Fill Manifold Assemblies

Overview

Parker Bestobell cryogenic bronze fill manifold assemblies are system-optimizing filling units designed specifically for cryogenic gaseous liquid static storage vessels. They replace the traditional gang of valves along with various pipes and joints while minimizing welding and brazing needs.

The Parker Bestobell cryogenic fill manifold assembly includes:

- Top fill valve
- Bottom fill valve
- Check valve
- Drain valve

A spring-to-close check valve prevents the backwash of media at the end of the filling cycle. A drain valve is used to release trapped media in the fill block. The unit also includes a warm-up leg to connect a thermal relief valve.

The fill manifolds are simple to operate. It involves selecting the valve to operate: top or bottom filling of the tank.

Parker Bestobell supplies these fill assemblies ready to be fitted to the tank, with pipe specifications provided by the customer.

The valves should only be installed in a vertical position.

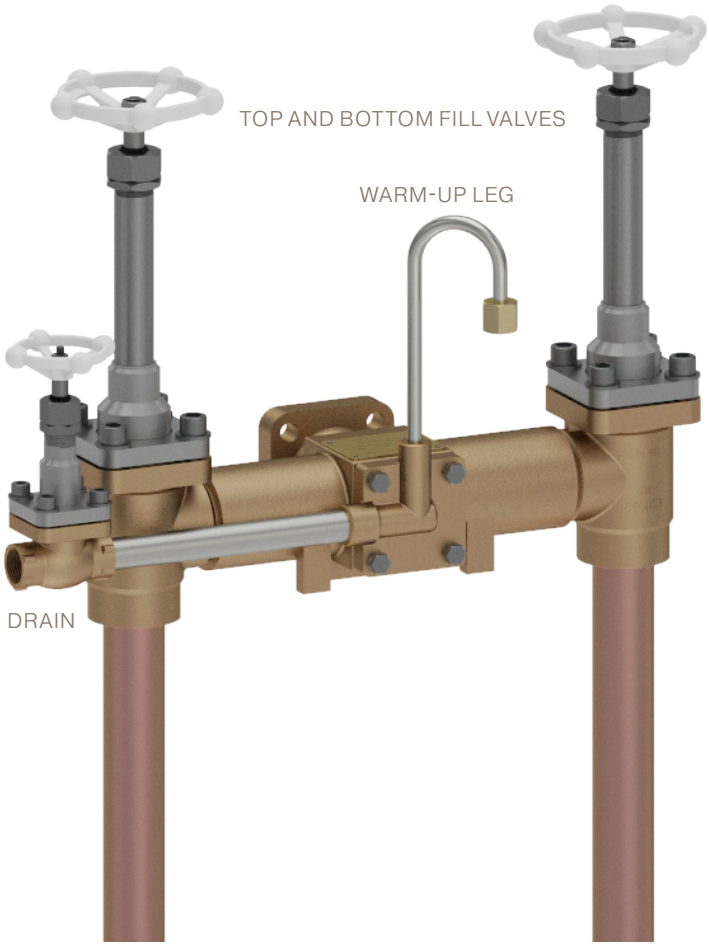
The cryogenic fill manifold assembly is available with redundant valves which are used for the isolation of the main fill unit when it is under service.

Function:

- Fill valves with check and drain valves

Application:

- Static storage tanks



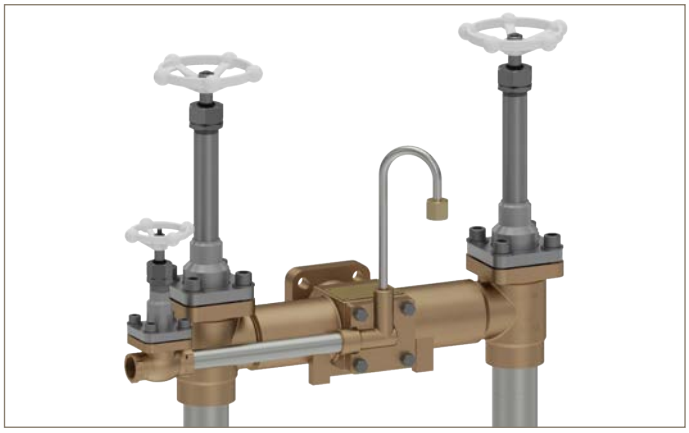
Top/bottom/check valve Ssze	DN40
Drain valve size	DN15
Maximum Working Pressure (MWP)	Stainless Steel Stubs: 50 bar (725 PSI) Copper Stubs: 32 bar (464 PSI)
Working temperature	-196˚C to +65˚C (-319˚F to +149˚F)
Inlet connections	Mueller Flange
Outlet connections	Stainless Steel/Copper Stubs
Body material	Bronze
Suitable for media type	Group 1 gases Cleaned for oxygen service
Design and testing standards	ASTM B31.1, BS EN 1626, BS ISO 21011 Optional full material traceability backed by BS EN 10204 3.1/3.2 certification
Approvals	CRN, UKCA and PED approved
Marking	CE and UKCA marked

⚠ WARNING

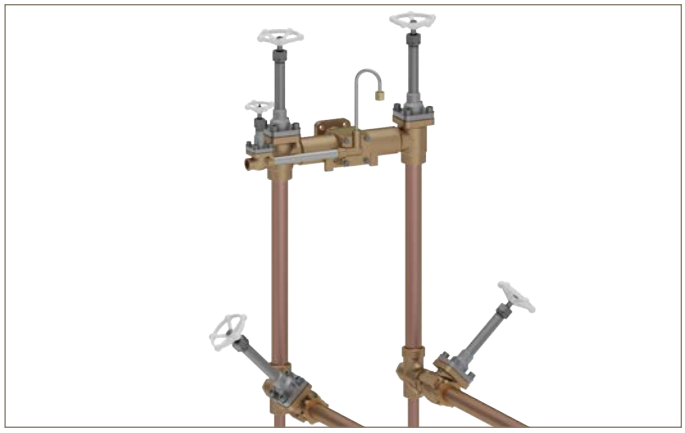
The products described in this catalog can expose you to chemicals, including Lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

Features, Benefits and Values

Feature	Benefit	Value
Bolted bonnet	Ease of maintenance Reduced maintenance area Allows for thermal expansion and contraction at cryogenic temperatures Eliminates leakage at the bonnet gasket	**Safety** **Reliability** **Ease of Operation**
Anti-blowout stem	The anti-blowout design prevents the stem being pushed out by internal valve pressure during maintenance of the packing A machined flat on the collar prevents liquid from being trapped in the headwork which could lead to a rapid build-up of pressure as liquid warms up	**Safety** **Reliability**
Bearing material insert	Prevents thread galling between stem and cover	**Performance** **Reliability**
Extended stem	Enables an easy access for valve operation and maintenance Prevents the loss of cold energy Prevents the damage of valve packings from low liquid temperatures Ease of usage of the jacketing material	**Performance** **Reliability** **Ease of Operation**
Wiper (dust) seals	Prevent dust, debris, or outside weather conditions from entering the valve Maintain a sealing contact with the stem	**Performance** **Reliability**
Spring-loaded gland packing	Spring maintains the load on the gland for a period of time reducing the frequency of manual adjustment and influence of temperature changes Long service life: 10,000 operations	**Performance** **Reliability**
Disc and seal retention	The absence of threaded components provides total reliability in systems with vibration	**Safety** **Reliability**
One piece body with unique internal design	Reduced number of potential leak paths Simplified piping system Reduced pressure drop Reduced vessel filling time	**Safety** **Reliability** **Performance**
Complete valve assembly	Reduced welding needs Reduced maintenance time	**Performance** **Lower overall cost**



Parker Bestobell Cryogenic Fill Manifold Assembly in Bronze with Mueller Flange Inlet and Stainless Steel Stubs



Parker Bestobell Cryogenic Fill Manifold Assembly in Bronze with Mueller Flange Inlet and Copper Stubs with Redundant Valves

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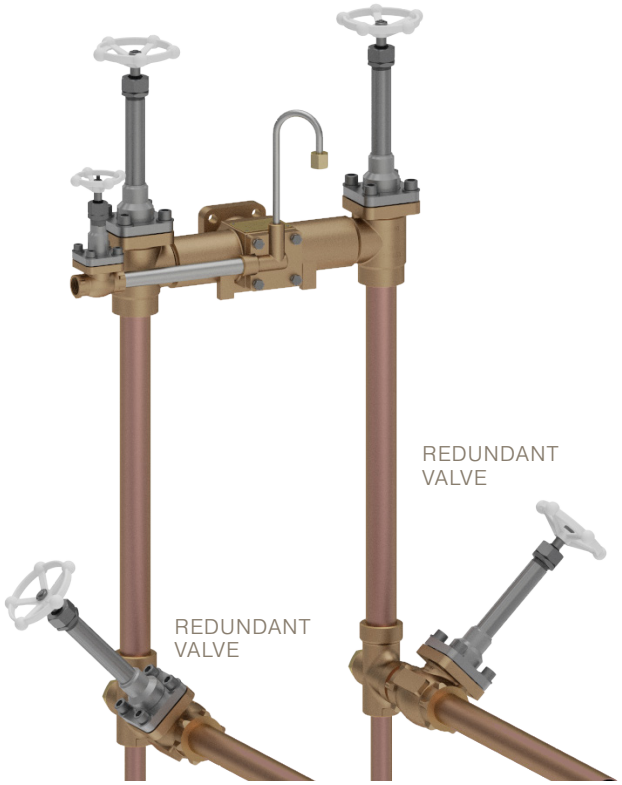
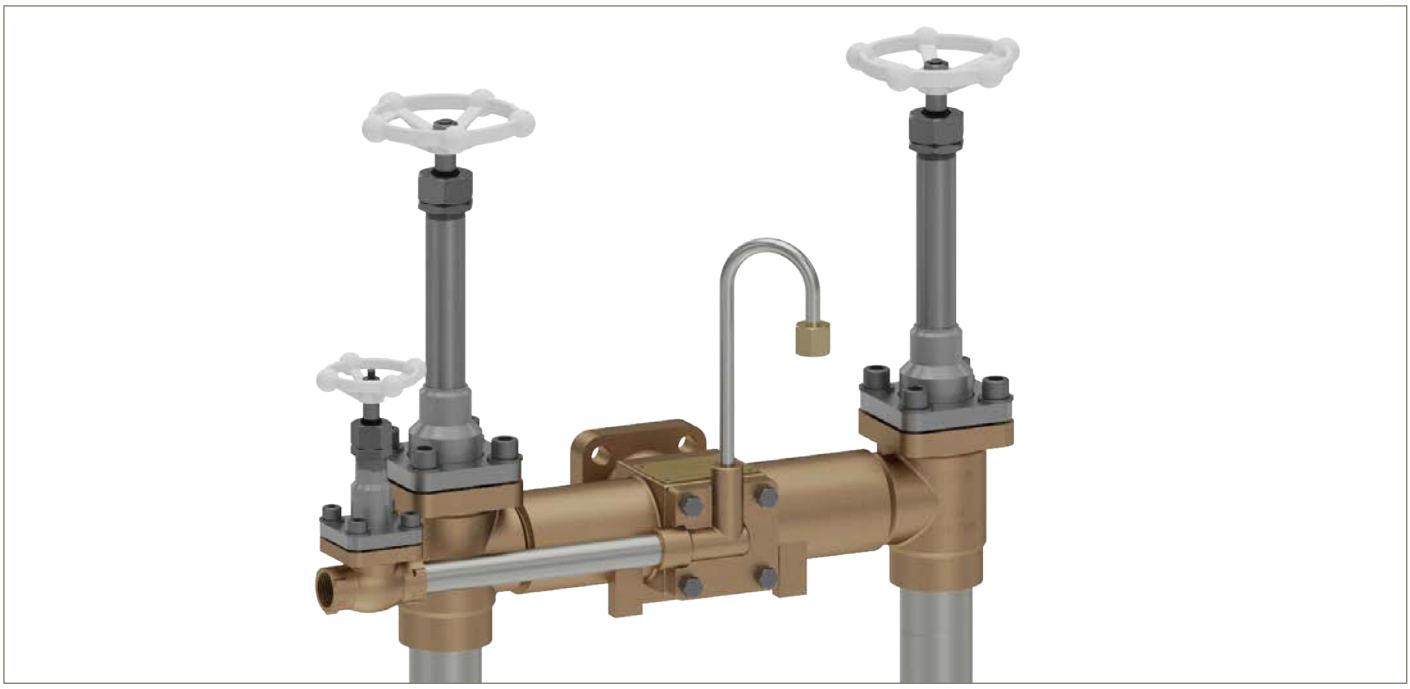
Fill Manifold Assemblies

Technical Information

Bill of Materials

Description	Bronze CTB Series
Body	Gunmetal BS EN 1982 CC491K
Cover	Gunmetal BS EN 1982 CC491K
Stem	Stainless Steel BS EN 10088-3 1.4401
Disc	HT Brass BS EN 12164 CW721R
Seal	PCTFE
Gland packing	Virgin PTFE
Extension tube	Stainless Steel ASTM A312 TP304L
Gasket	Sigma 511
Fasteners	Stainless Steel BS6105 A2/A4 Gr.70
Handwheel	Aluminum LM4
Down pipe	Stainless Steel ASTM A312 TP304L
Central body	Gunmetal BS EN 1982 CC491K
Strainer	Copper / Monel
Spring	Phosphor Bronze BS EN 12163 CW451K





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Ordering Information

Fill Manifold Assemblies - Bronze
CTB Series

CTB	DN40	FM	ST	B	2

Series	
Cryogenic Fill Manifold Assemblies - Bronze	CTB

Valve Size	
40 mm	DN40

Inlet Connection	
Mueller Flange	FM

Outlet Connection	
Stainless Steel Stubs	ST
Copper Stubs	CT
Copper Stubs with Redundant Valves	RT

Bonnet Type	
Bolted	B

Stem Length	
230 mm	2

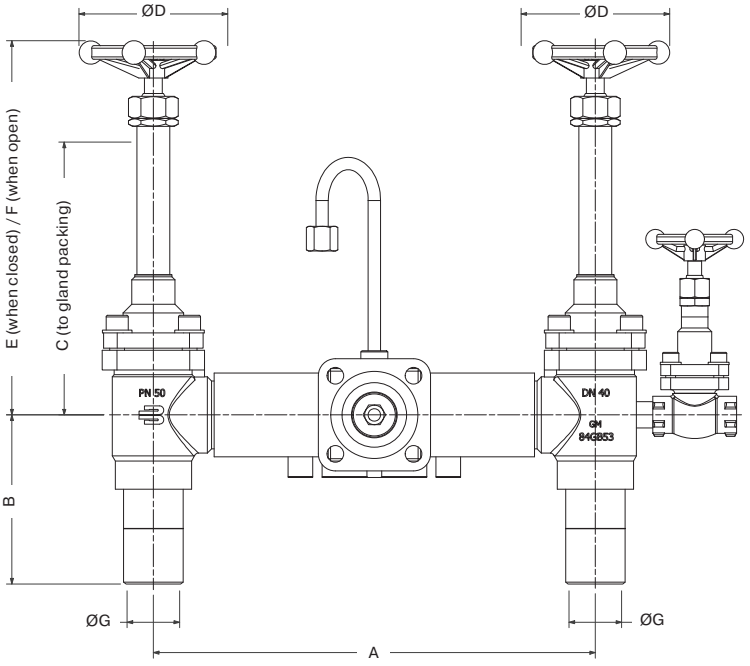
Note:

Options available on request: Colored handwheel; Non-extended, 300 mm stem extension; Various flanged inlet connections; Stainless Steel valve body material.

Specifications

Stubs

Valve Size		DN40 40 mm	
Stubs Material		Stainless Steel Stubs	Copper Stubs
A	mm	301	
B	mm	85	
C	mm	230	
D	mm	121	
E	mm	90	
F	US GPM	118	
G		1-1/2" NB Schedule 10	Ø 1-5/8" x 1.83 Thick
Cv	US GPM	26.5	
Weight	kg	17.3	19.1
Stub Length	mm	77	473



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Spares Kits

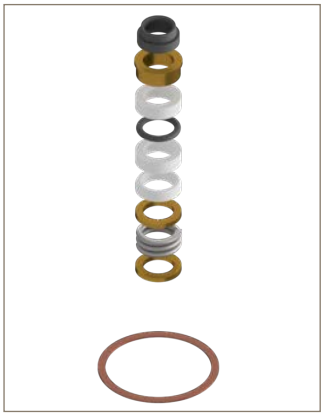
Fill Manifold Assemblies

Bronze

CTB Series

Valve Size		DN15 (Drain Valve)	DN40
Gasket & Packing Kit		CNBRDN15	CNBRDN40
Bonnet Assembly	Standard Extension	CNBB3DN15	N/A
	230mm Extension	N/A	CNBB2DN40
Handwheel Kit		KHDN15W	KHDN40W
Back Flange Kit		N/A	CTBKFDN40

Gasket & Packing Kit	
Content	**Quantity**
Wiper Seal	1
Chevron Top	2
'O' Seal	1
Chevron Bottom	1
Gasket	1
Anti-Friction Disc	1
Valve Seal Flat	1



Gasket & Packing Kit for Parker Bestobell Cryogenic Fill Manifold Assemblies

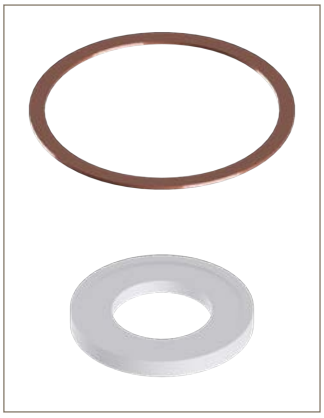
Bolted Bonnet Assembly	
Content	**Quantity**
Cover	1
Stem	1
Bush	1
Gasket & Packing Kit	1
Nuts	2
Washer	1
Circlip	2
Spring	1
Gland Follower	1
Ball	1

Bolted Bonnet Assembly for Parker Bestobell Cryogenic Fill Manifold Assemblies

Handwheel Kit	
Content	**Quantity**
Handwheel	1
Locknut	1

Handwheel Kit for Parker Bestobell Cryogenic Fill Manifold Assemblies

Back Flange Kit (Valve DN40)	
Content	**Quantity**
Gasket	1
Seal	1



Back Flange Kit for Parker Bestobell Cryogenic Fill Manifold Assemblies DN40

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