

Columbiana Stainless Steel, High Performance Cylinders/Receptacles



Versatile, Reusable Cylinders For PIH Gases & Aggressive Liquids

The Columbiana Boiler Company (CBC) manufactures a range of stainless steel cylinders designed to handle the most aggressive liquids and gases, including poisonous-by-inhalation (PIH) gases of Class 2 (Div. 2.3) or PIH liquids of Class 6 (Div. 6.1) without any of the restrictions imposed upon other packagings.



119, 55, 36, 30 and 6 gallon (with outside diameters ranging from 36" to 12-3/4") are standard capacities; custom capacities and sizes are also available.

International Approvals

In addition to being approved as a US DOT specification cylinder, the cylinders can be approved up to UN1A1/X2.0/3440 as a performance-based packaging for liquids, where 1A1 = non-removable head drum, X2.0 = approved for PG I liquids with specific gravities up to 2.0*, 3440 = hydrostatic test pressure up to 3440 kPa or 500 psig. The use of UN-approved packagings is authorized by the IMDG Code for international sea transport and by RID/ADR for European land transport (i.e. road and rail).

Double Your Capacity & Eliminate Overpacks

For PIH in Zone A materials, Columbiana's cylinders do not require overpacks, a practice also known as "double-drumming." For PIH in Zone B materials, CBC's cylinders do not need to be shipped in dedicated vehicles or freight containers. For both classifications, Columbiana's cylinders can be sized to have a capacity of

up to 119 gallons (450 liters), which is more than double the 58 gallons (220 liters) authorized for UN-approved drums according to US DOT regulations.

Flexible Handling Of Wide Range Of Commodities

These stainless steel cylinders have been approved by the US DOT for the critical transportation needs of hypergolic fuels used as rocket propellant. Hypergolic fuels consist of two components, a fuel, such as hydrazine, and an oxidizer, such as nitrogen tetroxide, which ignite spontaneously upon contact.

In addition to hypergolic propellant, Columbiana stainless steel cylinders can be used to transport all commodities authorized for transport under Title 49 of the Code of Federal Regulations (CFR) in a 4BW cylinder. The cylinders can be easily handled by their fork-lift pockets and/or lifting slots.

**or PG II liquids with SGs up to 3.0, or PG III liquids with SGs up to 4.5*

Columbiana Rigorous Quality- Controlled Manufacturing



Columbiana's plasma welding capabilities assure that the internal welds of the cylinder will be precise and smooth. A smooth weld surface resists residue accumulation and facilitates cylinder cleaning. All welds are 100% radiographed.



Optional Secondary Containment Systems using pressure-tight lids rated up to 58 psig (4.0 bar). Lids have special attachments to assure that valves stay in the closed position when lids are attached.

Cylinder Specifications

Water Capacity	5-119 USWG	20-450 liters
Service Pressure	225-500 psig	15.5-34.5 bar
Material	300 series stainless steel to SA 240	
Construction Standards	Conforms to US DOT Spec. 4BW as exempted by DOT-E 11580 (to allow the use of stainless steel material instead of carbon steel).	
Service Equipment	<ul style="list-style-type: none"> • 1/4" to 1" ball or plug valves on the gas line and on the liquid line (fed from the sump through an education tube). • 1" to 2-1/2" plugged clean-out port. • Pressure relief devices provided when required. 	
Tare Weight	Depends on size, pressure rating and secondary containment. Typically: <ul style="list-style-type: none"> • 300 lbs (136 kg) for 55 gallon (210 liters), 225 psig (15.5 bar) unit • 800 lbs (360 kg) for 119 gallon (450 liter), 500 psig (34.5 bar) unit. 	
Secondary Containment	Secondary containment using pressure-tight lids to 58 psig (4.0 bar) around the valving available.	
Certification	Third party certification available upon request.	

Cylinders are manufactured at Columbiana's ASME and AAR-approved facilities in Columbiana, Ohio. Each cylinder must meet Columbiana's rigorous quality control program. Additionally, as required by US DOT regulations, production cylinders must pass hydrostatic pressure tests at two times (2x) and four times (4x) their service pressure without bursting and/or defects.

Flexible Financing Arrangements

An affiliated company, Columbiana Financial Services, Ltd., is committed to providing attractive financial options, including loans, operating leases, capitalized leases, and lease-to-buy options, for transport containers manufactured by Columbiana Boiler.

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