



**B1156**

### **CM31 U MICROFLAT - BRAHMA**

Same features and approval as CE31 U but has

- Remote Flame Failure Reset Push Button
- Non Volatile Lockout



**B1163R**

### **CE32 EUROFLAT - BRAHMA**

- Plug-in Electrical Connections
- Re-Start Attempt
- Pilot & Main Gas Valves
- Volatile Lock-out
- Pre-Purge - 5 sec or 30 sec
- Fan Control with Air Pressure Proving
- Flame Failure Safety Time - 5 sec
- Ionization Flame Electrode Control
- 240 or 110 volt AC
- AGA Approved Number 5390 Class 2Ca

**B1164**

### **CM32 EUROFLAT - BRAHMA**

Same features and approval the CE32 but has

- Non Volatile Lockout
- Remote Flame Failure Reset

**B1181**

### **SM192 EUROBOX - BRAHMA**

- Plug-in Base
- Re-Start Attempt
- Pilot / Main Gas (2 Valves)
- Manual Reset
- Pre-Purge - 5 sec
- Flame Failure Safety Time - 5 sec
- Ionization Flame Electrode Control
- 240 or 110 volt AC
- AGA Approved Number 5380 Class 2Cb

## **BURNER CONTROL WITH INTEGRAL IGNITION cont..**



### **CM391 EUROBOX - BRAHMA**

**B1184**

Same features as the SM192 but has

- Fan Control with Air Pressure Proving
- AGA Approval Number 5380 Class 2Ca

**B1188**

### **MM192 EUROBOX - BRAHMA**

Same features and approval as SM192 but has

- Single Flame Rod / Ignition Control
- Remote Reset



### **AT5/TR CONTROL - BRAHMA**

**B1120**

- Plug in Base
- Pilot / 2 Main Gas Valves
- Manual Reset
- Pre-Purge 15 sec
- Flame Failure Safety Time - 10 sec
- Ionization Flame Electrode Control
- 240 or 110 volt AC
- AGA Approved Number 3195 Class 2Ca



**RAM0112**

### **3EM 10 - 07 CONTROL - RAM**

- Plug in Electrical Connectors
- Re-Start Attempt
- Single Valves
- Volatile Lock-out
- Single Sensor Ionization / Ignition
- Flame Failure Safety Time - 5 sec
- LED Operation Indication Diagnostics
- 24 volt AC
- AGA Approved Number 5522 Class 2Cb

Wiring Kit available - RAM0112KD

**RAM0115**

### **3EM C10 -04 CONTROL - RAM**

Same features as the 3EM 10 -04 but has

- Fan Control with Air Pressure Proving
- AGA Approved Number 5522 Class 2Ca

**RAM0120**

### **3EM C7-04 CONTROL - RAM**

Same features & approval as the 3EM C10-04 but has

- Double Sensor

## **BURNER CONTROL WITH INTEGRAL IGNITION cont...**



**RAM0155**

### **5EM 10 -01 CONTROL - RAM**

- Plug in Electrical Connector
- Restart Attempt
- Pilot / Main Valves
- Volatile Lockout
- Single Sensor Ionization / Ignitor
- Flame Failure Safety Time - 5 sec
- L.E.D Operation
- 24 volt AC
- AGA Approved Number 5522 Class 2Cb



**RAM0160**

### **5EM 7 -01 CONTROL - RAM**

Same features and approval as the 5EM 10 -01 but has

- Seperate Sensor

**RAM0165**

### **5EM C7 -01 CONTROL - RAM**

Same features as the 5EM 7 -01 but has

- Fan Control with Air Pressure Proving
- AGA Approved Number 5522 Class 2Ca

Wiring kits available - RAM0160K



**C31103**

### **85.207.103 U.V Cell - CROUZET**



**KR28258**

### **BCU 370 - KROMSCHRODER**

- Plastic case
- Pilot / Main gas valve
- Remote reset
- UV cell or ionization control
- Restart or immediate lock-out
- Programmed by external computer
- Optional field bus interface

AGA Approval: Awaiting



**HWS8610K**

### **HONEYWELL S86 UNIVERSAL REPLACEMENT BOX**

- Provides up to 1.0A pilot & 2.0A main valve current rating
- System uses rectification principle for flame sensing
- Can be used on natural or LPG gas
- Response time 0.8 sec at 1.0mA flame current
- Flame current 1µA (minimum)
- 24 volt AC

Replaces all Honeywell S86 Boxes



## BURNER CONTROL WITH INTEGRAL IGNITION cont...

### FENWAL SERIES 35-615300-113 CONTROL



**Z0398**

- 24 VAC Microprocessor based DSI control
- Pressure switch monitoring
- System diagnostics LED
- Alarm output (normally closed contact)
- Automatic reset 1 hour after lockout (not allowed for CE approved models)
- Custom prepurge and interpurge timings (prepurge time cannot exceed interpurge time on CE models)
- Multiple tries for ignition
- Remote or local flame sensing
- Flame sense test pins

### BCU 440 / 460 / 480 - KROMSCHRODER



**KR2830**

- Metal case
- Pilot / Main gas valve
- Remote reset
- UV cell or ionization control
- Restart or immediate lock-out
- Programmed by external computer
- Optional field bus interface
- Optional pressuring proving

AGA Approval: Awaiting

### IFS 258 CONTROL - KROMSCHRODER



**KR2801**

- Plug in base
- 1 Valve connection
- Remote reset
- UV cell or ionization control
- Restart or immediate lock-out
- 110 / 240 volt AC
- Indicator lights
- AGA Approval Number 4230

### MPI - BRAHMA



**B130010**

- Plug in base
- Pilot / Main gas valve
- Remote Reset
- UV cell or ionization control
- Restart or immediate lock-out
- Microprocessor based
- Optional pressuring proving

AGA Approval: 7168

## PROGRAMMING CONTROLS FOR GAS BURNERS cont..



**KR28024**

### IFS135B CONTROL - KROMSCHRODER

- Plug in Base
- Pilot / Main Gas Valves
- Remote Reset / Flame Failure Indicator
- Pre-Purge 3 sec
- Flame Failure Safety Time 5 sec
- UV Cell or Ionization Control
- 240 volt AC
- AGA Approved Number 3949 Class 2B

**KR4010**

**UVS1 Heat Protective Housing - KROMSCHRODER**

**KR4030**

**UVS 6 Heat Protective Housing - KROMSCHRODER**



**KR28084**

### IFS110 - IM CONTROL - KROMSCHRODER

- Plug in Base
- Pilot / Main Gas Valves
- Remote Reset / Flame Failure Indicator
- Pre-Purge 5 sec
- Flame Failure Safety Time 5 sec
- Single Electrode / UV Cell
- 240 or 110 volt AC
- AGA Approved Number 4230 Class 2B



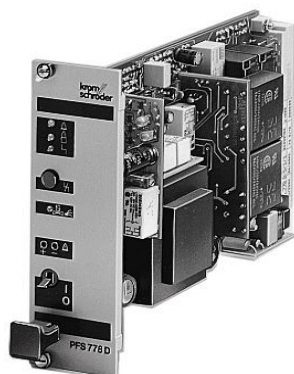
**KR4020**

**UV5 UV Cell**



### MPT 700 - KROMSCHRODER

- Pulse firing controller
- 95 - 240v
- 1 or 2 zones
- 1 to 8 burners
- Multiple programs



### PFS KROMSCHRODER CONTROL PFD KROMSCHRODER CONTINUOUS CONTROL PFF FLAME DETECTION 4 BURNERS PFR RELAY CONTROL 4 BURNERS PFP POWER SUPPLY 24v DC

- 19" Rack System
- 240 or 110 volt AC
- AGA Approved Number 5597 Class 2A



## **PROGRAMMING CONTROLS FOR GAS BURNERS cont..**



### **TF832.3 - SATRONIC**

Microprocessor Oil Burner Control

**SA02431**

- Suitable for the control & monitoring of oil
- Power burners up to 30kg/hr capacity
- 2 stage operation
- UV cell or ionization control
- Pre - purge 12 seconds
- Post ignition time 2 - 5 seconds
- Manual reset from lockout
- 240 volt AC



### **DKG 972 MOD 5 - SATRONIC**

Microprocessor Atmospheric Control

**SA0332005**

- Plug in base
- Pilot / Main gas valve
- Remote reset / Flame failure indicator
- Flame failure safety time - 5 sec
- UV cell or ionization control
- 240 volt AC
- AGA Approved Number 6018 Class 2Ca



### **DMG 970-03 - SATRONIC**

Microprocessor Gas Burner Control

**SA0350003**

- Plug in base
- Pilot / Main gas valve
- Remote reset / Flame failure indicator
- Pre-Purge - 40 sec
- Flame failure safety time - 3 sec
- UV cell or ionization control
- 240 volt AC
- AGA Approved Number 6039 Class 2A

## **PROGRAMMING CONTROLS FOR GAS BURNERS cont..**

<b>SA0622520</b>	<b>MMI</b>	<b>810.1</b>	<b>MOD 45 - SATRONIC</b>
<b>SA0640320</b>	<b>MMG</b>	<b>810.1</b>	<b>MOD 45 - SATRONIC</b>
<b>SA0642120</b>	<b>MMG</b>	<b>870.1</b>	<b>MOD 65 - SATRONIC</b>



### **Synchronous Motor Gas Burner Control**

- Plug in base
- Pilot / Main gas valve
- Remote reset / Flame failure indicator
- Pre-Purge - 40 sec or 65 sec
- Flame failure safety time - 5 sec
- UV cell or ionization control
- 240 volt AC
- AGA Approved Number 3749 Class 2A

### **TMG 740-3 MOD 43-35 - SATRONIC**

### **Synchronous Motor Programme Gas Burner Control**



**SA08218**

- Plug in base
- Pilot / Main gas valve
- Remote reset / Flame failure indicator
- Pre-Purge - 32 sec or 60 sec
- Flame failure safety time - 5 sec
- UV cell or ionization control
- 240 volt AC
- AGA Approved Number 5428 Class 2A

### **FLAME DETECTORS - SATRONIC**



**SA18813**    UVZ 780 - Red UV Cell

### **FLAME DETECTORS - SATRONIC**



**SA40001**    FZ 711 S - Red Photoresistor

## **PROGRAMMING CONTROLS FOR GAS BURNERS cont..**



**Z3060**

### **LGB 21 350 A27 CONTROL - SIEMENS**

- Plug in Base
- Pilot / Main Gas Valves
- Remote Reset / Flame Failure Indicator
- Pre-Purge 30 sec
- Ionization Control
- Add on Unit AEQI 1A27 (UV Cell)
- Air Pressure Proving / Fan
- Flame Failure Safety Time 5 sec
- Fault Indication
- 240 or 110 volt AC
- AGA Approved Number 4393 Class 2A



**Z3010**

### **LFL1 635 CONTROL - SIEMENS**

- Plug in Base
- Pilot / Two Gas Valves
- Remote Reset / Flame Failure Indicator
- Pre-Purge 30 or 60 sec
- Ionization / UV Cell
- Air Pressure Proving / Fan
- Flame Failure Safety time 5 sec
- Fault Indication
- 240 or 110 volt AC
- AGA Approved Number 2734 Class 2A



**Z3030**

### **QRA2 UV Detector - SIEMENS**

## **INDUSTRIAL HOLDER FOR UV CELLS**



**Z2500**

### **INDUSTRIAL HOLDER FOR UV CELLS**

- Simple, 2 part construction
- Suits most cylindrical type UV detector - Kromschroder - Crouzet - Brahma - Landis & Staefa etc
- Compact construction
- 3/4" BSP male connection to burners, no additional fittings required
- Provision for installation of Quartz barrier (Z2525)
- Provided with 1/4" gas connection for cooling air

MEASURING DEVICES - MANOMETERS  
 - GAUGES  
 - METERS  
 - TEST POINTS

## SECTION 7

MANOMETERS	U Tube 3 kPa, 8 kPa	SCE
Digital	MDZ - BI PM - 80	Seitron Digitron
Digital with Leak Detector	DG - 2081P	Digitron
PRESSURE TEST POINTS	Test Points 6 mm, 8 mm Petes Plugs, Gauge Adaptors	Brahma
GAUGES	Dial Type	
	Low Pressure Med-Hi Pressure	Fimit Rhomborg
METER - GAS	Turbine Type DM , DU Series	Kromschroder
METERING ORIFICE SYSTEM - GAS	Orifice Plate Type 8697	North American
METER - OIL	Variable Area Type 8598	North American
METER - GAS	Diaphragm Type G2.5AL, G4AL, G6AL, G10AL	Samtech





## MANOMETERS



### 3 kPa MANOMETER - U TUBE - SCE

#### Comes with:

**Z0103**

- Hanging chain
- Protective plastic casing
- Quality silicon tubing
- Supply of coloured fluid
- Rear mounted

### 8 kPa MANOMETER - U TUBE - SCE

#### Comes with:

**Z0107**

- Hanging chain
- Plastic tubing 0.8 m
- Protective front cover
- Bottle red liquid

**Z0122**

**NEXT SPARE "U" TUBE TO SUIT 8 kPa MODEL**



### PRESSURE TEST BLADDER KIT - NEXT

#### Comes with:

**Z0130**

- Hand pump
- 3 way tee
- Plastic tubing

**Z0110**

**SILICONE TUBING TO SUIT ALL MANOMETERS - SOLD PER METRE**



### DIGITAL MANOMETER - MDZ BI - SEITRON

**SE0200N**

- Large LCD display (4 Digits)
- Auto Shut Off
- Dual Scales: LCD & Indexed
- Low Battery Function
- Very Affordable
- 9VDC Operation
- Choice of 5 units of measurement
- Range of 0 - 10 kPa
- Over range alarm
- Hold reading function

#### Comes With

- Synthetic leather case
- 2 - Plastic pipes
- 6 x 1.5VDC batteries
- Silicon tubing

## MANOMETERS cont...



DG-PM80

### PM-80 - DIGITAL MANOMETER

- Differential Inputs (by 8 mm tube connectors)
- 0 - 130 mbar measurement range
- Large backlit LCD Display
- Push button *Hold* feature
- Push button *Zero* feature
- Water resistant (IP 67)
- Auto power off
- Rugged case
- Tilt stand

### Units

- in / H<sub>2</sub>O (Inches of Water)
- in / HG (Inches of Mercury)
- Kpa (Kilopascal)
- mbar (Millibar)
- mm / H<sub>2</sub>O (Millimeters of Water)
- mm / HG (Millimeters of Mercury)

## MANOMETER WITH LEAK DETECTOR



DG-2081P

### DG-2081P - DIGITAL MANOMETER with LEAK DETECTOR

- Operating Pressure Range: 130 mbar
- Operating Temperature: 0°C to 50°C
- Power: 2 AA Batteries
- Overrange: 350 mbar
- Display backlight
- Out of range
- Zeroing
- Hold
- Smoothing
- Units of pressure
- Range lock
- Max / Min
- Averaging
- Leak Testing
- Logging
- IP 67 Rated
- Auto switch off
- Dimensions: 155 x 67 40 mm
- Weight: 180 grams

## PRESSURE TEST POINTS



### TEST POINT BRASS - 1/8" BSP & 1/4" BSP

- G099\***
- Screwed needle seal
  - Orifice: 0.7 mm to meet AGA standards



**G0992**

Pete's Plugs will allow you to take pressure or temperature readings quickly and eliminate the need for leaving costly gauges or temperature indicators in the line.

### PETE'S PLUG - 1/4" BSP

- Brass Bodied



**G0993**

### PETE'S PLUG GAUGE ADAPTOR

N.B. the pressure gauge adaptor has a probe made of 304 stainless steel. The probe is 1/8" in diameter and extends two inches on the standard adaptor.



**G0992A**

### ADAPTOR 1/8" x 1/4" BSP BRASS

- To suit G0993

## GAUGES



Low pressure Dial Gauges with 63 mm diameter face. Gauges have a 1/4" bottom entry / male thread. - FIMIT

<b>F010060</b>	<b>0 - 60 mbar</b>
<b>F010100</b>	<b>0 - 100 mbar</b>
<b>F010250</b>	<b>0 - 250 mbar</b>
<b>F010400</b>	<b>0 - 400 mbar</b>
<b>F010600</b>	<b>0 - 600 mbar</b>
<b>F020010</b>	<b>0 - 1 Bar / PSI</b>
<b>F0232025</b>	<b>0 - 2.5 Bar / PSI</b>
<b>F0231040</b>	<b>0 - 4 Bar / PSI</b>
<b>F0250006</b>	<b>0 - 10 Bar</b>
<b>F0250100</b>	<b>0 - 100 Bar</b>



A range of low to medium pressure dial gauges with a variation of pressure and inlet sizes.

<b>Z0505</b>	<b>0 - 16 kPa Dial 63 mm x 8 mm Bottom entry</b>
<b>Z0508</b>	<b>0 - 100 kPa Dial 63 mm x 8 mm Bottom entry</b>
<b>Z0511</b>	<b>0 - 160 kPa Dial 63 mm x 8 mm Bottom entry</b>
<b>Z0514</b>	<b>0 - 200 kPa Dial 40 mm x 6 mm Rear entry</b>
<b>Z0517</b>	<b>0 - 250 kPa Dial 63 mm x 8 mm Bottom entry</b>
<b>Z0523</b>	<b>0 - 400 kPa Dial 40 mm x 8 mm Rear entry</b>
<b>Z0520</b>	<b>0 - 400 kPa Dial 63 mm x 8 mm Bottom entry</b>
<b>Z0526</b>	<b>0 - 600 kPa Dial 63 mm x 8 mm Bottom entry</b>
<b>Z0529</b>	<b>0 - 800 kPa Dial 63 mm x 8 mm Bottom entry</b>
<b>Z0533</b>	<b>0 - 1600 kPa Dial 63 mm x 8 mm Bottom entry</b>

## **TURBINE METERS FOR GAS**

### **DM SERIES - KROMSCHRODER**

#### **DM 10 R 25 1" - DM 40 R 25**

- Suitable for flows up to 65 m<sup>3</sup>/h - 25 mm connections
- Pulse Output
- Can communicate with BAS systems



**KR66\***

#### **DM 40 R 40      DM 1000 - 2150**

- Suitable for flows up to 1600 m<sup>3</sup>/h - wafer type for flange mounting
- Accurate to +/- 1% at maximum flow
- Suitable for air up to 1600 kPa and gas up to 400 kPa
- Integral high and low frequency transmitters for remote flow indication and totalising.
- Pulse Output
- Can communicate with BAS systems

### **DE SERIES - KROMSCHRODER**

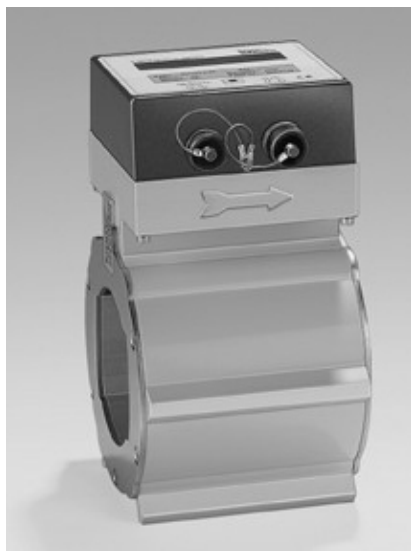
Generally same as above, with

- Electronic volume display

### **DU Series (Ultra Sonic Meter) - Kromschroder**

- 16 Bar maximum pressure
- IP66 Protection
- 70 °C maximum temperature
- 4-20mA Flow proportional output (No converter required)
- Low frequency output
- LCD screen display
- Low (negligible) pressure loss
- Overload proof
- Not susceptible to pressure surges
- Virtually maintenance free
- Some hazardous area applications possible

**KR66606\*\*\***



Additional features available mid 2007

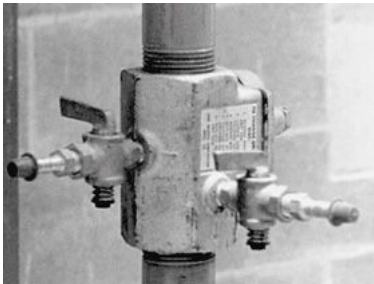
- Remote readout panel
- Integral pressure temperature correction



## METERING ORIFICE SYSTEM FOR GAS

### 8697 SERIES - NORTH AMERICAN

Orifice metering device for use with gas or air.



**N8697\***

- Suitable for total flow indication or individual burner flow indication on multiple burner systems
- Available in 15 - 100 mm pipe sizes with a wide range of orifice plates for each size
- Suitable for pressures up to 170 kPa
- Accuracy within 2% when correctly applied

## VARIABLE AREA METERS FOR OIL

### 8598 SERIES - NORTH AMERICAN

Direct reading oil flow meters



**N8598\***

- Suitable for distillate oil
- Oil flows up to 40 litres/min
- Pressures up to 35000 kPa
- Available for downward flow lines in gravity fed systems
- Fluid temperatures up to 120°C
- Accuracy within +4% of full scale

## DIAPHRAGM GAS METERS

### SAMTECH G SERIES - ALUMINIUM CASE



- Low frequency pulse output (upon request)
- Maximum Pressure 150 kPa
- Steel case available
- Capacity 0 - 16 m<sup>3</sup>/h
- Low registration rate
- Suitable for LPG or Natural gas
- Meters supplied with couplings and gasket

**SMCTMA000020**

- G2,5 AL
- 0.006 - 4 m<sup>3</sup>/h

**SMCTMA000040**

- G4 AL
- 0.010 - 6 m<sup>3</sup>/h

**SMCTMA000060**

- G6 AL
- 0.015 - 10 m<sup>3</sup>/h

**SMCTMA000100**

- G10 AL
- 0.025 - 16 m<sup>3</sup>/h





MOTORS - SERVO MOTORS  
- ACTUATORS

## SECTION 8

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### SERVO MOTORS

*GT 31 \*\*\* Series, GT 50 \*\* Series  
IC20 Series, IC40 Series*

Kromschroder

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### ACTUATORS

*IC20 Series, IC40 Series  
SKP 15 Series, SKP 25 Series, SKP 75  
Series*

Kromschroder  
Siemens

*BBT\*\*\* Series, BBM \*\*\* Series,  
TBT\*\*\* Series, TBM\*\*\* Series*

Neptronic  
Neptronic

*RH Series*

Brahma

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## SERVO MOTOR



**G072\*\***

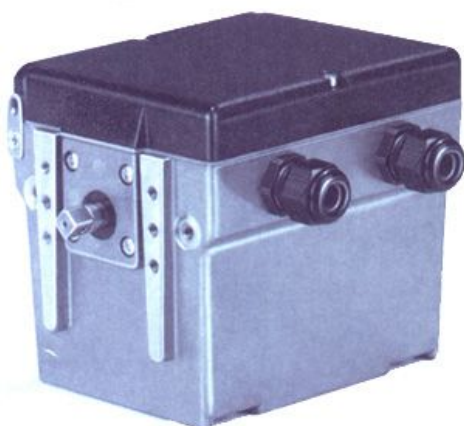
### GT31 SERIES - KROMSCHRODER

- 240v, 110v, 24v - 50Hz - 4.8VA
- Torque 3 Nm
- Reversible
- Hi/Low or positioning
- 30 seconds / 90° rotation, alternative times available
- Position indicator
- Cast aluminium housing and cover to IP54
- 2 voltage free change over separately adjustable limit switches
- Optional feed back potentiometer 150, 1000, 2500 ohm

### GT31E -MODULATING VERSION

- 240, 110, 24v AC
- 4 - 20 mA, 1 - 10v signal

**G0722\***



**G07234**

### GT50 - SERIES T20 - KROMSCHRODER

- 240v, 110v, 24v - 50Hz - 11VA
- Torque 20 Nm
- Reversible
- Hi/Low or positioning
- 30 seconds / 90° rotation, alternative times available
- Position indicator
- Cast aluminium housing to IP54
- 3 voltage free change over separately adjustable limit switches
- Auto / manual selector switch for servicing and commissioning
- Optional feed back potentiometer - 150, 1000, 2500 ohm

**G0726\***

### GT 50E - MODULATING VERSION

- 240, 110, 24v AC
- 4 - 20 mA, 1 - 10v signal

## ACTUATORS



**G071230P**

### IC20 SERIES - KROMSCHRODER

- Movement 0-90°
- Torque 2.5 - 3Nm
- Voltage supply: 120 VAC or 230VAC
- Automatic or manual operation
- Three point step signal controlled
- IP65 enclosure
- Running time: 7.5 - 60 seconds
- Directly mountable onto butterfly valve models:
  - BVA
  - BVG
- Externally readable position indicator
- "E" model available with electronic card 4 - 20mA



**G07140A**

### IC40 SERIES - KROMSCHRODER

- Movement 0-90°
- Torque 2.5 - 3Nm
- Voltage supply: 120 VAC or 230VAC
- Automatic or manual operation
- Three point step signal controlled
- IP65 enclosure
- Running time: 7.5 - 60 seconds
- Directly mountable onto butterfly valve models:
  - BVA
  - BVG
- Externally readable position indicator
- 5 Operating modes (two-point control, three-point step, continuous control, multiple levels)
- Integral error diagnostic system
- 2 Digital control inputs
- 2 Digital control outputs
- Safety closing function closes the valve if the voltage fails
- Modes of operation programmable by an infra-red interface (sold separately)
- "E" model available with electronic card 4 - 20mA



## ACTUATORS Cont...

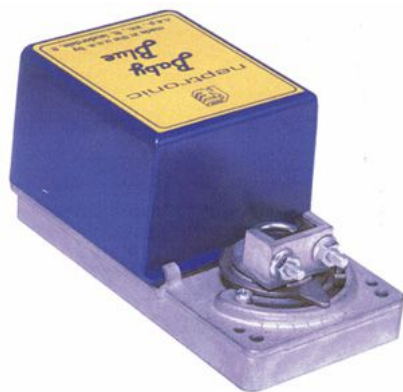
### SIEMENS GAS VALVE ACTUATORS & ACCESSORIES



SCE P/No.	Siemens P/No.	Old P/No.	Description
Z33015	SKP15.000E2	SKP10.110B27	Gas Valve Actuator On / Off, 240VAC
Z33015V	SKP15.001E1	SKP10.111B17	Gas Valve Actuator On / Off, with CPI, 110VAC
Z33015C	SKP15.001E2	SKP10.111B27	Gas Valve Actuator On / Off, with CPI, 240VAC
Z330250V	SKP25.001E1	SKP20.111B17	Gas Valve Actuator C / W Governor & CPI, 110VAC
Z33025	SKP25.003E2	SKP20.110B27	Actuator C / W Press. Gov, 240VAC
Z330257	SKP25.703E2	SKP27.110C27	Actuator C / W Press. Gov. & Mod set-point, 240VAC
Z3308	SKP75.001E2	SKP70.111B27	Air / Gas Ratio Actuator C / W CPI Switch, 240VAC
Z33075	SKP75.003E2	SKP70.110B27	Air / Gas Ratio Actuator, 240VAC
Z330264	AGA64	Not Applicable	DIN Plug for SKPx5 power connection
Z330265	AGA65	Not Applicable	DIN Plug for CPI (with shroud)
Z3328	SQS37	SQS27.700A27	Drive Motor for SKP25 & SKP 27

- Actuators supplied with plug(s)
- Gas valves available

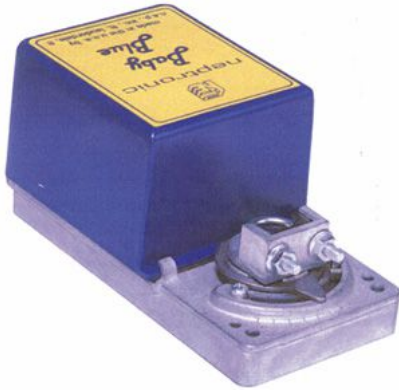
### BBT220 - NEPTRONIC



NE01\*\*

- 240v, 24v - 50Hz - 2.5VA
- Torque 5.6Nm
- Reversible
- Hi/Low or positioning
- 110 seconds / 90° rotation - alternative times available
- Position indicator
- Die cast and steel body - plastic cover
- Optional 2 voltage free non adjustable limit switches
- Electronic modulating type "\*\*\*BBM\*\*\*" available for 4 - 20 mA or 2-10v 4 - 20 mA position feed back signal provided with modulating types

## ACTUATORS Cont...



**NE01\*\***

### TBT HV 3220 - NEPTRONIC

- 240v, 24v - 50Hz - 6vA
- Torque 20 Nm
- Reversible
- Hi/Low or positioning
- 60 seconds / 90° rotation
- Position indicator
- Die cast and steel body - plastic cover
- 2 voltage free non adjustable limit switches
- Electronic modulating type "\*\*\*TBM\*\*"
- available for 4 - 20 mA or 2-10v 4-20mA
- position feed back signal provided with modulating types



**B00410**

### RH AIR DAMPER MOTOR - BRAHMA

- 230V AC
- Torque 2 Nm
- Reversible
- 7.5 / 15 Sec 90° rotation
- Manual / Automatic test switch

PRESSURE SWITCHES  
LEAKAGE DETECTION  
FLOW SWITCHES  
PRESSURE CONTROL

## SECTION 9

PRESSURE SWITCHES FOR GAS & AIR		<i>DG Series RSS 495</i>	Kromschroder Cleveland
PRESSURE SWITCHES FOR AIR & FLUE GAS		<i>770-1 DL TY 84 RSS Series</i>	White Rodgers Kromschroder Campini Cleveland
PRESSURE PROVING SYSTEMS (LEAKAGE DETECTION)		<i>TC1, TC2, TC3, TC410</i>	Kromschroder
FLOW SWITCH	Air	<i>AFS</i>	Cemco
	Water	<i>FLU</i>	Watts
LEVEL SWITCHES		<i>(AKO) 53114, 53124, 53161</i>	AKO
PRESSURE CONTROL- FURNACE	Industrial	<i>8350, 8351</i>	North American
LOW PRESSURE CUT-OFF VALVE	Gas	<i>J120</i>	Jeavons



## **PRESSURE SWITCHES FOR GAS & AIR**



### **POSITIVE PRESSURE (Gas) KROMSCHRODER**

Adjustable, max inlet 600 mbar

- |                |                     |              |
|----------------|---------------------|--------------|
| <b>KR20305</b> | • DG30 / VC 8D - 5S | 8 - 30 mbar  |
| <b>KR20306</b> | • DG45 / VC 8D - 5S | 10 - 45 mbar |

\* Available as option IP65 rating  
AGA Approval Number: 5484



### **DIFFERENTIAL, POSITIVE & NEGATIVE PRESSURE - KROMSCHRODER**

- |                |               |                |
|----------------|---------------|----------------|
| <b>KR20006</b> | • DG 6U - 3   | 0.8 - 6 mbar   |
| <b>KR20008</b> | • DG 10U - 3  | 1 - 10 mbar    |
| <b>KR20010</b> | • DG 50U - 3  | 2.5 - 50 mbar  |
| <b>KR20012</b> | • DG 150U - 3 | 30 - 150 mbar  |
| <b>KR20014</b> | • DG 500U - 3 | 100 - 500 mbar |

\* Available as option IP65 rating  
AGA Approval Number: 5484



### **HIGH PRESSURE SWITCH(Gas) KROMSCHRODER**

- |                |           |               |            |
|----------------|-----------|---------------|------------|
| <b>KR20202</b> | • DGM 06A | 0.1 - 0.6 bar | Max 2 bar  |
| <b>KR20204</b> | • DGM 1A  | 0.2 - 1.6 bar | Max 3 bar  |
| <b>KR20216</b> | • DWR 3   | 0.2 - 2.5 bar | Max 10 bar |
| <b>KR20218</b> | • DWR 6   | 0.5 - 6.0 bar | Max 10 bar |
| <b>KR20222</b> | • DWR 16  | 3.0 - 16 bar  | Max 10 bar |
| <b>KR20224</b> | • DWR 25  | 4.0 - 25 bar  | Max 10 bar |

\* Available as option IP65 rating  
AGA Approval Number: 5484 (DGM ONLY)



### **MANUAL RESET - H SERIES - KROMSCHRODER**

Locks off with rising pressure

- |                |                |                |
|----------------|----------------|----------------|
| <b>KR20068</b> | • DG 10 H - 3  | 1 - 10 mbar    |
| <b>KR20070</b> | • DG 50 H - 3  | 2.5 - 50 mbar  |
| <b>KR20072</b> | • DG 150 H - 3 | 30 - 150 mbar  |
| <b>KR20074</b> | • DG 500 H - 3 | 100 - 500 mbar |

AGA Approval Number: 5484



### **MANUAL RESET - N SERIES - KROMSCHRODER**

Locks off with falling pressure

- |                |                |                |
|----------------|----------------|----------------|
| <b>KR20078</b> | • DG 10 N - 3  | 1 - 10 mbar    |
| <b>KR20080</b> | • DG 50 N - 3  | 2.5 - 50 mbar  |
| <b>KR20082</b> | • DG 150 N - 3 | 30 - 150 mbar  |
| <b>KR20084</b> | • DG 500 N - 3 | 100 - 500 mbar |

AGA Approval Number: 5484



## PRESSURE SWITCHES FOR GAS & AIR cont...



### ACCESSORIES

- |                |                               |
|----------------|-------------------------------|
| <b>KR20526</b> | • Operating Lamp DG / DL 240v |
| <b>KR22152</b> | • Connector Kit CG to DG      |



### RSS 498 - CLEVELAND

**W0204**

- Customer specified fixed set point between 0.12 - 4 Inch W.C.
- Positive, Negative or Differential pressure
- Available in various sample line connections, terminal styles and mounting arrangements

## PRESSURE SWITCHES FOR AIR & FLUE GAS



**W0203**

### RSS-49-091 2.5 - 10 mbar - CLEVELAND

- SPDT switch that can be actuated by a positive, negative or a differential pressure with field adjustable operating range.



**W0201**

### 770 - 1 0.175 - 30 mbar - WHITE RODGERS

- SPDT switch that can be actuated by a positive, negative or a differential pressure with field adjustable operating range.

**KR20138**

### DL 3A - 3 0.4 - 3 mbar - KROMSCHRODER

- Control of air and flue gas as low pressure cut off & as limiting switch. Adjustable for positive, negative & differential pressure. Max 150 mbar

## PRESSURE SWITCHES FOR AIR & FLUE GAS



**CP5084**

### TY84 - CAMPINI

- Fixed set point 0.88 mbar or to customer requirements
- Control of low pressure air
- SPDT Switch
- Differential pressure/positive/negative connection

## PRESSURE PROVING SYSTEMS (LEAKAGE DETECTION)



**KR3202**

### TC 116 W05 T 240/110v AC 24v DC - KROMSCHRODER

- Inbuilt Pressure Sensor
- Direct fitting to Combination valves
- 50 kPa rating

AGA Approval Number: 4581



**KR3212**

### TC 218 R05 T 240/110v AC 24v DC - KROMSCHRODER

- Inbuilt Pressure Sensor
- External Mounting
- 50 kPa rating

AGA Approval Number: 4581



**KR3220**

### TC 318 R05 T 240/110v AC 24v DC - KROMSCHRODER

- Inbuilt Pressure Sensor
- Fitted with 2 Control Gas Valves
- External Mounting
- 50 kPa rating

AGA Approval Number: 4581

### TC 410 IT 240/110v AC 24v DC- KROMSCHRODER

**KR3205**

- External Pressure Sensor eg DG Series
- Control Cabinet Mounting
- Unlimited pressure with external pressure switch

AGA Approval Number: 4581

## FLOW SWITCH



**CE0999**

### AIR

#### AIR FLOW SWITCH - CEMCO

- AFS 100 AIR FLOW SWITCH

Can be used as an air flow or sail switch for measuring low temperature airflows. Can be supplied either with SPDT or SPST contacts.

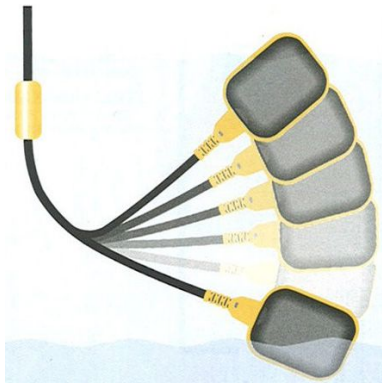


**F20401126**

### WATER

#### FLOW SWITCH FOR WATER - WATTS

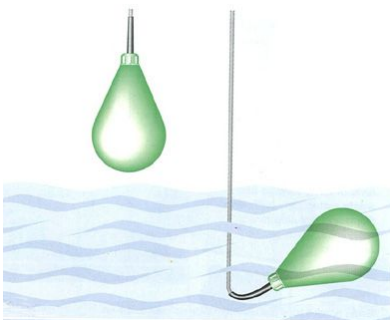
- Water Flow Size 1 Inch
- Aluminium Body
- 6 AMP 230 Volts
- Maximum Operating Pressure 10 Bar
- Maximum Operating Temperature 110°C



**RSAKO53114**

#### AKO53114 - LEVEL SWITCH - AKO

- Liquids level controller (suitable for clean water, drinking water, and general purpose applications)
- Cable length 10 m
- Nominal weight 1.48 kg
- Maximum operating temperature 60 °C
- Single pole microswitch (10 Amp, 250 VAC)
- Counterweight supplied
- Polypropylene float cover
- IP68 rated
- Dimensions 81 x 131 x 41.5 mm



**RSAKO53124**

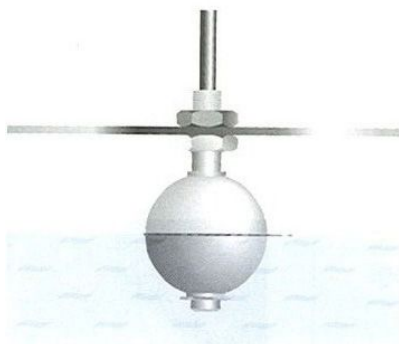
#### AKO53124 - LEVEL SWITCH - AKO

- Liquids level controller (suitable for clean water, sewage & waste water applications)
- Cable length 10 m
- Operating density range 0.9 to 1.1 kg / dm<sup>3</sup>
- Maximum operating temperature 60 °C
- Single pole microswitch (10 Amp, 250 VAC)
- Polypropylene float cover
- IP68 rated
- Dimensions Ø 103 x 163 mm

Shape and interior balance weight ensure that no impurities adhere to the surface of this switch

## LEVEL SWITCHES continued...

### AKO53161 - LEVEL SWITCH - AKO



**RSAKO53161**

- Liquids level controller (suitable for high temperature applications)
- Operating temperature range -20 to 125 °C
- Stainless steel construction
- Operating density equal to or less than 0.8 kg / dm<sup>3</sup>
- Maximum operating pressure 40 bar
- Commutation power 60 VA
- Float dimensions Ø 50 mm

This level switch is also ideal for use in corrosive liquids

## PRESSURE CONTROL - FURNACE

### N8350-01

### 8350-01 EPIC CONTROLLER - NORTH AMERICAN

Range: 0.125 - 0.375 mbar - Other ranges on request. A robust pressure sensor and controller in one housing.



### N8351-C-01

### 8351-C-01 EPIC CONTROLLER-NORTH AMERICAN

A panel mounted controller for use with the 8351-A-T-01 transmitter.

### N8351A-T-01

### 8351 A-T-01 EPIC II TRANSMITTER-NORTH AMERICAN

A robust, stand-alone 4 - 20 mA transmitter.



### J01\*\*

### J120 CUT OFF VALVE - JEA VONS

Available 15, 20, 25, 40, 50, 80 mm

- Cuts off gas supply when pressure is lost downstream. Must be manually reset.
- Ideal for science labs, fume cupboards and on unsupervised gas appliances.





## REGULATORS AND FILTERS

## SECTION 10

REGULATOR	Gas	Regulators RV Pilot Regulator <i>J10, 60DJ, 80DJ, 150DJ, J78, J48, J125, J123</i> OPSO / UPSO Regulators GDJ, VGBF FSDR/CE	Maxitrol Beckley Jeavons  Madas Kromschroder Giuliana Anello
	LPG	<i>Single Stage Dual Cylinder First stage</i>  <i>Second stage</i>	Rego Marshall Fisher Rego Sherwood Fisher Rego Muller Gas
	Air / Gas Ratio Controls	<i>GIK, GI J48Z, J48P 7218, 7216</i>	Kromschroder Jeavons North American
	Air	<i>GDJ..L, GBF..L</i>	Kromschroder
	Oil	<i>7142, 7152</i>	North American
REGULATOR - OPSO OVER PRESSURE SHUT OFF	Gas	<i>J125..S10</i>	Jeavons
	OPSO/UPSO	<i>J125..S12 Type 858..869 Type IPR, DKR, DSR</i>	Jeavons Muller Gas Samtech
	Gas-with Safety Diaphragm	<i>J125..S13</i>	Jeavons
FILTER - GAS		<i>FM Series 706, DN Series GFK J92 ART 193, 388</i>	Madas Giuliani Anello Kromschroder Jeavons Itap
	FILTER OIL	<i>8553, 8558</i>	North American



## REGULATORS FOR GAS

**\*Natural Gas or LPG\***



### REGULATORS RV - MAXITROL

**Z02\*\***

- Pilot regulators
- Natural Gas or LPG
- Inlet pressure 10kPa (maximum)

Available in sizes 1/8 to 3/4 Inch



### PILOT REGULATOR - BECKLEY

**Z0210**

- Size 1/2 Inch
- Natural Gas
- Inlet pressure 5kPa (maximum)



### PILOT REGULATORS (Domestic Appliances) - JEA VONS

<b>J0081</b>	<b>60DJ</b>	<b>8mm</b>	<b>Thread Max Inlet</b>	<b>10 kPa</b>
<b>J0082</b>	<b>80DJ</b>	<b>10mm</b>	<b>Thread Max Inlet</b>	<b>10 kPa</b>
<b>J0083</b>	<b>150DJ</b>	<b>15mm</b>	<b>Thread Max Inlet</b>	<b>10 kPa</b>



### J78 R and RS - JEA VONS

**J0001 - 3**

- Inlet Pressure Maximum 35 kPa
- Outlet Pressure Max 4.2 kPa (15 - 20 mm)  
4.6 kPa (25 mm)
- 15, 20, 25 mm thread
- -20 to 70°C
- RS version with threaded vent

## REGULATORS FOR GAS cont...

**\*Natural Gas or LPG\***



**J0005 - 12**

### J48 - JEA VONS

- Inlet Pressure Maximum 35 kPa
- Outlet Pressure Maximum 10 kPa
- 20 - 75 mm Thread
- Higher outlet pressure available on 65 - 75 mm
- Aluminium alloy housing
- Mount horizontal or vertical



**J015\*S\*\***

### J125 - JEA VONS

- Inlet pressure maximum 860 kPa
- Outlet pressure maximum
  - 14 kPa (20 & 25 mm)
  - 35 kPa (40 & 50 mm)
- 20 - 50 mm thread (Flanged on request)
- Mount horizontal or vertical



**J014\***

### J123 HIGH PRESSURE / FLANGED - JEA VONS

- Inlet pressure Max 400 kPa
- Outlet pressure Max 103 kPa
- 50 - 100 mm Flanged only
- Mount horizontal or vertical
- External impulse line
- -20 to 70°C
- High flows

## REGULATORS FOR GAS cont...

**\*Natural Gas or LPG\***



**MDDF\*\*\*\***

### MADAS - OPSO / UPSO REGULATORS

- Sizes: 1/2" to 2"
- Maximum working pressure: 1 or 2 Bar (model specific)
- Operating Temperature: -15°C to +60°C
- Shut closing time < 1 second
- Filtration: 50µm



**MDDF\*\*\*\***

### MADAS - OPSO REGULATORS

- Suitable for LPG & Natural Gas
- Sizes: 1/2" to 2"
- Maximum working pressure: 5 Bar
- Operating Temperature: -20°C to +60°C
- Shut closing time < 1 second
- Filtration: 50µm



**KR0402\***

### GDJ SERIES - KROMSCHRODER

Same specifications as GDJ Air Regulator, except for GAS only - c/w safety diaphragm

- 15 - 50 mm Thread



**GA10\*\***

### FSDR/CE - GIULIANA ANELLO

- Inlet pressure 50kPa (maximum)
- Outlet pressure 15kPa (maximum)
- Mount horizontal or vertical
- Sizes 65, 80 & 100 mm



**KR041\*\***

### VGBF \*\* SERIES - KROMSCHRODER

- Inlet pressure Max 100 - 400 kPa
- Outlet pressure Max .5 - 35 kPa (Depending on regulator size)
- 15 - 40 mm thread available - BSP
- 15 - 250 mm Flanged only
- External impulse line
- Aluminium housing
- -15 to 60°C



## REGULATORS FOR LPG cont...

### ----- INTEGRATED 2 STAGE -----

#### REGO



**RELV 404B23**

- Model LV 404 B23
- Inlet connection 1/4" NPT
- Outlet connection 1/2" NPT
- Outlet pressure set 2.75 kPa
- Capacity 200 MJ/h
- Fitted with 8 mm gauge tapping

**RELV404B4**

- Model LV 404 B4
- Capacity 525 MJ/h
- All other features same as above



**LP00180STD**

#### MARSHALL REGULATOR KIT

- Twin Stage
- Manual Change Over Kit
- Capacity 160 MJ/h
- Size 8 mm x 10 mm

#### REGO - TWO STAGE - MANUAL CHANGEOVER



**RE\*\***

Model - 5404 B 23

- 200 MJ/h

Model - 5404 B 4

- 525 MJ/h



**RE57**

#### AUTO CHANGE OVER - REGO - TWO STAGE

Model - 5726B23

- Capacity 180 MJ/h

Model - 5754B4

- Capacity 500 MJ/h

## REGULATORS FOR LPG cont...

### ----- FIRST STAGE -----



**LP10810**

#### FIRST STAGE - SHERWOOD

- Model SH800 HPSI
- Inlet connection POL
- Outlet connection 15 mm NPT
- Outlet pressure 35 - 105 kPa - preset 70 kPa
- Capacity 1000 MJ/hr



**LP12500**

#### FIRST STAGE - FISHER

- Model 522 HBGJ
- Inlet connection 15 mm NPT
- Outlet connection set at 1/2" NPT
- Outlet pressure 70 kPa
- Capacity 800 MJ/hr at 79 kPa



**RELV3403TR**

#### FIRST STAGE - REGO

- Model LV 3403 TR
- Inlet connection 1/4" NPT
- Outlet connection 1/2" NPT
- Outlet pressure 70 kPa
- Capacity 1500 MJ/h



**RELV4403 SR9**

**RELV4403 TR9**

#### FIRST STAGE - REGO

- Model LV 4403 SR or TR
- Inlet POL
- Outlet connection 1/2" NPT
- Outlet pressure 35 or 70 kPa
- Capacity 2500 MJ/h

## REGULATORS FOR LPG cont...

### SECOND STAGE



**LP22025**

#### SECOND STAGE - FISHER

- Model R422 - DDF
- Inlet connection 20 mm NPT
- Outlet connection 20 mm NPT
- Outlet pressure 2.75 kPa
- Capacity 2000 MJ/hr



**RELV4403B4**

#### SECOND STAGE - REGO

- Model LV 4403 B
- Inlet connection 1/2" NPT
- Outlet connection 1/2" NPT
- Outlet pressure 2.75 kPa
- Capacity 935 MJ/h



**RELV4403B\***

#### SECOND STAGE - REGO

- Model LV 4403 B4 / B6
- Outlet pressure 2.75 kPa
- Capacity 1600 MJ/h



**RELV5503B8**

#### SECOND STAGE - REGO

- Model LV 5503 B8
- Outlet pressure 2.75 kPa
- Capacity 2300 MJ/h
- 3/4" x 1"

## REGULATORS FOR LPG cont...



Available LPG Regulators include (Alianca, Rego, Marshall, Muller, Sherwood & Fisher). These are only a few examples of the regulators that constitute our range.

Capacities range from 160 - 7560 MJ/hr.

A range of accessories are available:

- Manual Changover Valves
- Tee Pieces
- POL Fittings
- Pigtails
- Regulator Mounting Brackets

## AIR / GAS RATIO CONTROLS



**KR08\***

### GIK, GI SERIES - KROMSCHRODER

- Inlet pressure up to 40 kPa
- For maintaining constant air-gas mixture
- For continuous step by step burner control
- High regulating precision
- Sizes 15 to 150 mm flanged



**J0020\***

### J48Z / J48P - JEA VONS

- Inlet pressure up to 35 kPa
- For zero outlet pressures (pre-mix burners)
- For balancing gas outlet pressures to variable air impulse pressure signals



**N721\***

### 7218 - NORTH AMERICAN

- Inlet pressure up to 14 kPa
- Precise control of air / fuel ratio

### 7216 - NORTH AMERICAN

- Inlet pressure up to 14 kPa
- Accurate control over air / fuel ratio with the ability to vary the ratio at low fire



## REGULATORS FOR AIR



**KR1200\***

### GDJ - L - KROMSCHRODER

- Inlet pressure maximum 35 kPa
- Outlet pressure maximum 16 kPa
- 15 - 50 mm thread screwed BSP
- Aluminium housing
- Mount horizontal or vertical
- -20 to 60°C



**KR1200\***

### GBF - KROMSCHRODER

- Inlet pressure maximum 20 kPa
- Outlet pressure maximum 16 kPa
- 40 - 150 mm flanged
- Aluminium housing
- Mount horizontal or vertical
- -15 to 60°C

## REGULATORS FOR OIL



**N7142\*\***

### LIGHT OIL PRESSURE REGULATOR - NORTH AMERICAN

- Inlet pressure Max 1750 kPa
- Outlet pressure Max 525 kPa

Cast iron body with brass trim

- Available in 15, 20, 25 mm screwed NPT

**N7152\*\***

### HEAVY OIL PRESSURE REGULATOR - NORTH AMERICAN

All other features same as above



## OPSO REGULATORS



**J015\*S10**

### J125S10 OPSO REGULATOR - JEA VONS

Over pressure shut off device

- Inlet pressure Max 860 kPa (depending on orifice)
- Outlet range .5 - 35 kPa
- Sizes available 20, 25, 40, 50 mm
- Flanged version available on request
- High accuracy
- Vertical or horizontal installation



**J015\*S12**

### J125S12 OPSO / UPSO REGULATOR - JEA VONS

Over and Under pressure shut off device



**SMREG680503**

### IPR600APA OPSO REGULATOR - SAMTECH

#### OVER PRESSURE DEVICE

- Inlet Pressure 19 Bar
- Sizes available 25 - 50 mm
- Screwed or flanged available
- Outlet Pressure 10 - 4000 milli Bar
- Synthetic rubber diaphragms
- Stainless steel seats & springs
- Large flow capacity

## OPSO REGULATORS cont...



**M858H00\*\***

### TYPE 858 (ADJUSTABLE) - MULLER GAS

- High Pressure 1800 kPa
- Capacity 10 Kg/h (LPG)
- Outlet Pressure 70 - 140 kPa
- Opso Setting 105 - 210 kPa
- Inlet / Outlet 15 mm x 15 mm



**M554H01\*\***

### TYPE 869 / 554 - MULLER GAS

- High Pressure 1800 kPa
- Capacity 40 Kg/h (LPG)
- Outlet Pressure 70 - 140 kPa
- Opso Setting 105 - 210 kPa
- Inlet / Outlet 15mm x 15mm



**M865H00\*\***

### TYPE 865 / 160 - MULLER GAS

- High Pressure 1800 kPa
- Capacity 100 - 150 Kg/h
- Outlet Pressure 70 - 140 kPa
- Opso Setting 105 - 210 kPa
- Inlet / Outlet 25mm



**SMREG822239/30**

### DSR - DKR METER REGULATORS - SAMTECH

- Inlet Pressure 5 Bar
- Outlet Pressure 10 - 150 milli Bar
- Double stage regulation
- Straight or angle connection
- Over-pressure shut-off
- Minimum-pressure shut-off
- Filter included
- Relief device

## GAS FILTERS



**MDFG\*\*\***

### FM MODEL GAS FILTER - MADAS

- Sizes 1/2" - 5"
- Maximum working pressure: 2 to 6 Bar (model specific)
- Temperature -20 to 70°C
- Filter made of synthetic washable material
- Easily remove and clean filter



**GA02\*\***

### 706 SERIES 6 BAR - GIULIANI ANELLO

- Sizes 20 - 50 mm screwed BSP
- Rated to 6 bar
- Temperature -10 to 80°C
- Aluminium body
- Mount vertically or horizontally



**GA030\*\***

### DN SERIES 4 BAR - GIULIANI ANELLO

- Fitted with connectors for inlet & outlet pressure taps
- Sizes 40 - 150 mm
- Rated to 4 bar
- Temperature -10 to 80°C
- Aluminium body & cover



**J019\***

### J92 FILTERS - JEA VONS

- Maximum inlet pressure 10 bar
- 50 and 200 micron available
- 50 mm or DN 50 ANSI flange
- Threaded or flanged available
- Temperature range -20 to 70°C
- Elements in 50 and 200 micron available as spares



**KR020\*\***

### GFK FILTER - KROMSCHRODER

- Available in 2, 4, 6 & 16 bar versions
- Operating temperature -15 to 80°C
- Horizontal or vertical installation
- 15 - 65 mm thread available BSP
- 40 - 250 mm flanged
- Test point fitted
- Filter element and "O" Rings available as spare parts

Petes plug fitted - optional extra

## GAS FILTERS cont...



**I05\*\***

### ART 193 GAS FILTER - ITAP

- 50 microns
- Sizes 8 - 50 mm
- Maximum working temperature 100°C
- Maximum 20 bar
- Stainless steel strainer

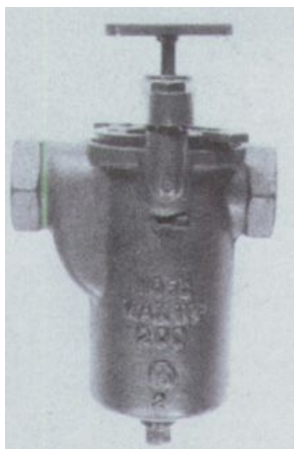


**I050\***

### ART 388 GAS FILTER - ITAP

- 100 microns
- Sizes 20 - 50 mm
- Maximum working temperature 100°C
- Maximum 16 bar
- Stainless steel strainer

## OIL FILTERS



**N8553\***

### 8553 MESH LINED OIL STRAINER - NORTH AMERICAN

- Maximum temperature 204°C
- Maximum pressure 1400 kPa
- Cast body
- Standard in 20 mesh (optional 40 & 100 mesh)
- 10 - 50 mm

**N8558\*\***

### 8558 Y - TYPE STRAINER - NORTH AMERICAN

- Maximum temperature 204°C
- Maximum pressure 2100 kPa
- Cast body
- 40 or 100 mesh
- 8 - 75 mm

THERMOSTATS  
TEMPERATURE INDICATORS  
THERMOMETERS  
PORTABLE MEASUREMENT INSTRUMENTS

## SECTION 11

THERMOSTAT	Surface Contact	<i>TY60, TY60R, TY35 BRC</i>	Campini Imit
	Room	<i>TY90 TA3 IE36W, IF36W, IE78-140, IE78-144</i>	Campini Imit White Rodgers
	Programmable	<i>9600 (AKO) 80025, 13012, 14023, 14123, 14412 IC901, IC912, IC915, IC917 CTX, HTX IF80-261, IF90-371, IF78-144, BLUE 90 BLUE 80 RWF Series 3301P</i>	Maple Chase AKO Eliwell Campini White Rodgers Siemens Skytech
	Capillary & Bulb	<i>TY95 Fryer TC2, TR2, TLSC, LS, TRZ CP40140/CE, CP40150/CE, CP40151 2B61-994 TS9320</i>	Campini EGO Imit Jumo White Rodgers Campini
	Fan Limit	<i>5D51 HW Series</i>	White Rodgers Honeywell
	Heat Pump	<i>IF92W-51</i>	White Rodgers
	Accessories	<i>Guards</i>	White Rodgers
	Sensors		SCE
THERMOMETER	Capillary & Bulb	<i>912 Series TB, TBR</i>	Imit Fimit
	Pipe Connection	<i>TCM</i>	Fimit
	Digital	<i>VTX HL8859, HLRED - I- TEMP, HLT1326</i>	Campini HLP
PORTABLE MEASUREMENT INSTRUMENTS		<i>POR TE1 BIK, POR AN2 BD</i>	Seitron





## SURFACE CONTACT THERMOSTATS



### TY60 - CAMPINI

**CP0\***  
(Auto Reset)

**CP1\***  
(Manual Reset)

- Fixed set - point
- Single probe
- Bimetallic
- Snap action contact
- Range 40°C to 170°C



### BRC PIPE CONTACT THERMOSTAT - IMIT

**IM0545610**

- Adjustable Range 10 - 90°C
- Spring Band 120mm Length
- SPST & SPDT Contacts



### TY35 - CAMPINI

**CP2070**

- Control range - 6 - 45°C or 6 - 60°C
- Single Pole
- Snap-action Contact

## ROOM THERMOSTATS



### TY90 M2 - CAMPINI

**CP40903**

- Range 5 - 35°C
- 24 volt or 240 volt
- On / Off switch
- SPST contacts



### TA3 ROOM THERMOSTAT - IMIT

**IM0546070**

- Range 5 - 30°C
- SPDT Contact
- On - Off Switch



### IF36W ROOM THERMOSTAT - WHITE RODGERS

**W0014**

- Horizontal Mount
- Same Features as IE36W

## ROOM THERMOSTATS cont...



**W0005**

### IE78-140 - SINGLE STAGE THERMOSTAT - WHITE RODGERS

- Single stage / Non programmable
- Heat only
- Accuracy + / - 1 °C of set point
- Screen backlight
- Millivolt operated
- 2 x AAA batteries included
- Wall mount with snap in design permits for easy thermostat upgrades
- Dimensions 83 x 28 x135 mm



**W0006**

### IE78-144 - SINGLE STAGE THERMOSTAT - WHITE RODGERS

- Single stage / Non programmable
- Heat / Cool
- Accuracy + / - 1 °C of set point
- Screen backlight
- Battery powered
- 2 x AAA batteries included
- Wall mount with snap in design permits for easy thermostat upgrades
- Dimensions 83 x 28 x 135 mm
- 24 Volts AC
- Smart design covers the wall marks of many mechanical thermostats, including: White Rodgers, Robertshaw, Honeywell

## PROGRAMMABLE THERMOSTATS



**W00172**

### 9600 - ROBERTSHAW

- 1 Heat / 1 Cool
- Weekly 5-2 day programming
- Automatic compressor short cycle protection
- User friendly
- Supplied in blister pack or box



**W0019-261**

### IF80 - 261 24 VOLT- WHITE RODGERS

- Single Stage Heat/Cool
- Battery Powered
- 5 + 2 Day Programming
- 4 Separate Time/Temp Settings

## PROGRAMMABLE THERMOSTATS



**W00205**

### IF90-371 24 VOLT- WHITE RODGERS

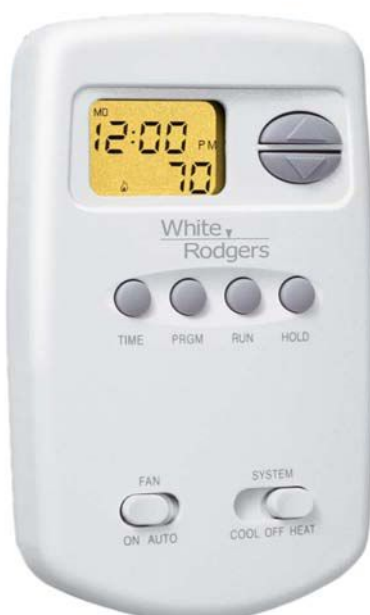
- 4 Time/Temp Settings per 24 hrs
- 5 + 2 Weekday/Weekend Program
- Simultaneous Heat/Cool Program Store
- Back-lit Display
- Classic White Colour
- Manual Over-ride Key



**W0004**

### IF78-151 - HORIZONTAL PROGRAMMABLE - WHITE RODGERS

- Single stage / Programmable
- 4 time and 4 temperature settings per program for heating and cooling
- Setpoint temperature range 7 °C to 32 °C
- Operating ambient temperature 0 °C to 40 °C
- Battery Powered or AC
- 2 x AAA batteries included
- Dimensions 95 (H) x 130 (W) x 28 (D) mm
- 24 Volt AC
- Smart design covers the wall marks of many mechanical thermostats.



**W0001**

### IF78-151 - VERTICAL PROGRAMMABLE - WHITE RODGERS

- Single stage / Programmable
- 4 time and 4 temperature settings per program for heating and cooling
- Setpoint temperature range 7 °C to 32 °C
- Operating ambient temperature 0 °C to 40 °C
- Battery Powered or AC
- 2 x AAA batteries included
- Dimensions 135 (H) x 83 (W) x 28 (D) mm
- 24 Volt AC
- Smart design covers the wall marks of many mechanical thermostats.

## PROGRAMMABLE THERMOSTATS cont...



**W00172BLU**

### BLUE 90 - WHITE RODGERS

- Touchscreen
- Screen backlight
- Audible prompting
- Screen lockout feature
- Accurate temperature maintenance to + / - 1 degree of set point
- Programmable 7, 5/1/1, individual days or use as simple on / off operation
- Dimensions 117 x 30.5 x 150mm

**W00172BMS**

### MULTI - STAGE / HEAT PUMP MODEL

- Features as above, plus Multi-stage / Heat Pump support



**W0019-07**

### BLUE 80 - WHITE RODGERS

- Programmable 5/1/1, 5/2 or 0 Day & Non-Programmable
- 4 time and 4 temperature settings per program (heat & cool)
- Large (4" Square) LCD with improved contrast for easy reading
- Lighted display for easier low-light viewing
- Battery Power Monitor
- Soft-touch keypad
- Choice of battery powered or hard wired (2AA batteries included)



**SE052010**

### 24V or 240V - SEITRON TCP CD1B1

- Programmable (daily or weekly)
- 24V or 240V control switching
- Comfort & Reduced Temperature: 10°C to 30°C
- Working Difference: 0.2°C
- Time Cycles up to 4 / per day - for a 7 Day Period
- Dimensions: 132 x 87 x 28 mm



## PROGRAMMABLE THERMOSTATS cont...



**RS-AKO80025**

### **AKO80025 - 1.5V - AKO**

- Thermometer
- Range -50 °C to +70 °C
- Resolution 0.1 °C
- Accuracy +/- 1 °C
- Dimensions 48 x 28.6 x 14 mm
- Sensor Type NTC
- Sensor Length 3 m
- Supply 1.5 Volts



**RS-AKO13012**

### **AKO13012 - 12 VAC / VDC - AKO**

- Thermometer
- Range -50 °C to +99 °C
- Accuracy +/- 1 °C
- Temperature unit selectable °C or °F
- Password protectable set point
- Sensor Type NTC
- Sensor Length 1.5 m
- Operating ambient temperature 5 °C to 50 °C
- Supply 12 VAC / VDC



**RS-AKO14023**

### **AKO14023 - 230 VAC - AKO**

- Thermometer
- Range -50 °C to +99 °C
- Accuracy +/- 1 °C
- Sensor Type NTC
- Sensor Length 1.5 m
- Operating ambient temperature 5 °C to 50 °C
- Supply 230 VAC

## PROGRAMMABLE THERMOSTATS cont...



RSAKO14123

### AKO14123 - 230 VAC - AKO

- Thermometer
- Range -50 °C to +99 °C
- Accuracy +/- 1°C
- Adjustable defrost, differential and protection compressor delay time
- Sensor Type NTC
- Sensor Length 1.5 m
- Operating ambient temperature 5 °C to 50 °C
- Supply 230 VAC



RSAKO14112

### AKO14412 - 12 VAC / VDC - AKO

- Temperature Controller
- 4 relay outputs (compressor, defrost, fans & alarm)
- Range -50 °C to +99 °C
- Accuracy +/- 1°C
- Sensor Type NTC
- Sensor Length 1.5 m
- Operating ambient temperature 5 °C to 50 °C
- Real time clock
- Supply 12 VAC / VDC



ELIC901

### IC901 - 12 VAC / VDC - ELIWELL

- Temperature Controller (single stage)
- Range -50 °C to +99 °C
- Accuracy +/- 1 °C
- Output relay (8 Amp)
- Sensor Type PTC (NTC selectable)
- TTL input for Copy Card
- Dimensions 74 x 32 x 60 mm
- Available Supply Voltages: 12 VAC / VDC or 230 VAC

## PROGRAMMABLE THERMOSTATS cont...



ELIC912

### IC912 - ELIWELL

- Temperature Controller (single stage)
- Sensor is model dependant
- Range is sensor dependant  
NTC -50 °C to +110 °C  
PTC -50 °C to +140 °C
- Accuracy: better than 0.5% of full scale + 1 digit
- TTL input for Copy Card
- Dimensions 74 x 32 x 59mm
- Available Supply Voltages:  
12 VAC / VDC or  
12...24 VAC switching or  
12...36 VDC switching or  
110 / 115 VAC or  
220 / 230 VAC



ELIC917

### IC917 - ELIWELL

- Temperature Controller (double stage), ON - OFF, PD or PID action.
- Soft Start and autotuning function
- Sensor is model dependant:  
PTC thermostatic probe (NTC set by parameter) or  
Pt100 probes (Tcj/Tck set by parameter)
- Temperature range is model & sensor dependant:  
PTC / NTC Model:  
NTC -50 °C to +110 °C  
PTC -50 °C to +140 °C  
Pt100 / Tck / Tcj Model:  
Pt100 -150 °C to 650 °C  
Tck -40 °C to 750 °C  
Tcj - 40 °C to 1350 °C
- Accuracy is sensor and temperature range dependant
- TTL input for Copy Card
- Dimensions 74 x 32 x 59mm
- Available Supply Voltages:  
12 VAC / VDC or  
12...24 VAC switching or  
12...36 VAC switching or  
110 / 115 VAC or  
220 / 230 VAC

## PROGRAMMABLE THERMOSTATS cont...



**ELIC915**

### IC915 - ELIWELL

- Temperature Controller (double stage), ON - OFF operation
- Range is sensor dependant:  
NTC -50 °C to +110 °C  
PTC -50 °C to +140 °C
- Accuracy: better than 0.5% of full scale + 1 digit
- TTL input for Copy Card
- Dimensions 74 x 32 x 59mm
- Available Supply Voltages:  
12 VAC / VDC or  
12...24 VAC switching or  
12...36 VDC switching or  
110 / 115 VAC or  
230 VAC



**RSELERWC**

### ERWC Series - Eliwell

- Temperature & Humidity Controller
- Protection rating IP67
- 5 Relay Outputs
- 3 NTC Analogue inputs
- 2 Configurable digital inputs
- Real Time Clock
- 8-Key user interface (for navigation & direct functions)
- Double LCD display
- Buzzer
- Direct control of compressors (up to 2hp)
- On board RS-485 serial interface (for TelevisSystem and MODBUS)
- Switching power supply 90...240V
- Dimensions 21 x 24 x 8 cm
- Wall mounted or recessed electrical box



**CP3131\***

### CTX 240 VOLT AC - CAMPINI

- 1 or 2 Set-points
- Range -45 to 130°C
- Alarm Output (Cooling only)
- Defrost Function (Cooling only)
- PTC Sensor (-50 - 130°C)
- Waterproofing gasket, CP3131G, sold separately



## PROGRAMMABLE THERMOSTATS cont...



**CP3135**

### HTX 240 VOLT AC - CAMPINI

- 1 Set-point
- Range 0 - 450°C
- Alarm Output
- Accurate to 1%
- "J" Type Thermocouple (0 - 450°C)



**Z3094**

### RWF - TEMPERATURE CONTROLLER

- PID with auto tune function
- Analogue input - scaleable
- Large bright dual LED display
- Alarm Relay Configurable
- Supply 110 - 240 VAC
- Burner On / Off
- Input: T/C, RTD, DC Volt, 4 - 20mA

**Z3096**

- Universal temperature controller RWF40.000A97
- 3 Position Output
- Universal temperature controller RWF40.001A97
- Various Output Selections



## PROGRAMMABLE THERMOSTATS cont...

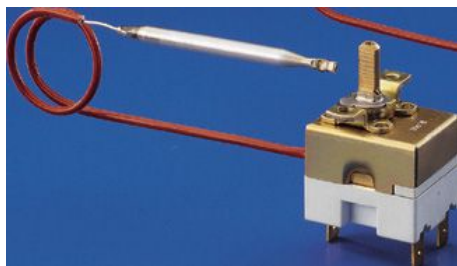


W0016-\*

### 3301P - SKYTECH

- Programmable - 7 days (four periods for each day)
- Remote control (radio frequency)
- Battery operated
- Security code lockable
- Displays both room and set temperatures
- Selectable temperature units (°C & °F)
- 9 hr count down timer
- 'C' Tick approved

## CAPILLARY & BULB THERMOSTATS



CP40100  
CP40100A  
CP40101

### TY95 FRYER TYPE - CAMPINI

- SPST Contact
- Range 95 - 205°C
- Gold or Silver contacts
- Positive "OFF" position
- Stainless steel capillary
- Failsafe



CP40110  
CP40111

### TY95Z OVERTEMP FRYER TYPE - CAMPINI

- SPST Contact
- Over temp setting 235°C
- Fail safe capillary
- Gold or Silver contacts
- Stainless steel capillary



Z3800

### OVERTEMP FRYER TYPE - EGO

- Manual Reset
- Set Point - 230°C
- Gold contacts
- Fail safe capillary

### EGO CONTROL THERMOSTAT

Z3801

- Range 95 - 205°C
- Gold Contacts

## CAPILLARY & BULB THERMOSTATS cont..



**2B61-994 FRYER TYPE -  
WHITE RODGERS**

**W0063**

- Single Pole
- Range: 145 - 200°C
- Quick Response Bulb



**FRYER TYPE - ROBERTSHAW**

**RSEA177007**

- Range: 95°C - 205°C
- Millivolt operated
- Gold contacts



**FRYER TYPE - ROBERTSHAW**

**RSGS7005K**

- Range: 95°C - 205°C
- Snap action hydraulic thermostat
- Services up to 30,000 BTUs
- Thermostats can be purchased separately, without bezel & knob (as RSGS7005)



**OVERTEMP TYPE - ROBERTSHAW**

**RSLCCM0017**

- Set Point: 235°C
- Overtemp cut out
- Millivolt operated
- Auto reset
- Gold contacts

**OVERTEMP TYPE - ROBERTSHAW**

**RSLCH0025**

- Set Point: 235°C
- Overtemp cut out
- Manual reset
- Suitable for Commercial Catering

## **CAPILLARY & BULB THERMOSTATS cont..**



### **THERMOSTAT UNI KIT - ROBERTSHAW**

**RSBJ0100**

- Range: 95°C - 290°C
- Plugs provided for 4 outlets
- Suitable replacement for most field oven thermostats



### **COMMERCIAL GAS THERMOSTAT - ROBERTSHAW**

**RS4200-025**

- Range: 65°C - 290°C
- FDO thermostat
- Universal replacement
- Snap throttle using dual internal valve

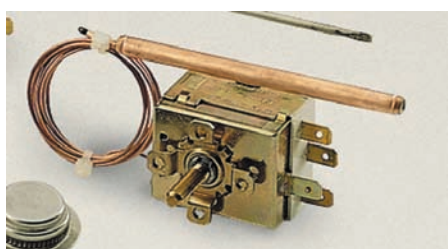


### **TC2 IMMERSION ADJUSTABLE - IMIT**

**IM0542\***

- SPDT contact
- Range -30 to 210°C
- Bulb or Capillary Sensing
- C/W protection pockets 15 mm

Suitable for Boilers, Pumps etc



### **TR2 ADJUSTABLE TYPE - IMIT**

**IM0540\***

- Adjustable Settings
- Ranges -30 to 300°C
- Copper Capillary + Bulb
- SPST or SPDT Contacts

Suitable for Boilers, Radiators, Ovens, Dishwashers etc.



### **TLSC BOILER TYPE - IMIT**

**IM05427\***

- Range 0 - 90°C Adjustable
- Adjustable Hi-limit Range 90 - 110°C
- Manual Reset
- SPST or SPDT Contacts
- c/w protection pocket 15 mm

## CAPILLARY & BULB THERMOSTATS cont...



**CP40140**

### KMF70U CAPILLARY THERMOSTAT - JUMO

- Manual Reset
- Failsafe
- Range -20°C to 150°C
- Panel mountable
- Units adjustable
- 1 meter capillary

**CP40150**

- Manual Reset
- Failsafe
- Range -50°C to 300°C
- Panel mountable
- Units adjustable
- 1 meter capillary



**CP40140CE**

### KMF70U ENCLOSED CAPILLARY THERMOSTAT - JUMO

- Manual Reset
- Failsafe
- Range -20°C to 150°C
- Fully enclosed
- Units adjustable
- 1 meter capillary

**CP40150CE**

- Manual Reset
- Failsafe
- Range -50°C to 300°C
- Fully enclosed
- Units adjustable
- 1 meter capillary



**CP40151**

### ATHF 700 CAPILLARY THERMOSTAT - JUMO

- Manual Reset
- Range -20°C to 500°C
- Fully enclosed
- Units adjustable
- 150 mm probe 15 mm diameter



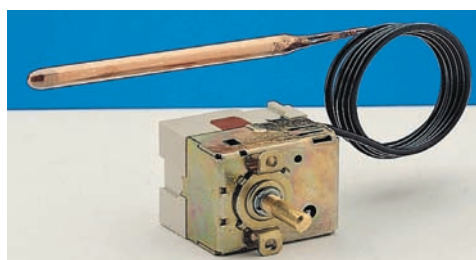
## **CAPILLARY & BULB THERMOSTAT cont..**



**IM0541\***

### **LS HI-LIMIT THERMOSTAT - IMIT**

- Range 90 - 110 / 230°C
- Manual or Auto Reset
- SPST Contacts
- Fail safe capillary



**IM0544024**

### **TRZ CAPILLARY THERMOSTAT - IMIT**

- 2 Stage On / Off
- 1st Stage: 40°C to 78°C
- 2nd Stage: 47°C to 85°C
- Set-point 40 - 85°C



**CP4293203  
CP4293212**

### **TS9320 - CAMPINI**

- Range -35 - 35oC
- Range 30 - 120oC
- Capillary length - 1 metre
- Plastic enclosure
- Contacts SPDT
- Ratings - 240 10 AMP

## **FAN LIMIT THERMOSTAT**



**W003\***

### **FAN LIMIT 5D51 - \* - WHITE RODGERS**

- Single Element Type
- Regulates Fan or Blower Operation
- High Limit Safety Control
- Range - Fan 10 - 129°C  
Limit 38 - 149°C
- Available - 127, 203 & 280 mm Lengths
- 5, 8, 11 inch Probe



## FAN LIMIT THERMOSTAT cont....



### FAN LIMIT - HONEYWELL

**HW4064B3051B**

**HW4064N1066B**

**HW4064B3044B**

**HW4064N1074B**

- Regulates Fan or Blower Operation
- Automatic or Manual Reset
- 8' Auto Reset
- 8' Manual Reset
- 11' Auto Reset
- 11' Manual Reset

## HEAT PUMP THERMOSTATS



**W0027**

### IF92W-51 - WHITE RODGERS

- 5 + 2 Day Programming
- 3 Stages Heat
- 2 Stages Cool
- Classic White Colour
- Unique "Back-lit" Display

## THERMOSTAT ACCESSORIES

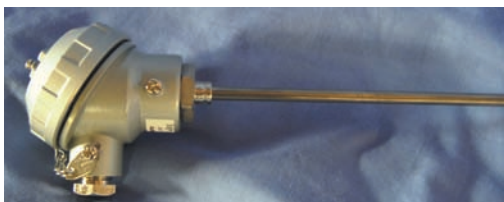


**W0028**  
**W0029**

### GUARDS - WHITE RODGERS

- Clear Plastic
- Suits all W/R Thermostats
- Lockable - 2 Keys Supplied
- Prevents Unwanted Adjustment

## TEMPERATURE SENSORS



**SC3814**  
**SC3303**  
**SC3306**

### SENSORS - SCE

Thermocouples available in

RTD  
"J" TYPE  
"K" TYPE  
"R" TYPE Upon Request

## THERMOMETERS



IM13\*

### 912 SERIES ANALOGUE DISPLAY - IMIT

- Range -40 to 350°C
- Suit Heating & Refrigeration
- Available - Round, Square & Rectangular
- Capillary and Bulb



F130100

### TB - 63 - FIMIT Pyrometer

- 63 mm diameter
- Ring: Chromed steel
- Window: Glass
- Stem: brass, centre back
- Accuracy: Cl. 1.6
- Scale Range: 0 - 500°C



F110120

### TBR - 80 - FIMIT Bimetal Thermometer - Bottom Entry

- 80 mm diameter
- Ring: Chromed steel
- Case: Chromed steel
- Window: Kostil
- Stem: brass bottom
- Pocket: 1/2 BSP, brass
- Amplifying Movement: Brass for precision clockwork
- Accuracy: Cl. 1.6



F120120

### TCM - 63 - FIMIT Thermometer for pipe connection

- 63 mm diameter
- Ring: Chromed steel
- Case: Steel black enamel
- Window: Kostil
- Stem: brass, centre back without pocket
- Accuracy: Cl. 1.6
- Scale Range: 0 - 120°C



CP3158

### VTX 020N 240v - CAMPINI

- Indicator only
- Range -40 to 99°C

CP3160

### VTX 030 Y00 240v AC - CAMPINI

- Indicator only
- Range -45 to 130°C

## THERMOMETERS cont....



**HL8859**

### HL8859 INFRA - RED THERMOMETER

- Measures -20°C to 420°C
- Accuracy 2°C
- Resolution 1°C
- Size 45mm x 40mm x 170mm
- Auto Power Off
- Soft carry case & battery (9V) included



**HLRED - I - TEMP**

### HLRED - I - TEMP WATERPROOF THERMOMETER

- Measures -50°C to 200°C
- Accuracy 0.5°C
- Handy, pocket sized, thermometer
- 125mm Stainless Steel probe on a one meter cable
- Displays temperature to 0.1°C
- Audible alarm when activated



**HLT1326**

### HLT1326 INFRA-RED THERMOMETER

- Measures -35°C to 500°C
- Accuracy  $\pm 2\%$
- Inbuilt Laser Light
- Large LCD Display
- Celcius or Fahrenheit units selectable
- Lens Ratio: 10:1 (measures 10mm at 100mm range)
- Soft carry case & battery included

## PORTABLE MEASUREMENT INSTRUMENTS



**SE0210**

### POR - TE1 - BIK - SEITRON Portable Digital Thermometer

- 3 1/2 Digit display
- Supplied with a "k" thermocouple probe
- Range: -50 to 1300°C
- 1 x 9v battery supplied

**SE0220**

### POR - AN2 - BD - SEITRON Portable Microprocessor Based Anemometer

- 1 1/2" LCD display and data hold
- Battery supplied with fan sensor on bearing
- Range: 0.4 to 25m/s
- 1 x 9v battery supplied



GAS CONNECTORS  
FLEXIBLE HOSES  
THREAD SEALANT  
TECHNICAL HAND BOOKS

## SECTION 12

GAS CONNECTORS	Connector Kits for Food Services <i>16** Kit</i>	Dormont
	Stationary Gas Connector Kits <i>1650 NPFS</i>	Dormont
	Stainless Steel Connectors <i>Series, 10, 20, 30, 40, 50, 60</i>	Dormont
	Stainless Steel Flex Tube <i>T Series</i>	Dormont
	Quick Connect Devices <i>A Series</i>	Dormont
	Cimfast Quick Connect Valve <i>CF</i>	Dormont
	Super Swivel <i>Super Swivel</i>	Dormont
HOSE KITS - WATER	Power Force <i>K50*, 9850</i>	Dormont
THREAD SEALANTS	<i>Gas Approved</i>	Threebond
SMOKE ITEMS	<i>Smoke Matches Smoke Pellets</i>	
BOOKS	Combustion Handbooks	North American
	Thermoprocessing Handbook	Kromschroder





## GAS CONNECTORS



**DR034\***

### 16\*\* GAS CONNECTOR KITS - DORMONT - FOR FOOD SERVICE INDUSTRY

- Specifically for Castored Appliances AG601
- Stainless corrugated
- Braided
- PVC coating for health dept requirements

#### Kit Contents

- PVC coated flexible hose
- Quick connect device
- Restraining cable kit incl. : Bracket & Screws

#### Kits Available in:

- 15 to 32 mm I.D Diameters
- Lengths from 305 to 1830 mm

AGA Approved Number 5306 / MWP 7 kPa



**DR20\***

### 1650 NPFS STATIONARY GAS CONNECTOR KITS - DORMONT

- Coated with PVC for Food Service Industry

#### Kits Available in:

- 15 to 32 mm Diameters
- Lengths from 305 to 1830 mm

AGA Approved Number 5531 / MWP 7 kPa



**DR2\*\***

### SERIES 10 - 60 - DORMONT - STAINLESS GAS APPLIANCE CONNECTORS

- Ideal for gas appliance connection in lieu of using copper tube
- Supplied with end fittings M x F

#### Connectors Available in:

- 8 to 32 mm Diameters
- Lengths from 152 to 1830 mm

AGA Approved Number 5531 / MWP 500 kPa



**DR1\*\***

### T SERIES STAINLESS STEEL FLEXTUBE - DORMONT

- Ideal for use as pilot gas tubes or connection pipes inside appliances. MWP 7 kPa
- Supplied with a 1" smooth neck on the ends for easy slip on of nuts and olives.
- Bends around sharp angles with ease.

#### Flextube Available in:

- 8 to 15 mm
- T4 = 8 mm, T6 = 10 mm, T8 = 15 mm
- Lengths from 152 to 1830 mm

## GAS CONNECTORS cont.....



### "A" SERIES QUICK CONNECT DEVICES — DORMONT

DR01\*

- Quick Disconnect Gas Coupling
- One hand action / self sealing
- Thermal fuse protection incorporated

#### Available in:

- 15 to 32 mm - MWP 7 kPa

AGA Approved Number 5306

### CF - CIMFAST QUICK CONNECT VALVE - DORMONT

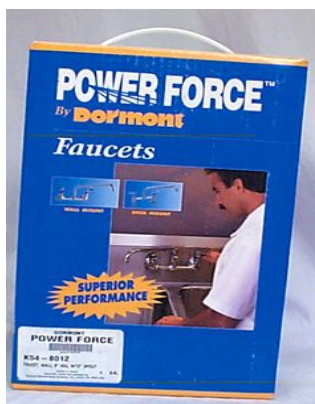
- Incorporates Quick Disconnect and ball valve as one complete unit. World patented.
- Incorporates thermal shut off
- Safety feature - Safety sleeve only allows disconnection if ball valve is in off position
- Quick connect is self sealing
- MWP 7 kPa

### SUPER SWIVEL - WORLD PATENTED - DORMONT

DR02\*

- Provides range of motion in 3 places
- Increase useable aisle work space by decreasing space behind equipment.
- Enhances flow performance
- MWP 7 kPa

## HOSE KITS - WATER



### K50 PRE-RINSE ASSEMBLIES - FOR RESTAURANTS - DORMONT

- The strongest pre-rinse hose available
- 3 ply, stress resistant hose assembly with coil relief spring

DR061000

- K50-1000 PRE RINSE, DECK MOUNT 101.6 mm CENTRE

DR061010

- K50-1000 BR PRE RINSE, DECK MOUNT

DR066044

- 101.6 mm CENTRE W/B
- K50-Y004-44 HOSE ASSY 44" LONG

## HOSE KITS - WATER cont.....



### 9850 - QUICK CONNECT COUPLING - WATER - DORMONT

- |          |   |
|----------|---|
| DR215102 | • SW/H QUICK CONNECT 9850-1212<br>8 mm  |
| DR215104 | • SW/H QUICK CONNECT 9850-2222<br>10 mm |

## THREAD SEALANTS



### THREEBOND 110B ANAEROBIC PIPE SEALANT

Z1110

- Application - Sealing Pipe Threads
- Maximum working pressure 1050 kPa
- Temperature rating (-40 to 150°C)
- AGA Approval Number 4219



### GAS SEAL TAPE (YELLOW)

Z1115

- Maximum density
- AGA / ALPGA Approved Number 3228

### THREEBOND LIQUID GASKET

Z1104

- Semi drying elastomer
- Temperature rating (-50 to 150°C)

## SMOKE ITEMS



### SMOKE MATCHES

Z0135

- 12 matches per packet

Useful for testing:

- Flue ways
- Flue draughts
- Drains
- Gas log fires

## SMOKE ITEMS cont...



**Z0137**

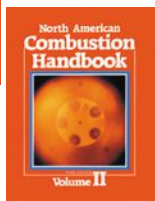
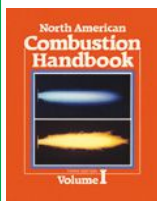
### SMOKE PELLETS

- Packet of 10

Useful for testing:

- Flue draught
- Gas log fire flue ways
- Storm water drains

## TECHNICAL HAND BOOKS



**NXHB-1  
NXHB-2**

### COMBUSTION HANDBOOKS

**N.A. COMBUSTION HANDBOOK VOL.1  
N.A. COMBUSTION HANDBOOK VOL.2**

Includes principles, explanations, data and sample problems on combustion basics, fuels, combustion chemistry, heat transfer, fluid flows etc.

**NXHB-IN**

**N.A. WASTE INCINERATION HANDBOOK**



**KR90010**

### HANDBOOK OF THERMOPROCESSING TECHNOLOGIES - KROMSCHRODER

- Fundamentals
- Processes
- Components
- Safety



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For Blown Burner - Gas, Oil & Dual Fuel

*GT / GTE SERIES*

De Dietrich

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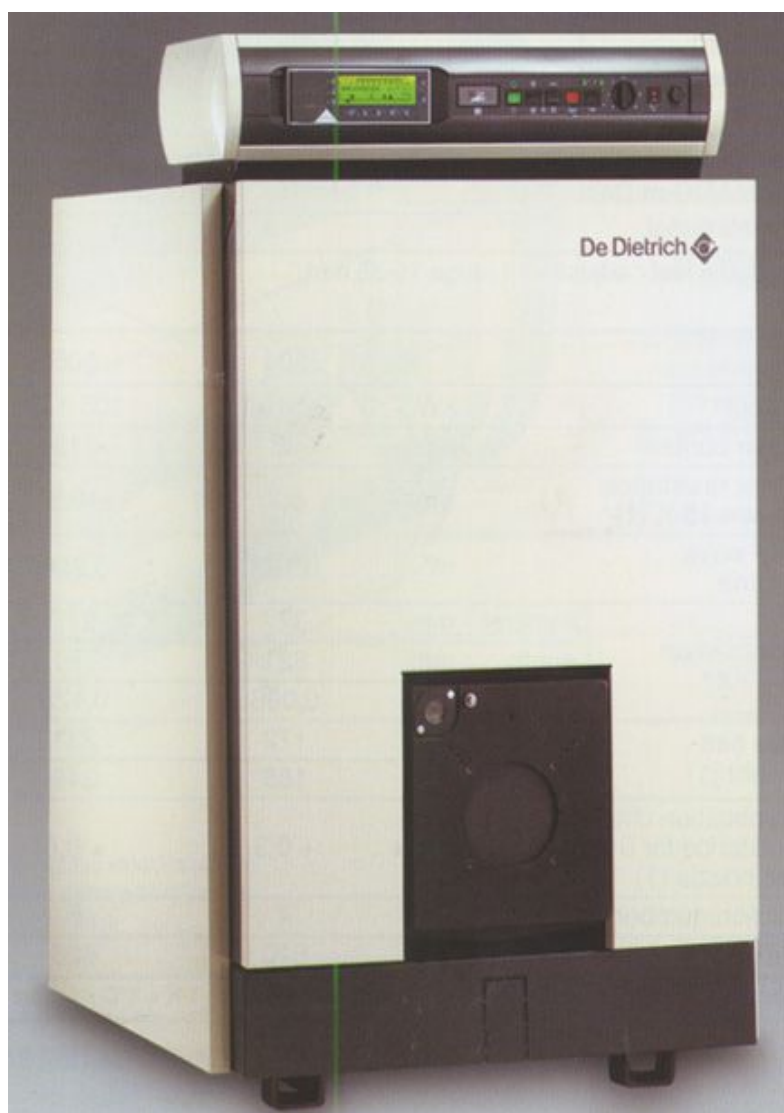


## BOILERS - CAST IRON - SECTIONAL

### BLOWN GAS OR OIL BOILERS - DE DIETRICH

GT series are high efficiency, large output, low temperature, pressurised cast iron boilers. Designed for both oil and gas operation they can be assembled on site or factory and therefore have the ability to replace boilers in difficult access areas.

Features: high efficiency 3-pass flue ways, hinged boiler door and cleaning door, high resistance long life cast iron body, 8 bar rated, reinforced fibreglass wool insulation.



GT 304	70 - 105	kW
GT 305	105 - 140	kW
GT 306	140 - 180	kW
GT 307	180 - 230	kW
GT 308	230 - 280	kW
GT 309	280 - 330	kW
GT 408	300 - 390	kW
GT 409	390 - 450	kW
GT 410	450 - 540	kW
GT 411	540 - 600	kW
GT 412	600 - 670	kW
GT 413	670 - 720	kW
GT 414	720 - 780	kW
GTE 507	348 - 406	kW
GTE 508	406 - 464	kW
GTE 509	464 - 522	kW
GTE 510	522 - 580	kW
GTE 511	580 - 638	kW
GTE 512	638 - 696	kW
GTE 513	696 - 754	kW
GTE 514	754 - 812	kW
GTE 515	812 - 870	kW
GTE 516	870 - 928	kW
GTE 517	928 - 986	kW
GTE 518	986 - 1044	kW



# APPENDIX 1 - UNIT CONVERSION

Natural Gas R.D. = 0.6 (Air = 1)  
H.V. 38.7 MJ/m<sup>3</sup> /1050 Btu/ft<sup>3</sup>

1 in	=	25.40	mm
1 ft	=	0.3048	m
1 yd	=	0.9144	m
1 in <sup>2</sup>	=	645.2	mm <sup>2</sup>
1 ft <sup>2</sup>	=	0.092290	m <sup>2</sup>
1 in <sup>3</sup>	=	16.39	cm <sup>3</sup>
1 ft <sup>3</sup>	=	0.02832	m <sup>3</sup>
1 lbf/in <sup>2</sup>	=	6.895	kPa
1 in H <sub>2</sub> O	=	249.1	Pa
1 mb	=	100.0	Pa
1 gal	=	4.546	L
1 lb	=	0.4536	kg
1 Btu	=	1.055	kJ
1 therm	=	105.5	MJ
1 hp	=	746.0	W
1 kW	=	3.600	MJ
1 kcal	=	4.187	kJ
1 Btu/ft <sup>3</sup>	=	0.037	MJ/m <sup>3</sup>
1 osi	=	0.4375	kPa

L.P. Gas R.D. = 1.55 (Air = 1)  
H.V. 95.5 MJ/m<sup>3</sup> /2500 Btu/ft<sup>3</sup>  
50.4 MJ/kg/21,500 Btu/lb

SI Pressure FX G+F VICTORIA	Pressure Correction Factor (including super - compressibility) 1.1 kPa Base
1.1 kPa	1.000
2.5 kPa	1.014
4 kPa	1.028
7 kPa	1.058
10 kPa	1.087
15 kPa	1.136
30 kPa	1.283
40 kPa	1.381
70 kPa	1.674
100 kPa	1.970
140 kPa	2.363
170 kPa	2.657
200 kPa	2.954
250 kPa	3.447
300 kPa	3.946
350 kPa	4.442
400 kPa	4.939

While every effort has been made to ensure this information is correct, System Control Engineering Pty Ltd shall not be responsible for any errors that may exist in this publication

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South Australia  
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New Zealand  
(09) 636 1401





## APPENDIX 2 - APPROXIMATE HEATING VALUES OF FUELS

FUEL	FOR GASES (MJ/M <sup>3</sup> )	FOR LIQUIDS	MJ/KG
Natural Gas (NG)	38	-	49.36
Processed Natural Gas (PNG)	19.6	-	31.1
Synthesised Natural Gas (SNG)	50.5	-	-
Tempered Liquefied Petroleum Gas (TLP)	25.4	-	-
Liquefied Petroleum Gas (LPG)			
- LPG (Propane) RD 0.508*	94.0	25.4	50.1
- LPG (Propylene) RD 0.584*	87.0	25.6	49.0
- LPG (Butane) RD 0.584*	122.0	28.9	49.5
Naphtha RD 0.610*	-	31.6	47.2
Petrol RD 0.730*	-	34.4	47.1
Automotive Distillate	-	38.4	45.7
Power Kerosene	-	36.7	46.4
Heating Oil	-	36.9	46.2
Ethanol	-	21.2	27.0
Light Distillate	-	37.9	45.8
Industrial Diesel Fuel	-	38.4	45.6
Fuel Oil	-	40.8	43.8
Tar Fuel	-	41.0	38.9
Brown Coal	-	-	21.0
Black Coal	-	-	27.9
Bituminous Coal	-	-	30.0
Coke	-	-	29.1
Wood	-	-	16.0 - 20.0

\*Relative to Water = 1

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## APPENDIX 3

### FACTS ABOUT LIQUEFIED PETROLEUM GAS (LPG) AN AVERAGE BLEND COMMERCIAL PROPANE

ITEM	UNIT	VALUE
Boiling point at $p_a = 101.325 \text{ kPa}$	$^{\circ}\text{C}$	-45
Relative Density of gas (air = 1) at $15^{\circ}\text{C}$ and $101.325 \text{ kPa}$		1.52
Relative density of liquid (water = 1) at $15^{\circ}\text{C}$		0.508
Mass per litre of liquid at $15^{\circ}\text{C}$	$\text{kg/L}$	0.508
Volume of gas per kilogram of liquid at $15^{\circ}\text{C}$ and $101.325 \text{ kPa}$	$\text{m}^3/\text{kg}$	0.541
Volume of gas per litre of liquid at $15^{\circ}\text{C}$ and $101.325 \text{ kPa}$	$\text{m}^3/\text{L}$	0.275
Gross heating value (GJ/t)* when vaporised	$\text{MJ/kg}$	50.05
Gross heating value per liquid volume when vaporised	$\text{MJ/L}$	25.42
Gross heating value of gas per standard cubic metre	$\text{MJ/m}^3$	95.5
Vapour pressure $p_v$ at various temperatures		
$^{\circ}\text{C} =$	$\text{kPa} =$	
-45		0
-40	gauge	28
-30	gauge	90
-20	gauge	175
-10	gauge	285
0	gauge	425
15	gauge	600
10	gauge	700
20	gauge	800
30	gauge	1060
40	gauge	1370
50	gauge	1700

\* The value of GJ/t equals the value of MJ/kg

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## APPENDIX 4 - CONTACT LIST

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## APPENDIX 5 - CONDITIONS OF SALE

- 1.0 GENERAL:
- 1.1 The following are the terms and conditions of sale for the goods specified on the face hereof unless the sale results from a written quotation in which case the terms and conditions appearing on our quotation form shall prevail PROVIDED HOWEVER that any condition here in after contained which may be deemed to be in contravention of the Trade Practices Act 1974 or the Consumer Protection Act 1975 shall not apply to the contract and without in any way limiting the generality of the forgoing such condition shall not apply to a Purchaser who is or may be deemed to be a consumer within the meaning of the said Acts.
- 2.0 TERM OF PAYMENT:
- 2.1 Net cash within 30 days from the end of the month in which the goods are purchased, unless otherwise stated.
- 3.0 CLAIMS, RETURNS AND ALLOWANCES
- 3.1 Any claim against the Company must be made in writing within 7 days of delivery of goods except claims for non delivery which must be made in writing within 14 days from the date of the invoice. All claims must refer to the official invoice number and date and state the reason for claim.
- 2.2 No freight charges for return of goods under the purchaser's volition shall be acceptable by the Company unless authorised by the Company
- 2.3 Goods Returned for credit will only be acceptable if received in original condition and may be subject to restocking charges. The following goods cannot be returned for credit under any circumstances:-
- (a) Any merchandise specially cut to length
  - (b) Any goods specially made, plated or otherwise treated or purchased for the customer
  - (c) Any goods damaged or altered in any way by the Customer.
- 2.2 Acceptance of delivery of goods returned for credit does not signify agreement to issue a credit note. A credit note will be issued only after the goods have been inspected and found to be satisfactory in the opinion of the company. In the event that a credit note is not issued, the Customer will be advised and the goods are made available to him.
- 2.3 No responsibility will be accepted for any delays in passing credit caused by goods being incorrectly branded.
- 4.0 LIABILITY:
- 4.1 Unless expressly agreed to the contrary, the provisions and tolerances contained in the standard specification to which the goods are manufactured by the company or its suppliers will apply to all orders accepted.
- 2.2 Property in the goods shall remain with the Company until all monies payable by the Purchaser in respect of the goods have been paid notwithstanding any variation made in the terms of payment.
- The risk of any loss or damage to or deterioration of the goods from whatever cause arising shall pass to the Purchaser at the point of ex stores delivery.
- 2.3 All goods supplied are covered by such warranty as is specified by the manufacture.
- No warranty is given or implied as to the fitness of the goods for any particular purpose whether such purpose is known to the Company or not. It is the responsibility of the purchaser to satisfy himself that the goods supplied are of the description, quality and character ordered, suitable for the purpose for which they are required. The Company shall not be liable for any loss or damage direct or consequently howsoever arising from the sale or from failure of the purchaser to so satisfy himself.
- No conditions or warranties expressed or implied by law and no representations or statements are binding on the company unless set out by contract.
- 2.4 The Company's liability (if any) in respect to claims under this contract shall be limited to the value of the goods the subject of the contract.
- 5.0 LEGAL CONSTRUCTION:
- 5.1 The construction, validity and performance of this Contract shall be governed by the laws in force in the state in which the contract is made.
- 5.2 The signing of a manifest or delivery docket for goods received, notwithstanding anything that may be stated to the contrary by the Purchaser, shall constitute acceptance of these Conditions of sale.



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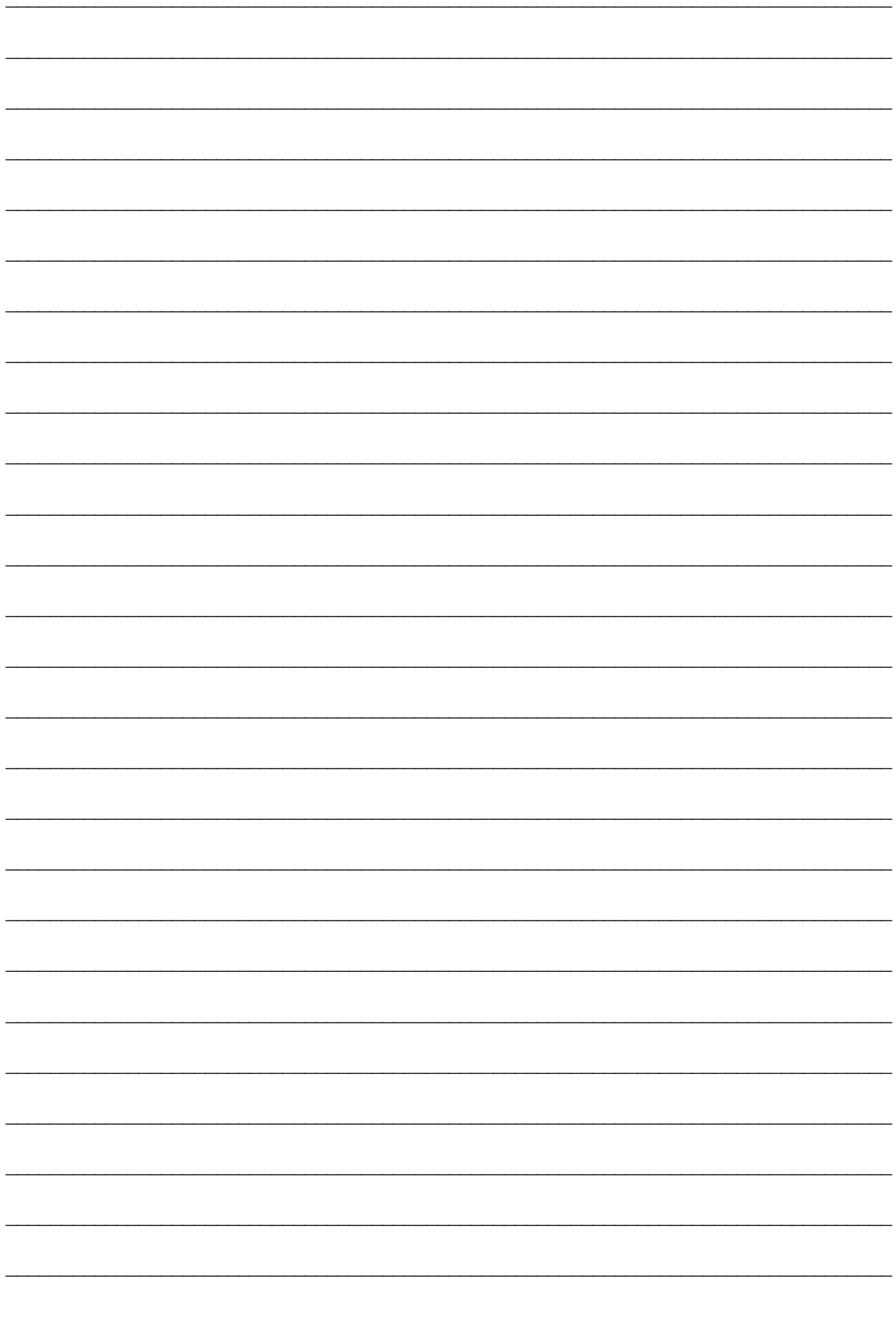
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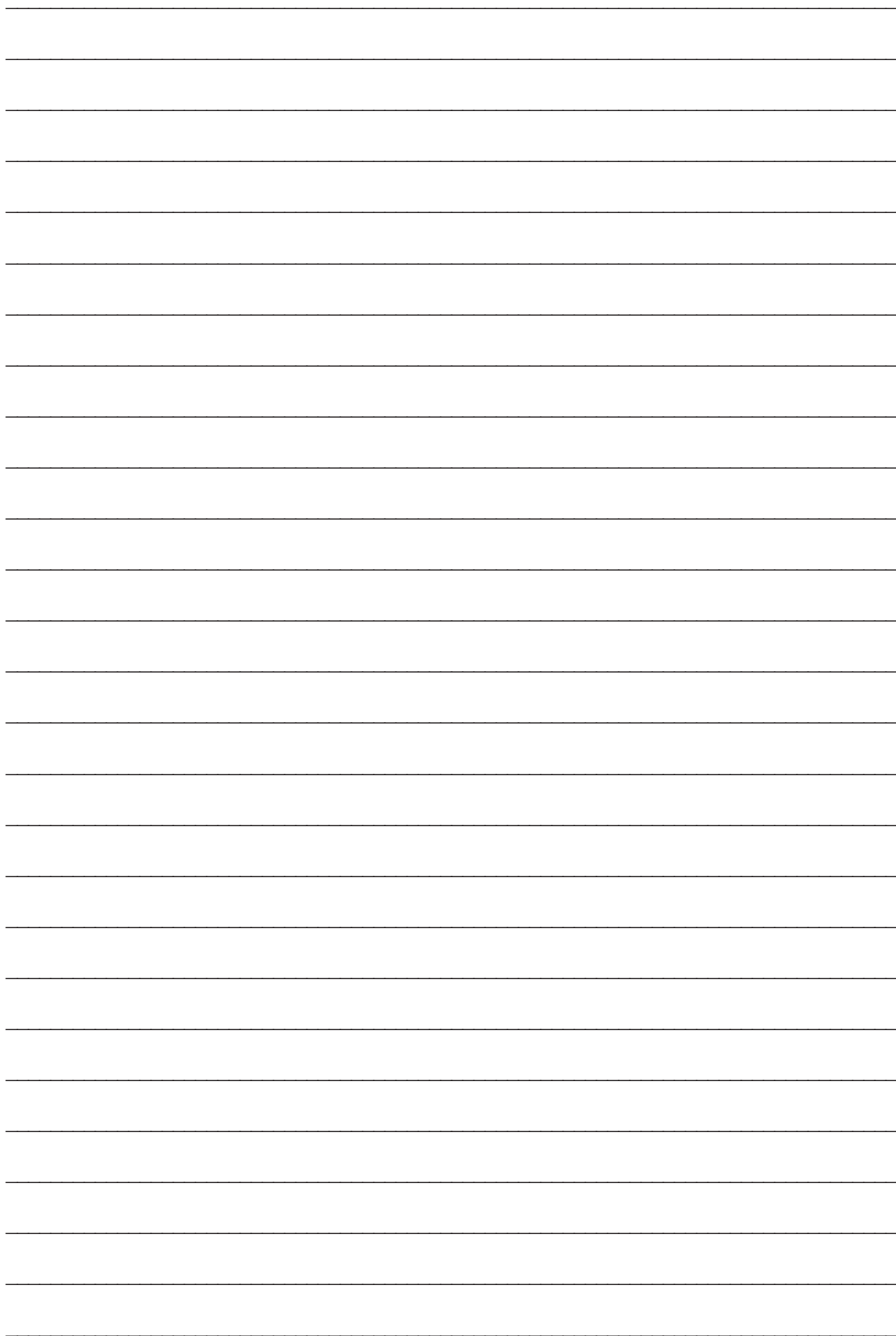
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# **System Control Engineering**

1 lb L.P.G.	= 21,500 Btu Vapourised	1 MJ	= 948,213 Btu
1 lb L.P.G.	= 6.3 kW Hrs	96 MJ	= 1 cb Metre
100 lb L.P.G.	= 630 kW Hrs	3.6 MJ	= 1 Kw Hr
1 lb L.P.G.	= 22.6 MJ	105.5 MJ	= 100,000 Btu
100 lb L.P.G.	= 2,267 MJ	50.4 MJ	= 1 kg
		105.5 MJ	= 1 Therm
100,000 Btu	= 105.5 MJ		
100,000 Btu	= 1 Therm	1 kPa	= .145 psi
21.5 Therm	= 630 kW Hrs	1 BAR	= 100 kPa
1 Btu	= 1.055 Kj	1 mpa	= 145 psi
3,412 Btu	= 1 kW	1 kPa	= 4" W.G.
1000 Btu	= 1.055 MJ / Hr	2.75 kPa	= 11" W.G.
24,350 Btu	= 1.1 lb	6.89 kPa	= 1 psi
948,123 Btu	= 1 MJ	2.5 M.BAR	= 1" W.G.
			= 14.5 psi
1 Litre			
1 Litre	= 24,350 Btu	1ft <sup>3</sup>	= 2,500 Btu
1 Litre	= 25.4 MJ	1 Btu ft <sup>3</sup>	= .037 MJ.M <sup>3</sup>
2 Litre	= 6.93 kW Hrs	1KCAL	= 4,187 Kj
1 Kg	= 1 kg. Wt. Approx	3.14 LUMENS	= 1 CANDLE POWER
1 Kg	= 50.4 MJ	2100 LUMENS	= 130 Watts
	= 47,000 Btu Vapourised		
1 MPa = 10 BAR = 1000 kPa = 145.03 psi = 10.19 kg / cm <sup>2</sup>			
1 BAR = 100 kpa = 14.5 psi = 1.02 kg / cm <sup>2</sup> = .1 MPa			

While every effort has been made to ensure this information is correct, System Control Engineering Pty Ltd shall not be responsible for any errors that may exist in this publication

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