

455 SERIES REGULATORS



The 455 Series regulator provides primary pressure control of highly corrosive gases, including chlorides, sulfides, and other acid-forming gases. It features a Dursan® treated capsule and diaphragm. This proprietary amorphous silicon oxide finish offers significantly more corrosion resistance than 316L stainless steel and exotic metals such as Hastelloy®. Dursan coatings are ideal for applications requiring superior chemical inertness, non-stick properties, and resistance to aggressive chemicals. For fluorine service, CONCOA passivates the regulator with a stainless steel CAPSULE® and diaphragm, creating a complete assembly with all peripherals. CONCOA highly recommends using a deep purge assembly with the 455 Series regulator to prevent introducing moisture into the process gas stream, which could form acids and eventually lead to corrosion.



455 2332-01-330 shown

Typical Applications

- Hydrogen Chloride
- Gas and Liquid Chromatography
- Chlorine
- Boron Trichloride
- Hydrogen Sulfide
- Dichlorosilane

Features

CAPSULE® Seat Design features integral 360° filtration

Dursan Treated Internals provide superior corrosion resistance

Fluorine Passivated Option ensures safe use of highly reactive nitrogen trifluoride (NF₃), boron trifluoride (BF₃), and silicon tetrafluoride (SiF₄) gas mixtures

Captured Vent prevents exposure in the unlikely event of diaphragm failure

Materials and Specifications

Maximum Inlet Pressure (bare body): 3000 PSIG (210 BAR)

Body: Electroless nickel-plated forged brass

Bonnet: Electroless nickel-plated forged brass

Gauges: 2 1/2 in (63 mm) diameter Monel®

Seat: PTFE

Nozzle: Dursan (non-passivated); 316L stainless steel (passivated);

Filter: 10-micron Durson mesh (non-passivated); 10-micron 316L stainless steel mesh (passivated)

Diaphragm: Dursan (non-passivated); 316L stainless steel (passivated)

Diaphragm Seal: PTFE

Cv: 0.2 See flow curves attached

Helium Leak Integrity: 1 x 10⁻⁸ scc/sec

Ports (bare body): 1/4 in FNPT

Temperature Range: -40°F to 140°F (-40°C to 60°C)

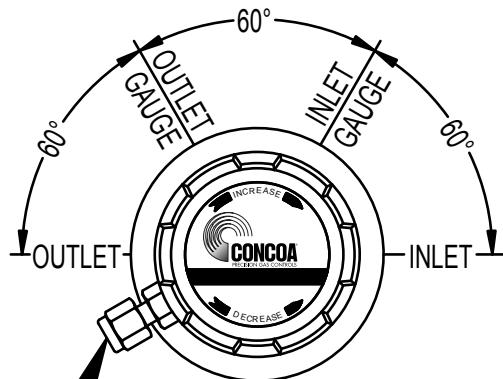
Weight (455 2332-330): 2.57 lbs. (1.17 kg)

Conformances: Cleanliness meets or exceeds CGA G-4.1; PED 2014/68/EU; ANSI/ASME B40.1; CRN OH5216

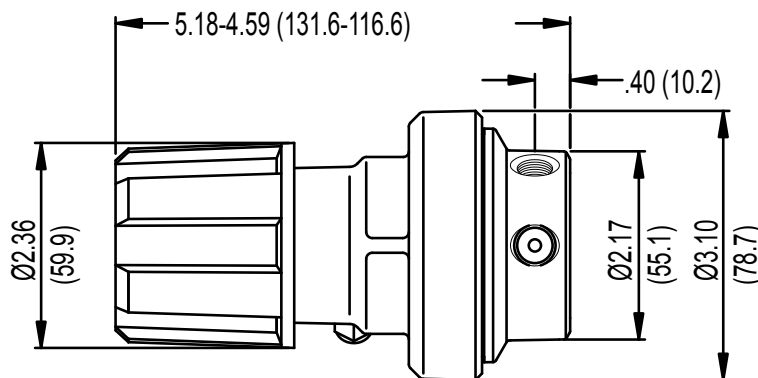
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Installation Dimensions



1/8" TUBE FITTING FOR VENTING OF GASES IN CASE OF OVERPRESSURIZATION



Ordering Information

| 455 | A | B | C | D | -CON | Options | |
|------------|---------------------------------|----------------------------------|----------------------------------|---|--|---|---|
| Series 455 | Outlet Pressure | Outlet Gauge | Inlet Gauge | Outlet Assemblies | Assembly/Gauges | Inlet Connections | Installed Options |
| | 1: 0-15 PSIG (0-1 BAR) | 30"-0-30 PSIG/ -1-0-2 BAR | 0: None | 0: 1/4" FNPT port | 0: Bare body | 000: 1/4" FNPT | R: Dursan treated 316L components and parts |
| | 2: 0-40 PSIG (0-3 BAR) | 0-60 PSIG/ 0-4 BAR | 3: 0-4000 PSIG/ 0-275 BAR | 1: 1/4" MNPT | 1: Standard assembly without deep purge (PSIG/kPa Gauges) | TF2: 1/8" tube | <i>CGA 679 and other inlet connections that require complete Fluorine passivated assemblies, consult factory.</i> |
| | 3: 0-120 PSIG (0-8 BAR) | 0-200 PSIG/ 0-14 BAR | 5: 0-1000 PSIG/ 0-70 BAR | 2: 1/4" tube fitting | 2: Standard assembly with deep purge (PSIG/kPa gauges) | TF4: 1/4" tube | |
| | 4: 0-200 PSIG (0-14 BAR) | 0-400 PSIG/ 0-27 BAR | 6: 0-300 PSIG/ 0-21 BAR | 3: Diaphragm valve 1/4" tube fitting | 4: Standard assembly without deep purge (BAR/PSIG gauges) | TF6: 3/8" tube | |
| | 5: 0-250 PSIG (0-17 BAR) | 0-400 PSIG/ 0-27 BAR | 7: 0-400 PSIG/ 0-27 BAR | 4: Diaphragm valve 1/4" MNPT | 5: Standard assembly with deep purge (BAR/PSIG gauges) | M06: 6 mm tube | |
| | | | 8: 0-200 PSIG/ 0-14 BAR | 5: Needle valve 1/4" MNPT | B: Standard assembly with quarter-turn deep purge (PSIG/kPa gauges) | <i>CGA DIN 477 BS 341 and others available.</i> | |
| | | | | 6: 1/8" tube fitting | E: Standard assembly with quarter-turn deep purge (PSIG/BAR gauges) | | |
| | | | | 7: 3/8" tube fitting | | | |
| | | | | 8: Diaphragm valve 1/8" tube fitting | | | |
| | | | | 9: Diaphragm valve 1/4" FNPT | | | |
| | | | | M: 6mm tube fitting | | | |
| | | | | S: Diaphragm valve 6mm tube fitting | | | |

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Flow Curves for 455 Series

