

# 538 SERIES INTELLISWITCH™ II



The fully automatic 538 Series IntelliSwitch II electronic changeover manifold is CONCOA's revolutionary, web-enabled gas management system. The IntelliSwitch II features proprietary onboard I-Link web server technology, allowing remote monitoring, secure system configuration, and e-mail notification of real-time system status and events. It is ideally suited to interchangeable service/continuous supply in analytical laboratories, chemical processes, instrumentation, and critical gas supply applications. The IntelliSwitch II gas manifold offers continuous gas pressure and flow control from liquid cylinders, high-pressure cylinders, or a combination of the two sources, allowing the end-user to select the most economical gas supply mode with the simple push of a button. Proprietary software logic lowers yearly gas costs by eliminating liquid cylinder vent loss and excess residual return, which makes the IntelliSwitch II™ the perfect choice for laboratory, pilot plant, or process applications.

## Typical Applications

- High Purity, Non-corrosive, Non-flammable Gas Supply
- Gas Chromatograph and Mass Spec Carrier and Support Gases
- Microbulk Changeover Supply
- Incubator Carbon Dioxide and Nitrogen Gas Supply
- Biotech, Pharmaceutical, and Forensic Gas Systems
- Central Gas Supply System for Laboratory, Research, or Process Plants
- Inductively Coupled Plasma (ICP) and ICP-Mass Spec Continuous Gas Supply



## Features

**Microprocessor Control** provides fully automatic priority assignment

**Remote and Field-adjustable Software** permits process flexibility and remote monitoring

**On-site or Remote Source Selection** ensures effective management of liquid cylinder or high-pressure supply source

**Onboard Web Server and Remote Software** streamlines monitoring and control functions

**Low-loss Technology** reduces residual return to lower operational costs

**Electronic Economizer** eliminates liquid cylinder vent loss

**NEMA 4 Enclosure** protects against environmental factors

## Materials and Specifications

**Maximum Inlet Pressure:** 3000 PSIG (210 BAR)

**Cv:** 1.0

**Filter:** 40-micron

**Temperature Range:** 0°F to 100°F (-18°C to 40°C)

**Inlet/Outlet Connections:** 1/2 in FNPT

**Valve Bodies:** Brass barstock

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## Materials and Specifications

**Valve Stems:** 316L Stainless steel

**Valve Seats:** PCTFE

**Seals (pressure control):** PTFE and PCTFE

**Seals (switching mechanism):** Chloroprene (not recommended for oxygen service) or FKM (not recommended for carbon dioxide or nitrous oxide service)

**Power Requirements:** 100-240 VAC 50/60 Hz @.55A

**Communication Connectivity:** Two-channel NO/NC output relay alarm contacts

**Enclosure:** NEMA 4, powder-coated steel

**Weight:** 67 lbs. (30.4 kg)

**Conformances:** Cleanliness meets or exceeds CGA G-4.1; ANSI/ASME B40.1; PED 2014/68/EU; CE marked; CRN OH17950.5

## Ordering Information

| Series | A                                                          | B                                                                    | C                                                                    | D                                                                                         | -CON                                                                                                           |
|--------|------------------------------------------------------------|----------------------------------------------------------------------|----------------------------------------------------------------------|-------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| 538    | Delivery Pressure                                          | Right Side Connection                                                | Left Side Connection                                                 | Assembly                                                                                  | Hose                                                                                                           |
|        | <b>C:</b> 100 PSIG (7 BAR)                                 | <b>0:</b> 1/2" FNPT port                                             | <b>0:</b> 1/2" FNPT port                                             | <b>7:</b> Single Stage Pressure Control (Chloroprene seals)†                              | <i>Please specify inlet connection (if applicable).</i><br><br><b>CGA DIN 477 BS 341 and others available.</b> |
|        | <b>D:</b> 150 PSIG (10 BAR)                                | <b>1:</b> Diaphragm valves with 36" (914mm) stainless flexible hose  | <b>1:</b> Diaphragm valves with 36" (914mm) stainless flexible hose  | <b>8:</b> Single Stage Pressure Control with Pipe Away Relief Valve* (Chloroprene seals)† |                                                                                                                |
|        | <b>E:</b> 200 PSIG (14 BAR)                                | <b>2:</b> Diaphragm valves with 72" (1829mm) stainless flexible hose | <b>2:</b> Diaphragm valves with 72" (1829mm) stainless flexible hose | <b>G:</b> Dual Stage Pressure Control (Chloroprene seals)†                                |                                                                                                                |
|        |                                                            | <b>3:</b> Manifold connector*                                        | <b>3:</b> Manifold connector*                                        | <b>H:</b> Dual Stage Pressure Control with Pipe Away Relief Valve* (Chloroprene seals)†   |                                                                                                                |
|        | *See 52 Series Maniflex Manifold for ordering information. |                                                                      |                                                                      | <b>R:</b> Single Stage Pressure Control (FKM seals)††                                     |                                                                                                                |
|        |                                                            |                                                                      |                                                                      | <b>X:</b> Dual Stage Pressure Control (FKM seals)††                                       |                                                                                                                |

*\*Protects device. Appropriately sized pipeline relief required.*

*†Not for oxygen service.*

*††Recommended for oxygen service.*

## Related Options

| Option                  | Part Number                   | Description                                                                                                                                                              |
|-------------------------|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Altos 2™ Remote Alarm   | 5750025-01-24V                | Provides audible and visible notification of a depleted supply bank to a remote location                                                                                 |
| Vent Manifold Kit       | 52L Series Vent MicroManifold | Wall-mounted manifold designed to equalize liquid cylinder head pressure                                                                                                 |
| Modular Manifold System | 52 Series Maniflex™ Manifold  | 52B (Brass), 52C (Chrome-plated brass), and 52S (Stainless steel) Series Maniflex System allows unlimited number of manifold stations to be connected to a single header |
| Switchover Floor Stand  | 518 1625                      | Safely mount and secure any switchover and two cylinders                                                                                                                 |
| Manifold Floor Stand    | 830 7437                      | Supports two standard length 12" (304.8mm) manifold extensions installed consecutively                                                                                   |
| AutoSwitch Floor Stand  | 830 7439                      | Support AutoSwitch/IntelliSwitch enclosure                                                                                                                               |



**CONCOA®**  
PRECISION GAS CONTROLS

shown without optional  
pipe-away relief (D = 7 or G)

Technical drawing of the IntelliSwitch III control panel showing dimensions and connection points.

**Dimensions:**

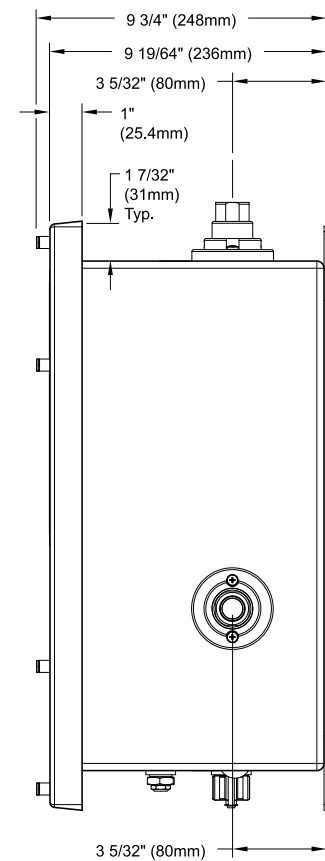
- Overall Width: 15 1/2" (394mm)
- Panel Width: 14 27/32" (377mm)
- Top Mounting Spacing: 8 1/4" (210mm)
- Overall Height: 19 5/8" (498mm)
- Panel Height: 18 7/8" (479mm)
- Top Mounting Height: 13 5/8" (346mm)
- Bottom Mounting Height: 6 11/16" (170mm)

**Connections:**

- Top:** Ø 7/16" (11mm) Both Sides (for mounting); 1/2" NPT Female (OUTLET); 1/2" NPT Female (INLET).
- Bottom:** Ø 7/16" Slot (11mm) Both Sides (for mounting); 1/2" NPT Female (INLET).

**Panel Features:**

- CONCOA** logo and "INTELLISWITCH III" text.
- OUTPUT** display: 888
- SUPPLY** display: 8888
- TO** and **FROM** indicators.
- MODE** and **RESET** buttons.
- Series** label.
- IntelliSwitch III** label.

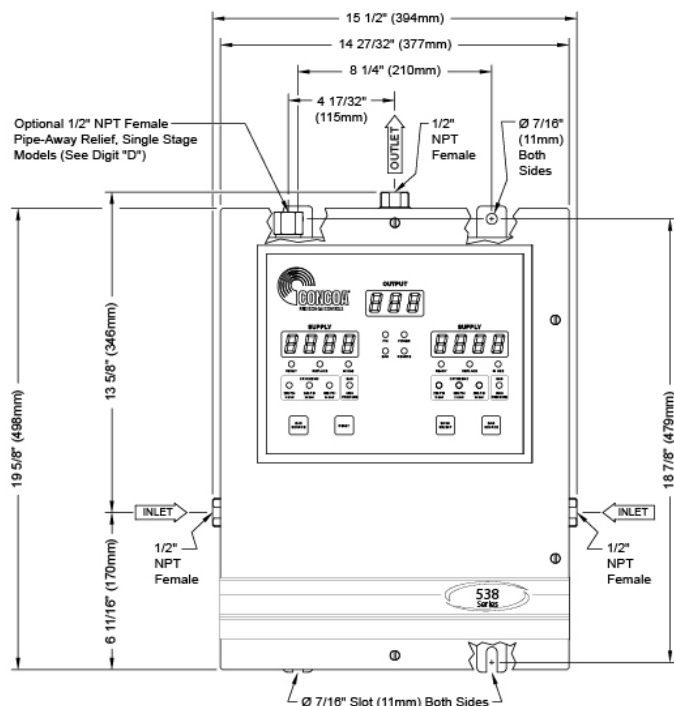


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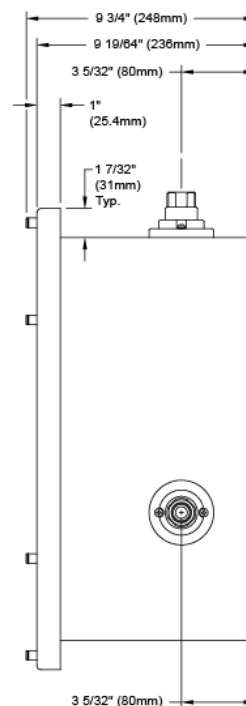


## Installation Dimensions

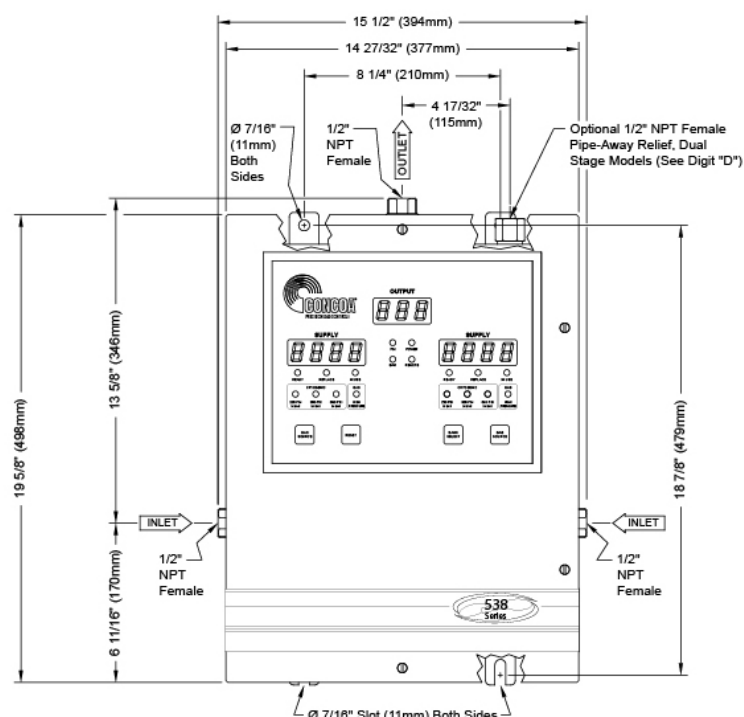
shown with optional pipe-away  
relief, single stage (D = 8)



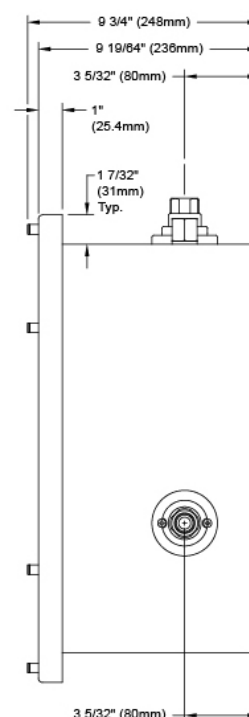
side view



shown with optional pipe-away  
relief, dual stage (D = H)



side view

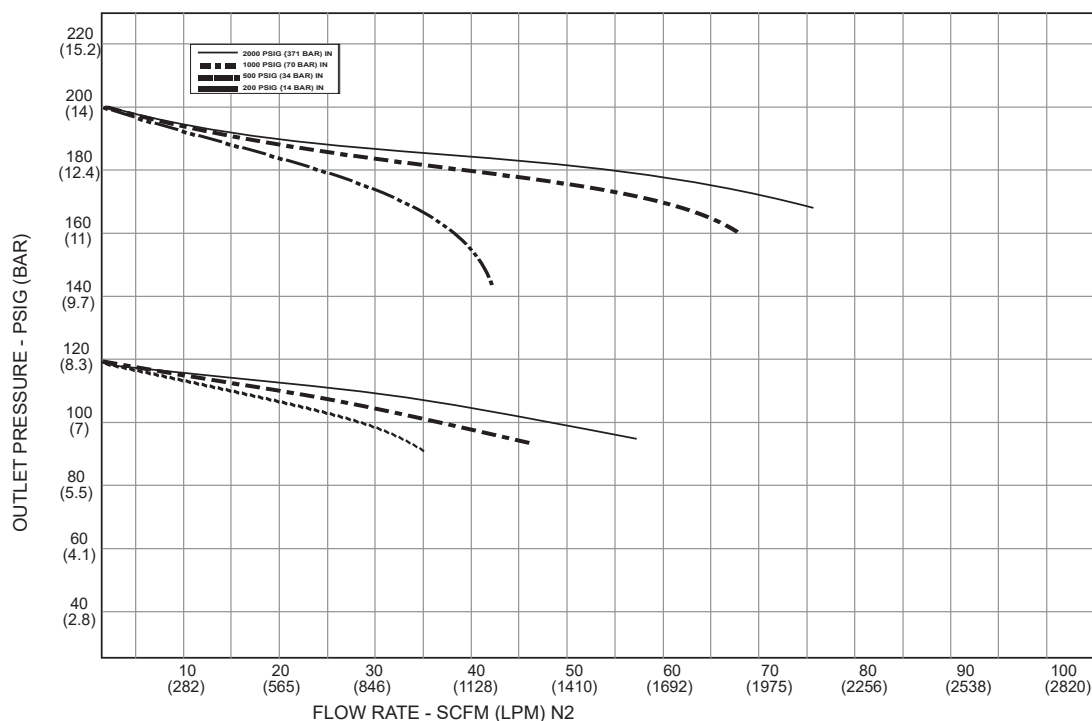
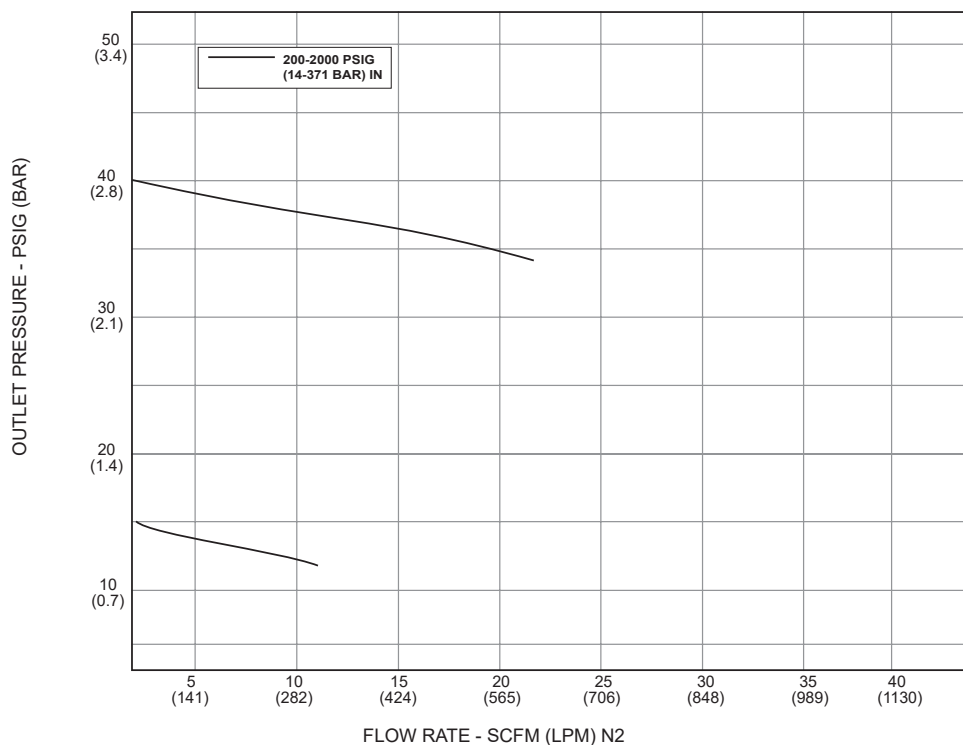


# 538 SERIES INTELLISWITCH™ II



## Flow Curves

### 538 Series Dual Stage Curves



# 538 SERIES INTELLISWITCH™ II



## Flow Curves

### 538 Series Single Stage Curves

