

Line Ball Valve Assemblies

SPECIFICATION

Line Ball Valves c/w NISTS - HTM02-01

Medical gas line ball valves complete with lockable NIST connections and blanking spade shall be provided as a means of isolation on medical gas pipelines at positions specified in the medical gas pipeline system design. Line ball valve assemblies shall comply with NHS Health Technical Memorandum 02-01 (HTM02-01). NIST connectors shall be manufactured to BS EN 15908. Valves shall operate from the fully open to the fully closed position by manual operation of a lever through 90°. Valve nominal bores shall be equal to the nominal pipework size.

All line ball valves shall be cleaned for oxygen service. Smaller type V assemblies (15 to 54mm inclusive) shall have flat-face connectors with 'O' ring seals. The larger VF type (76 to 108mm inclusive) shall be flanged and installed with stainless steel bolts, nuts and spring washers with 3mm Viton® sealing gaskets. PTFE tape or any other thread sealing media is not acceptable.

Each Medical gas line ball valve assembly shall terminate in copper stub pipes to enable brazing direct into the distribution system using the flux less brazing technique. Valve assemblies shall incorporate a sliding lock mechanism on the handle, which can be locked in either the open or closed position using a standard padlock with a 6mm (1/4") diameter shackle. Padlocks shall be available as a standard optional item.

Each valve shall be provided with a set of "through" and "blanking" spades; and shall be coloured white and red respectively, in order to provide a physical isolation and blanking of the pipeline both upstream and downstream of the valve. The connection of the copper stub pipe to the valve body shall be fixed with a drilled brass nut. The spade shall be visible through the drilled nut when deployed. In the event of leakage of the through or blanking spade, gas shall also vent to atmosphere through the drilled brass nut connection.

Each valve assembly shall be supplied with a plastic identification tag to assist the on site management of padlock keys.

NIST Tee Assemblies

For type V valve assemblies (15 to 54mm inclusive), the gas specific NIST connection shall be provided as a separate assembly (one required both upstream and downstream of the valve). This shall be supplied as a brass NIST connection pre-brazed onto a copper tee fitting. Each NIST body shall include a plastic gas identification disc to enable clear identification on site for installation and maintenance.

NIST blanking nuts shall be capable of being padlocked onto the NIST bodies as required by HTM02-01 clause 13.64. Long shackle padlocks, individually numbered per gas type shall be available as an optional item for locking the NIST connection.

Materials

Medical gas line ball valve assemblies shall be constructed in a two-piece full-bore design with brass body, Teflon® ball seals, stem packing seal, stem 'O' ring seal and a hard-chrome plated brass ball. Valves shall be designed to have a tight shut-off and blow out proof stem for protection against pressure surges. Copper stub pipes shall be manufactured from medical grade copper pipe to BS EN 13348:2001. Copper stub pipes shall be of sufficient length to enable brazing directly into the distribution system without the need for disassembly on site.

Testing

All ball valve assemblies shall be pressure tested for valve tightness and leakage prior to packing and shipping.

Part Numbers

HTM02-01 Type V Valve Assemblies

Description	Size	Part No
Line valve assembly with stub pipes and visible through spades	15mm	2005367
	22mm	2005368
	28mm	2005369
	35mm	2005370
	42mm	2005371
	54mm	2005372

HTM02-01 Type VF Valve Assemblies c/w NISTS

Description	Size	Part No
Oxygen line valve assembly, flanged type, complete with NISTS	76mm	1825636-OXY
Medical air line valve assembly complete with NISTS	76mm	1825636-MA4
Surgical air line valve assembly complete with NISTS	76mm	1825636-SA
Vacuum line valve assembly complete with NISTS	76mm	1825636-VAC
Vacuum line valve assembly complete with NISTS	108mm	1825936-VAC

Lockable NIST Tee

Description	Size	Part No
Lockable NIST tee, O ₂	15mm	2005560
	22mm	2005570
	28mm	2005580
	35mm	2005590
	42mm	2005600
	54mm	2005610

Description	Size	Part No
Lockable NIST tee, N ₂ O	15mm	2005561
	22mm	2005571
	28mm	2005581
	35mm	2005591

Description	Size	Part No
Lockable NIST tee, O ₂ /N ₂ O	15mm	2005562
	22mm	2005572
	28mm	2005582
	35mm	2005592



Description	Size	Part No
Lockable NIST tee, MA4	15mm	2005563
	22mm	2005573
	28mm	2005583
	35mm	2005593
	42mm	2005603
	54mm	2005613

Description	Size	Part No
Lockable NIST tee, SA7	15mm	2005564
	22mm	2005574
	28mm	2005584
	35mm	2005594
	42mm	2005604
	54mm	2005614

Description	Size	Part No
Lockable NIST tee, VAC	15mm	2005565
	22mm	2005575
	28mm	2005585
	35mm	2005595
	42mm	2005605
	54mm	2005615

Description	Size	Part No
Lockable NIST tee, N ₂	15mm	2005566
	22mm	2005576
	28mm	2005586
	35mm	2005596

Description	Size	Part No
Lockable NIST tee, CO ₂	15mm	2005568
	22mm	2005578
	28mm	2005588
	35mm	2005598

Padlocks

Description	Gas Type	Part No
Long Shackle Padlock for NIST - No. 10	O ₂	2004604/A
Long Shackle Padlock for NIST - No. 20	N ₂ O	2004604/B
Long Shackle Padlock for NIST - No. 30	N ₂ O/O ₂ Mix	2004604/C
Long Shackle Padlock for NIST - No. 40	Med Air	2004604/D
Long Shackle Padlock for NIST - No. 50	Surg Air	2004604/E
Long Shackle Padlock for NIST - No. 60	VAC	2004604/F
Long Shackle Padlock for NIST - No. 80	N ₂	2004604/H
Long Shackle Padlock for NIST - No. 90	CO ₂	2004604/I

Description	Size	Part No
Padlock for locking of line ball valve handles	All	2003520

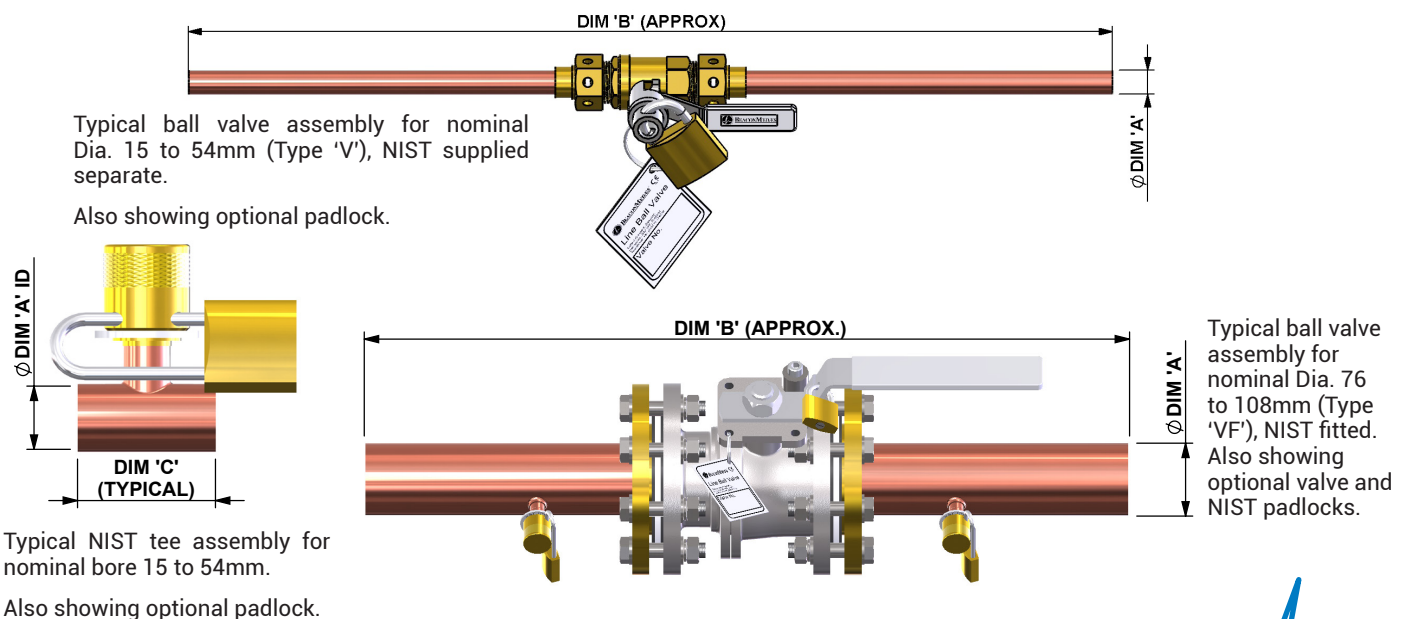
Performance and Dimensions

Nominal Dia DIM 'A' (mm)	Torque (Nm)	Working Pressure (bar)	DIM 'B' (mm)	DIM 'C' (mm)
15	5.4	55	577	38
22	8	50	574	48
28	10	40	687	56
35	14	40	705	68
42	20	35	868	73
54	33	27	872	83
76	-	16	800	-
108	-	16	810	-

CE Marking

The standard range of BeaconMedæS line ball valves are 'CE' marked under the Medical Devices Directive 93/42/EEC with approval from notified body no. 2460 (DNV GL Presafe AS). Under this directive, the specified products are classified as Class IIa Medical Devices.

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Line Ball Valves - HTM2022

Medical gas line ball valves shall be provided as a means of isolation on medical gas pipelines at positions specified in the medical gas pipeline system design. Line ball valve assemblies shall comply with NHS Health Technical Memorandum No. 2022 (HTM2022) and NHS Model Engineering Specification C11. Valves shall operate from the fully open to the fully closed position by manual operation of a lever through 90°. Valve nominal bores shall be equal to the nominal pipework size.

All line ball valves shall be cleaned for oxygen service. Smaller type V assemblies (15 to 54mm inclusive) shall have flat-face connectors with 'O' ring seal. The larger VF type (76 to 108mm inclusive) shall be flanged and installed with stainless steel bolts, nuts and spring washers with 3mm Viton® sealing gaskets. PTFE tape or any other thread sealing media is not acceptable.

Each Medical gas line ball valve assembly shall terminate in copper stub pipes to enable brazing direct into the distribution system using the flux less brazing technique. Valves assemblies shall incorporate a sliding lock mechanism on the handle, which can be locked in either the open or closed position using a standard padlock with a 6mm (1/4") diameter shackle.

Each valve assembly shall be supplied with a plastic identification tag to assist the on site management of padlock keys.

Materials

Medical gas line ball valve assemblies shall be constructed in a two-piece full-bore design with brass body, Teflon® ball seals, stem packing seal, stem 'O' ring seal and a hard-chrome plated brass ball. Valves shall be designed to have a tight shut-off and blow out proof stem for protection against pressure surges. Copper stub pipes shall be manufactured from medical grade copper pipe to BS EN 13348:2001. Copper stub pipes shall be of sufficient length to enable brazing directly into the distribution system without the need for disassembly on site.

Testing

All ball valve assemblies shall be pressure tested for valve tightness and leakage prior to packing and shipping.

Part Numbers

Description	Size	Part No
Line valve assembly with stub pipes	15mm	2004356
	22mm	2004357
	28mm	2004358
	35mm	2004359
	42mm	2004360
	54mm	2004361
Line valve - flanged type with stub pipes	76mm	1825636
	108mm	1825936

Description	Size	Part No
Padlock for locking of line ball valve handles	All	2003520

Performance and Dimensions

Nominal Dia DIM 'A' (mm)	Torque (Nm)	Working Pressure (bar)	DIM 'B' (mm)
15	5.4	55	570
22	8	50	567
28	10	40	680
35	14	40	697
42	20	35	858
54	33	27	859
76	-	24	800
108	-	17	810

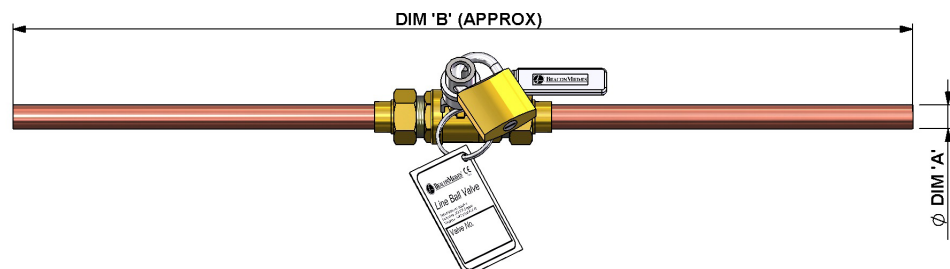
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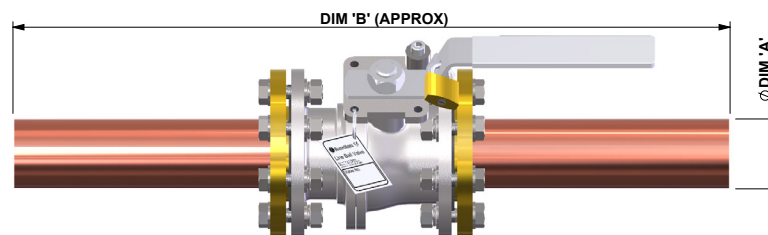
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Typical ball valve assembly for nominal Dia. 15 to 54mm (Type 'V').

Also showing optional padlock.



Typical ball valve assembly for nominal Dia. 76 to 108mm (Type 'VF'). Also showing optional valve padlock.



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