



# STEAM & FLUID CONTROL PRODUCTS



- Regulators
- Noise Attenuation
- Control Valves
- Condensate Pumps
- Safety Relief Valves
- Steam Traps
- Strainers



**SPENCE ENGINEERING COMPANY, INC.**

A subsidiary of **CIRCOR** International, Inc.

# PILOT OPERATED REGULATORS for commercial and industrial applications

ED



## Widest choice of pilots to suit many more challenging applications

The Spence Pilot Operated Regulator has been the trouble-free standard for Commercial/ HVAC applications for nearly a century. What many people don't know is that this same dependable, rugged valve can provide these benefits in many Industrial applications. If you are controlling a temperature, pressure, back pressure or differential pressure with a control valve and are plagued with erratic control, poor or slow response, leaky valves and/or complicated support systems, a Spence Pilot Operated Regulator is often the solution. We have specialized valve/pilot combinations to perform many tasks traditionally done by control valves—without typical control valve problems!

E5



### Main Valves

- For steam, gases and fluids
- Precise control
  - Flexible diaphragm
  - Choice of main spring to suit wide range of differential pressures
  - Wide variety of Pilots target specific requirements
- Low maintenance, long service life
  - Few moving parts and no fine tolerances
  - Packless construction for virtually frictionless, leak free operation
  - Main spring isolated from steam
  - Hardened seat and disc with lifetime warranty against wiredrawing
- ANSI /FCI 70-3 Class IV to Class VI shutoff
- Minimum operating  $\Delta P$  to 3 psi
- Cast Iron -  
ANSI 250 Threaded 3/8" to 2";  
ANSI 125/250 Flanged 1" to 12"
- Cast Steel -  
ANSI 300 Threaded 3/8" to 2";  
ANSI 150/300/600 Flanged 1/2" to 12"

### TYPE E

- Stainless steel multiple sheet diaphragm for durability

### TYPE E2

- For low differential pressures in low pressure applications
- Hycar diaphragm for maximum flexibility

### TYPE E5

- For low differential pressures in higher pressure and/or high capacity applications
- Condensation chamber and long, finned base cool hycar diaphragm for long service life

### TYPE E6

- For cool gas service and high capacity applications
- Hycar diaphragm for maximum flexibility
- Composition disc provides ANSI/FCI 70-3 Class VI shutoff

### TYPE E8

- Economical alternative to pilot operated regulator - ideal for "dirty steam"
- Direct operated via air signal

### TYPE C34

- Balanced plug and composition disc for liquid service
- Hycar diaphragm for maximum flexibility

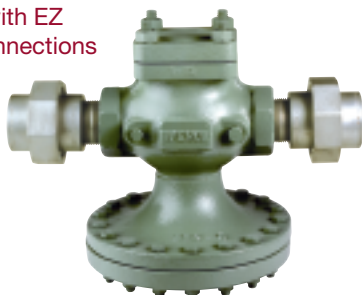
### MAIN VALVE OPTIONS

- Balanced Construction for finer adjustments and smoother operation
- Secoweld renewable bridge wall
- EZ Connections for quick removal
- Condensation Chamber for high temperatures
- LP Main Spring for differential pressures below 30 psi
- Composition Disc for ANSI/FCI 70-3 Class VI shutoff
- Parabolic Discs and Seat Rings for special flow requirements
- Dashpot to prevent water hammer for liquid service on single seat valves
- Integrally mounted pilot
- Insulcap Jacket to limit energy loss and reduce noise transmission

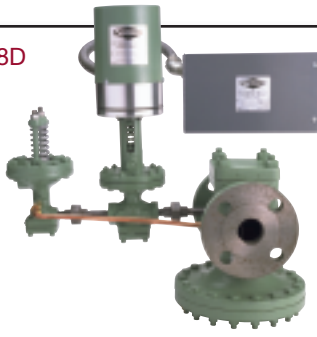
ED Integral Mount



E with EZ Connections



ED208D



E5M33N



EA with B Panel



E2D



EM33D-EZ



## Pressure Pilots

### D PRESSURE REDUCING

- The right choice in over 85% of pressure reduction applications
- Add Type M Pilot for electric on/off remote control
- Add Type D208 Pilot for automated station startup and shutdown
- Four pilots with multiple spring pressure ranges from 30 inches vacuum to 300 psi

### A AIR ADJUSTED PRESSURE REDUCING

- Pneumatic remote adjustment
- Add Type P60 Pneumatic Controller for automatic control
- Multiple pilots from 30 inches vacuum to 150 psi

### P125 TRIP STOP

- Quickly shuts off flow when overpressure condition exists
- Four spring pressure ranges from 5 to 175 psi

### N DIFFERENTIAL PRESSURE

- Controls system pressure above or below another process variable
- Accurate within  $\pm 1$  psi
- Three pilots with four spring pressure ranges from 3 to 150 psi

### P/F46 PUMP GOVERNOR

- Controls high differential pressures in steam driven pumps
- Maintain an average discharge pressure regardless of load changes
- Five pilots with 10 spring pressure ranges from 30 inches vacuum to 2000 psi

### Q BACK PRESSURE

- Maintains constant adjustable initial pressure and responds rapidly to sudden load changes, preventing overpressure
- Spring control or pneumatic adjustment
- Two pilots with 5 spring pressure ranges from 1 to 300 psi

### F BACK PRESSURE

- Prioritizes load allocation when system demand exceeds supply
- Add Type D or A Pilot to also control downstream pressure
- Four F Series pilots with nine spring pressure ranges from 2 to 2000 psi

### D210 ELECTRONIC ACTUATOR

- Modulates a process variable in relation to a proportional electronic control input signal
- Permits interfacing with Energy Management Systems
- Accepts 4-20, 10-50 and 1-5 mA input signals, as well as 0-24 VDC

### SP/P PRESSURE SAFETY

- Emergency control when low pressure valve fails in two stage pressure reducing station where a safety relief valve is not an option
- Typically used with Type D or A Pilot
- Five spring pressure ranges from 5 to 175 psi



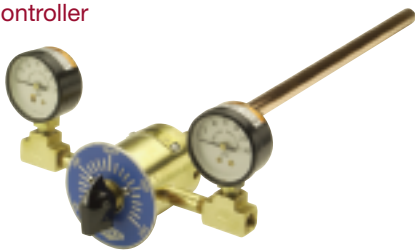
ET134



ET14D



B Panel

Airmaster T61  
Controller

EM33D-EZ



## Temperature Pilots

### T124/134 TEMPERATURE & PRESSURE

- For wide ranging, fast changing loads on instantaneous heaters and difficult process applications
- Cascade control varies pressure relative to temperature
- Reduced pressure ranges from 0 to 125 psi
- Eleven temperature ranges from 20° to 500°F

### T14 VAPOR TENSION

- Maintains constant outlet temperature to a storage heat exchanger
- Add Type D or A Pilot to limit maximum pressure
- Eleven temperature ranges from 20° to 500°F

### T52 COOLING TEMPERATURE

- Controls flow of liquid cooling medium to maintain constant output temperature
- Eleven temperature ranges from 20° to 500°F

### SP/T PRESSURE SAFETY

- Emergency control when primary pilot fails
- Typically used with Type T124/134 or T14 Pilot
- Settable temperature range to 500°F

## Pilot Accessories

### P60/T60 PNEUMATIC CONTROLLER

- Remote adjustment for wide ranging, fast changing loads on instantaneous heaters and difficult process applications
- Precise pressure or temperature control
- Also provides local adjustment and indication
- Typically used with Type A Pilot
- Manually adjusted proportional controller with four pressure ranges from 0-600 or six temperature ranges from -40° to 600°F

### AIRMASTER T61 PNEUMATIC TEMPERATURE CONTROLLER

- Remote adjustment for wide ranging, fast changing loads on instantaneous heaters and difficult process applications
- Manually adjusted proportional controller with two temperature ranges from 50° to 350°F
- Output range up to 0-30 psi permits more accurate control than typical 3-15 output

### A AND B PANELS

- Remotely adjusts air pilots
- Gauges indicate air loading, air supply and/or delivery pressures
- Integral filter regulator conditions dirty shop air to instrument quality
- Typically used with Type A Pilot or for remote manual operation of regulator

### M SOLENOID CONTROL

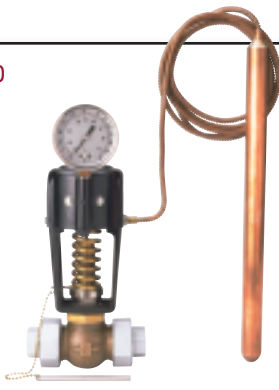
- Remote electrical actuation for on/off control with minimal pressure drop
- Typically used with Type D Pilot

### D208 ELECTRONIC SLOW STARTUP/SHUTDOWN

- Automates station startup and shutdown
- Permits interfacing with Energy Management Systems
- Typically used with Type D Pilot



Series 2000



# DIRECT OPERATED VALVES

## SERIES 2000 TEMPERATURE

- For steam, gases, water and other liquids
- Simple, low cost solution for gradually changing continuous loads
- Direct or reverse acting for heating or cooling; Three way for mixing
- Cast Bronze - ANSI 250 Threaded 1/2" to 2"
- Temperatures -15° to 400°F

## N6 DIFFERENTIAL PRESSURE

- Maintain pump discharge pressures at a constant differential above a separate source of pressure
- Bypass and constant differential valve on boiler feed water systems
- Cast Iron & Cast Steel - ANSI 250 Threaded 3/4" to 2"; ANSI 250 Flanged 2-1/2"
- Three spring pressure ranges for differential pressures from 5 to 200 psi

D50



## D50 PRESSURE REDUCING

- For steam, gases and water
- Cast Iron - Threaded 1/2" to 2"
- Stainless Steel - Threaded 1/2" to 1"
- Reduced pressure ranges from 3 to 140 psi

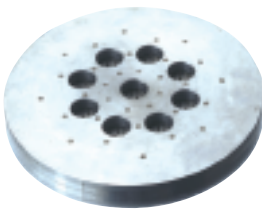
D Valve



## D/D2 PRESSURE REDUCING

- For steam, gases, water and other liquids
- Five spring pressure ranges for pressures from 3 to 300 psi

Muffling Orifice Plate



# NOISE ATTENUATION

## MUFFLING ORIFICE PLATE

- Reduces noise by 6 dBA to 30 dBA
- Engineered for each application; reduction estimates available
- Designed to fit between ANSI or DIN flanges

## INSULCAP INSULATING JACKET

- Reduces noise 3 to 6 dBA
- Provides insulation to limit heat energy losses
- Durable surface membrane barrier over woven glass reinforcement
- Fits Spence Type E and C Main Valves through 12"

Noise Suppressors



Insulcap Jacket

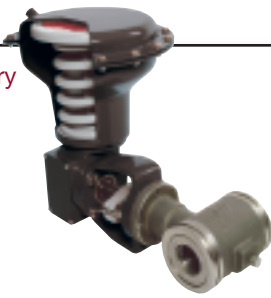


## NOISE SUPPRESSOR

- Reduces noise up to 26 dBA
- Straight through design minimizes pressure drop, permitting normal valve sizing
- Effective over a broad frequency band (up to 12,000 Hz)
- Engineered for each application; reduction estimates available
- Threaded and/or flanged to 18" and larger

# CONTROL VALVES

QB Rotary Control Valve



## QB ROTARY CONTROL VALVE

- Eccentric plug and rotary style for steam, gases, water and other liquids (especially corrosive, dirty and erosive/abrasive slurry)
- Pneumatic or electric actuator
- 100:1 rangeability
- Self aligning orbital seat
- Bi-directional flow
- Shaft access plug standard
- Triple bearing shaft support
- Plug cam action increases trim life
- Selection of trim sizes/materials
- Metal seat meets ANSI/ISA 70-2 Class IV (or optional Class V) shutoff; Metal/PTFE seat meets ANSI/ISA 70-2 Class VI shutoff
- Cast Steel, Stainless Steel – ANSI/ASME 150/300/600 Flangeless or Flanged 1" to 8"; ANSI/ASME 150/300 Separable Flanged 1" to 6"

Doctor MD 3 Way



## DOCTOR SERIES MD 3 WAY

- Balanced plug, linear style for steam, gases, water and other liquids (especially viscous and corrosive)
- Pneumatic actuator
- High flow capacity and self adjusting spring loaded Teflon® chevron stem packing
- Cast Iron - ANSI 125/250 Threaded 1/2" to 2" or Flanged 1/2" to 12"
- Cast Steel or Stainless Steel- ANSI 150/300 Flanged 1/2" to 12"

Kombat K Electric



## KOMBAT SERIES K

- Globe style for steam, water and other liquids
- Pneumatic or electric actuator
- Two way or three way
- Exceeds ANSI/FCI 70-2 Class IV shutoff and shuts off to 400 psi without positioner
- Cast Iron - ANSI 250 Flanged 2-1/2" to 4"
- Cast Bronze - ANSI 125/250 Union End 1/2" to 2"

## INTIMIDATOR TYPE J

- Globe style for steam, water and other liquids
- Pneumatic actuator
- Compact, high capacity streamlined body
- Metal seat meets ANSI/ISA 70-2 Class IV shutoff; Teflon® seat meets ANSI/ISA 70-2 Class VI shutoff
- Cast Iron - ANSI 250 Threaded 1/2" to 2"
- Stainless Steel - ANSI 600 Threaded or Flanged 1/2" to 2"

Intimidator J with Positioner



## BOSS SERIES D

- Balanced plug, hung cage style for steam, gases, water and noncorrosive liquids
- Pneumatic actuator
- High flow capacity and hardened stainless steel trim
- Meets ANSI/FCI 70-2 Class IV shutoff
- Cast Iron - ANSI 125/250 Threaded 2" or Flanged 2" to 8"
- Cast Steel - ANSI 150/300/600 Threaded 2" or Flanged 2" to 8"

Boss D



LCV



## LCV

- Unbalanced plug, plug throttling, cage retained seat globe style for steam, gases, water and other liquids
- Pneumatic or Electric actuator
- Metal seat meets ANSI/ISA 70-2 Class IV (or optional Class V) shutoff; Metal/PTFE seat meets ANSI/ISA 70-2 Class VI shutoff
- Cast Iron – ANSI/ASME 125/250 Flanged 1" to 4"; ANSI/ASME 250 Threaded 1/2" to 2"
- Carbon Steel, Stainless Steel – ANSI/ASME 150/300 Flanged 1" to 4"; ANSI/ASME 300 Threaded 1/2" to 2"
- Socketweld and Butt weld connections also available.

EPC  
Controller



Air Filter  
Regulator



## Control Accessories

### AIRMASTER T61 PNEUMATIC TEMPERATURE CONTROLLER

- Remote adjustment for wide ranging, fast changing loads on instantaneous heaters and difficult process applications
- Manually adjusted proportional controller with two temperature ranges from 50° to 350°F
- Output range up to 0-30 psi permits more accurate control than typical 3-15 output

Airmaster T61  
Controller



### EPC ELECTROPNEUMATIC CONTROLLER

- Simplified installation eliminates need for positioner, I/P, external power supply and instrument quality air
- No air consumption at steady state
- Output range 0-100 psi permits more accurate control than typical 3-15 output

### AIR FILTER REGULATOR

- Remote control for air actuated regulators and control valve
- Converts plant air to instrument quality
- Delivers 0-60 psi

### ADDITIONAL PRODUCTS

- Positioners—Pneumatic & Electropneumatic
- IP Transducer
- RTD Resistance Probe Thermometer
- Electronic Pressure Transmitter
- Biasing Relay

Condensate  
Commander  
Classic Pump



Condensate Commander  
Horizontal Pump



## CONDENSATE PUMPS

### CONDENSATE COMMANDER PUMP

- Powered by steam or compressed gas
- ASME Code stamped tank
- All stainless steel snap acting mechanism retrofits many manufacturers' units
- For condensate pumping where electricity is impractical
- Pressures to 250 PSIG
- Temperatures to 650°F
- Capacities exceed 48,000 lbs/hr
- Vertical and horizontal models
- NPT or flanged 1" x 1" to 4" x 4"

Condensate  
Commander  
Little Boy  
Pump



### CONDENSATE COMMANDER SKID SYSTEM

- Standard system includes one or more pumps, receiver tank and all connections
- Customized systems to meet unique space and/or capacity requirements
- Prefabricated system facilitates quick installation
- Capacities exceed 200,000 lbs/hr

Condensate Commander  
Skid System





# SAFETY RELIEF VALVES

Figure 31, 41, 41A Cast Iron



Figure 31, 41, 41A Bronze



Figure 790 Cryotree®



Figure 800



Figure 15



## FIGURE 31, 41, 41A BRONZE SERIES

- Meets ASME Sections I and VIII for steam, air and gases
- Brass/bronze trim standard; Stainless steel trim optional
- From 5 to 300 psi at 422°F
- Bronze - Threaded inlets 1/2" to 2 1/2"

## FIGURE 31, 41, 41A CAST IRON SERIES

- Meets ASME Sections I and VIII for steam, air and non-hazardous gases
- Semi nozzle, dual ring control and open lever
- Stainless steel base and disc optional
- From 5 to 250 psi at 406°F
- Cast Iron - Threaded or Flanged inlets 1 1/2" to 6"

## FIGURE 790 CRYOTREE™ CRYOGENIC DUAL ASSEMBLY

- For liquids and gases
- Includes safety relief valves, diverting valve, rupture discs, bleed valves and related piping
- Cleaned and packaged for O<sub>2</sub> service per CGA G-4.1
- Pressures to 600 psi; from -423 to 400°F
- Bronze valve 3/4" to 1 1/2" with stainless steel externals

## FIGURE 800 SERIES

- Meets ASME Section VIII for steam, air, gases and liquids
- Stainless steel trim and optional soft seat for tighter shutoff
- Plain, open or packed cap
- From 5 to 900 psi at 800°F
- Bronze - Threaded inlets 1/2" to 1 1/2"
- Stainless Steel - Threaded inlets 1/2" to 1 1/2"

Figure 710 Cryogenic



## FIGURE 10 & 15 SERIES

- Meets ASME Section IV for steam, air and gases
- From 5 to 15 psi at 400°F
- Cast Iron - Threaded inlets 3/4" to 3"
- Aluminum - Threaded inlets 2"

## FIGURE 710/760 SERIES CRYOGENIC

- Meets ASME Section VIII for air and gases
- Stainless steel trim and Teflon® seat for tighter shutoff
- Cleaned and packaged for O<sub>2</sub> service per CGA G-4.1
- From 10 to 400 psi; from -423 to 400°F
- Bronze - Threaded inlets 1/2" to 2"
- Stainless Steel - Threaded inlets 1/2" to 1"

## FIGURE 770 SERIES CRYOGENIC

- For liquids
- Stainless steel trim and Teflon® seat for tighter shutoff
- Cleaned and packaged for O<sub>2</sub> service per CGA G-4.1
- From 5 to 300 psi; from 0 to 300°F
- Bronze - Threaded inlets 1/2" to 2"
- Stainless Steel - Threaded inlets 1/2" to 1"

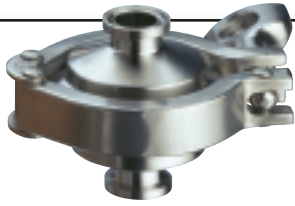
## FIGURE 780 CRYOGENIC DIVERTER

- For liquids and gases
- Full flow manifold ends
- Cleaned and packaged for O<sub>2</sub> service per CGA G-4.1
- Pressures to 600 psi; from -423 to 400°F
- Bronze valve 3/4" to 1 1/2" with stainless steel externals

Figure 760 Cryogenic



CDS



CDH



CoMBo  
CMH



CoMBo  
CMV



DS 100



Steam  
Scrubber



# CLEAN STEAM

## CDS SERIES

- 316L Stainless Steel Bellows
- Free draining, fail open
- Self centering conical valve
- Sanitary clamp for easy disassembly
- For CIP/SIP and sterilization
- Pressures to 100 PSIG
- Temperatures to 338°F
- Sanitary clamp 1/2" to 1-1/2"
- Super Sensitive -B Bellows available

## CDH SERIES STEAM TRAP

- 316L Stainless Steel Bellows
- Free draining, fail open
- Swivel connections
- Self centering conical valve
- Sanitary clamp for easy disassembly
- For CIP/SIP and sterilization
- Pressures to 100 PSIG
- Temperatures to 338°F
- Sanitary clamp 1/2" and 3/4"
- U.S. Patent No. 6,220,519
- Super Sensitive -B Bellows available

## CoMBo CONDENSATE MEASURING ELBOW SANITARY STEAM TRAP

- CMH - Horizontal configuration
- CMV - Vertical configuration
- 6" Condensate Cooling Elbow
- CDS Series Steam Trap features
- 2-3°F Subcool
- Pressures to 45 PSIG
- Temperatures to 292°F
- Optional Thermowell

## DS100 SERIES STEAM TRAP

- Welded 316L Stainless Steel Bellows
- Free draining, fail open
- Maintenance free
- For CIP/SIP and sterilization
- Pressures to 150 PSIG
- Temperatures to 366°F
- Sanitary clamp or tube 1/2" to 1"
- Optional Integral Check Valve

## DS200 SERIES STEAM TRAP

- 316L Stainless Steel Bellows
- Self centering conical valve
- Free draining, fail open
- Maintenance free
- For drip leg and sterilization
- Pressures to 500 PSIG
- Temperatures to 500°F
- NPT 1/2" to 1"

## STEAM SCRUBBER SANITARY FILTER

- All stainless steel construction
- Double O-ring EPDM gasket seals
- High porosity sintered filter media in 1, 5, and 25 micron
- Single clamp closure
- For clean steam filtering
- Pressures to 145 PSIG
- Temperatures to 353°F
- NPT, welded, flanged or sanitary clamp 1/2" to 3"

## NTD230L SERIES STEAM TRAP

- Conventional thermodynamic trap
- All 316L Stainless Steel construction
- Repairable in-line
- Freeze resistant
- For tracer, drip leg and sterilization
- Pressures to 150 PSIG
- Temperatures to 850°F
- 1/2" sanitary clamp

NTD230L



# INVERTED BUCKET TRAPS

Horizontal Mount



Vertical Mount



Horizontal NPT Mount Sealed



Universal Mount Sealed



Horizontal NPT Mount Repairable



Universal Mount Repairable



## DURA-FLO SERIES

- Conventional inverted bucket trap
- Integral strainer
- All stainless steel internals
- Horizontal and vertical models
- Repairable in-line
- For drip leg and process
- Pressures to 250 PSIG.
- Temperatures to 450°F
- NPT 1/2" to 2" in 13 body configurations

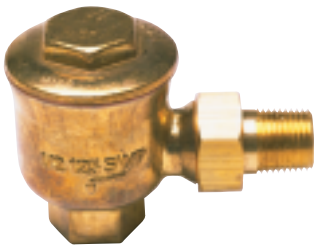
## STAINLESS STEEL DURA-FLO

- NPT horizontal and Universal Mount inverted bucket trap
- Stainless Steel body and internals
- Inexpensive, low maintenance and disposable
- For drip leg and process applications
- Pressure to 650 PSIG
- Temperatures to 497°F
- NPT 1/2" to 1" in three body configurations
- Universal mount, two-bolt swivel connection, 1/2" to 1".

## REPAIRABLE STAINLESS STEEL DURA-FLO

- NPT horizontal and Universal Mount inverted bucket trap
- Stainless Steel body and internals
- Horizontal and two-bolt universal mount models
- Repairable in-line
- For drip leg and process applications
- Pressures to 650 PSIG
- Temperatures to 497°F
- NPT 1/2" to 1" in three body configurations
- Universal mount, two-bolt swivel connection, 1/2" to 1".

N125



## N125/N450/N650/TA

- Straight and angled body style
- Stainless Steel Actuator
- BZ, SS, and FS bodies
- Available fail closed or fail open
- Wide range of options including steam lock release, greater subcooling, internal strainer, blowdown valve and high sensitivity
- 3/8" to 1" NPT or SW
- Pressures to 650 psi; Temperatures to 750°F

## LIQUIDATOR 450 SERIES

- Universal two bolt swivel mount for simple installation
- Repairable in-line
- Freezeproof
- Welded stainless steel bellows
- For tracer, drip leg and medium process
- Pressures to 450 PSIG
- Temperatures to 600°F
- Mounting block in NPT or socketweld 1/2", 3/4", 1"
- Optional strainer, blowdown valve, and valve station

Liquidator 450 Series



"B" Series



## A/B/C/CS

- Straight and angled body style
- SS thermal actuator
- Available with steam lock release and sterilizer trim
- 1/2" to 2" NPT or SW
- High capacity up to 33,000 lb/hr
- Pressures to 300 psi; Temperatures to 500°F

# THERMOSTATIC TRAPS



Liquidator  
UMT-TD  
Universal  
Mount



NTD 600



NTD 600B



Nova  
NFT250



Nova  
NFT650



# THERMODYNAMIC TRAPS

## LIQUIDATOR UMT-TD SERIES

- Universal two bolt swivel mount for simple installation
- Repairable in-line with Celtron® cartridge
- Freezeproof
- For tracer, drip leg and light process
- Pressures to 450 PSIG
- Temperatures to 750°F
- Mounting block in NPT or socketweld 1/2", 3/4", 1"

## NTD600 SERIES

- Conventional thermodynamic trap
- Optional strainer and/or blowdown valve
- All stainless steel construction
- Repairable in-line
- Freeze resistant
- For tracer and drip leg
- Pressures to 600 PSIG.
- Temperatures to 800°F.
- NPT or socketweld 3/8" to 1"

# FREE FLOAT TRAPS

## NOVA NFT250 SERIES

- No mechanical linkage
- Modulating continuous discharge
- All stainless steel internals including bellows, float and strainer
- Repairable in-line
- For heavy load process
- Pressures to 250 PSIG
- Temperatures to 450°F
- NPT or flanged 1/2" to 2"

## NOVA NFT650 SERIES

- No mechanical linkage
- Modulating continuous discharge
- All stainless steel internals including bellows, float and strainer
- Repairable in line
- For heavy load process
- Pressures to 650 PSIG
- Temperatures to 750°F
- NPT, socketweld and flanged (#300, #600) 1/2" to 2"

FTE 43



FTE 4



FTE 14



Max-Flo



FTN



FTN



Uniflex  
Pipe Coupling



# FLOAT & THERMOSTATIC TRAPS

## FTE IN-LINE SERIES

- In-line configuration F & T trap
- All Stainless Steel internals
- Cast iron, ductile iron or cast steel bodies and covers
- In-line repairable
- For process applications
- Pressure to 485 PSIG
- Temperatures to 752°F
- NPT, BSPT, DIN, socketweld, flanged and ANSI connections
- Sizes: 1/2" to 2"

## MAX-FLO HC SERIES

- High capacity F & T
- All stainless steel internals
- Two port "C" configuration
- Repairable in line
- For heavy load process
- Pressures to 175 PSIG.
- Temperatures to 377°F
- NPT 1-1/4" to 2-1/2"

## FTN SERIES

- Conventional F & T
- All stainless steel internals
- Universal four port design available
- Repairable in line
- For process applications
- Pressures to 125 PSIG.
- Temperatures to 450°F
- NPT 3/4" to 2"

# GASKET UNIONS

## UNIFLEX UNION

- No leak seal equivalent to flange with ease of NPT connection
- No need to spring piping
- Requires only change of spiral wound gasket when disassembled
- For all process and industrial applications
- Pressures to 3000 PSIG
- Temperatures to 850°F
- NPT or socketweld 1/2" to 2"

# PIPING SPECIALTIES

Eliminator  
Steam  
Separator



## ELIMINATOR STEAM SEPARATOR

- Internal baffle extracts nearly all moisture and solids above 10 microns
- No moving parts - maintenance free
- For dry steam, compressed air and gas systems
- Capacities to 35,000 lbs/hr
- Pressures to 600 PSIG; Temperatures to 650°F
- NPT, socketweld or flanged 1/2" to 6"

TAV



## TAV THERMOSTATIC AIR VENT

- Removes air from steam systems
- Isopropyl filled stainless steel bellows
- 316L stainless steel body
- Maintenance free and freezeproof
- Pressures to 650 PSIG
- Temperatures to 750°F
- NPT or socket weld 3/8" to 1"

Mini-Drain



## MINI-DRAIN & DRAIN AIR

- Removes condensate from compressed air systems
- Compact, durable, lightweight
- Muffler reduces noise and diffuses moisture
- Pressures to 600 PSIG
- Temperatures to 220°F
- Mini-Drain NPT 1/8" and 3/8"
- Drain Air NPT 3/8" and 1/2"

Pneumatic  
Muffler



## PNEUMATIC MUFFLER

- Compact, durable, lightweight, non-corrosive
- Reduces noise levels to OSHA standards
- For exhaust air in pneumatic systems
- Pressures to 600 PSIG
- Temperatures to 220°F
- Male NPT 1/8" to 1/2"

## STV TRAP TEST & BLOCKING VALVE

- Provides for quick visual check of steam trap operation
- Bottom loaded stem and packing nut
- Compact body is easy to install
- Pressures to 250 PSIG
- Temperatures to 406°F
- NPT 1/2" and 3/4"

## UMTVS-BB "BIG BLOCK"

- Isolation valves, test ports, strainer and blowdown valve combined in one "Big Block" for easy installation.
- Universal two bolt swivel trap mount installs permanently into system, simplifying installation and removal of trap.
- Available with Inverted Bucket, Thermodynamic or Thermostatic Trap
- Pressures to 1440 psi
- Temperatures to 750°F

STV



NLD



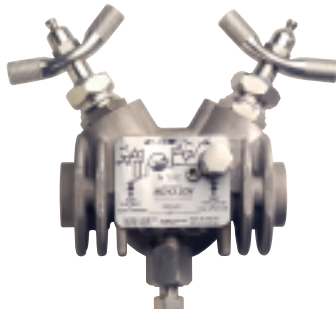
## DRAINER NLD

- Removes liquids and air from gas systems
- Free floating lever drainer
- Stainless steel body and internals
- Maintenance free
- Pressures to 400 psig
- Temperatures to 500F
- Sizes 3/4" x 1/2" NPT

## VENTER NAV

- Removes air and gas from liquid systems
- Free floating lever drainer
- Stainless steel body and internals
- Maintenance free
- Pressures to 400 psig
- Temperatures to 500F
- Sizes 1/2" x 3/4" and 1/2" x 1/2" NPT

UMTVS-BB "Big Block"



NAV



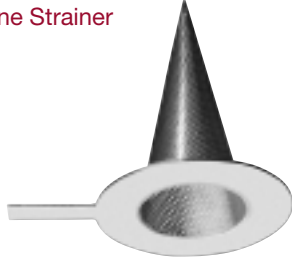


# STRAINERS

Cast Y Strainer



Cone Strainer



Cast Basket Strainer



## Y TYPE

- Cast Iron, Ductile Iron, Bronze, Carbon Steel, Chrome Moly, Stainless Steel
- Flat Face, Raised Face, RTJ Flanged, Butt weld, Threaded, Socket weld, Sweat
- Sizes 1/4" to 16"
- Pressures to 3705 psig
- Temperatures to 800°F
- Replacement Screens

## TEMPORARY

- Conical, basket or plate configurations
- Flat Face, Raised Face or RTJ with or without face serrations
- Carbon Steel or Stainless Steel to 48"
- Pressures to 3600 psig
- Temperatures to 800°F

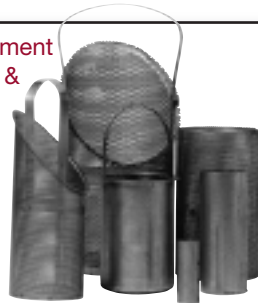
## BASKET

- Filtration down to 40 microns
- Large strainer baskets
- Both compact and high capacity units available
- Cast Iron, Bronze, Carbon Steel, Stainless Steel
- Flat Face, Raised Face, Butt weld, Threaded, Socket weld
- Sizes 1/2" to 20"
- Pressures to 740 psig
- Temperatures to 800°F
- Replacement Baskets

## REPLACEMENT BASKETS & SCREENS

- Custom fabricated to any specifications
- Fits virtually any manufacturer's strainer
- Available with perforated plate, mesh or mesh/perf. combination
- 20, 16 or 11 gauge 304 Stainless Steel as standard

Replacement Baskets & Screens

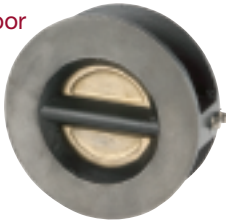


NOTE: CRN's for all products

Wafer Check Valve



Double Door Check Valve



Flanged Check Valve



# CHECK & FOOT VALVES

## SILENT CHECK VALVES

- Cast Iron, Cast Steel & Stainless Steel
- Flanged & Wafer styles
- Sizes 2" - 18"
- Pressures to 740 psig
- Temperatures to 400°F

NOTE: CRN's for all products

## DOUBLE DOOR CHECK VALVES

- Cast Iron, Cast Steel & Stainless Steel flanged with resilient or metal seat
- Sizes 2" - 24"
- Pressures to 1480 psig
- Temperatures to 600°F

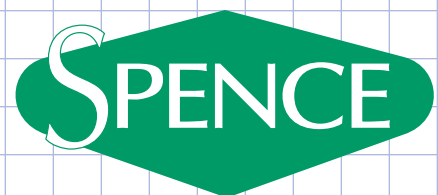
## FOOT VALVE

- Cast Iron, Carbon Steel & Stainless Steel flanged
- Sizes 2" - 18"
- Pressures to 740 psig
- Temperatures to 400°F
- 304/316 Stainless Steel screens

Foot Valve



**NOTES**



A subsidiary of **CIRCOR** International, Inc.



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## SPENCE ENGINEERING COMPANY, INC.

Paulsen Spence patented the normally closed external pilot operated packless Pressure Regulator in 1926 and founded Spence Engineering Company. Today, Spence is the only producer of Regulators up to 12 inches in cast iron and cast steel. Spence Regulators are recognized as the most durable and reliable built today.

Nicholson Steam Traps, renowned for their high quality since 1883, have been manufactured at Spence's ISO 9001 certified facility since 1994. Spence is also an ASME certified manufacturer of bronze, iron and stainless steel Safety Relief Valves, including Rockwood Swendeman Cryogenic Safety Relief Valves. Strainers and Pump Protection Products have further broadened the Spence Product offering.

Spence Engineering has grown to be a single source provider of Thermal Fluid Control products for commercial, institutional and industrial facilities.

### **Local Technical Support**

Spence Engineering has a network of highly trained Representatives around the world who can direct you to local inventory of our products for fast delivery. They have the expertise to assist you in system design and product specification, assuring the best, most cost effective solution for your needs.

### **Technical Training**

We offer a regular schedule of workshops covering various technical issues in our state of the art Valve Technology Training Center. We can also schedule customized on-site training sessions to suit your particular needs.



Find out more about the companies of Circor International at [www.circor.com](http://www.circor.com)