

- Connection of portable/stationary hand-pumps to solenoid valve cabinets connections (assuming HPU failure)
- Connection of portable/stationary hand-pumps to individual valve actuators (assuming solenoid valve cabinet or HPU failure)
- Connection of portable/stationary hand-pumps to Ballast valve deck connections (assuming HPU or solenoid valve cabinet fault)
- Hydraulic system working pressure: 80~90 bar (TBA by supplier)

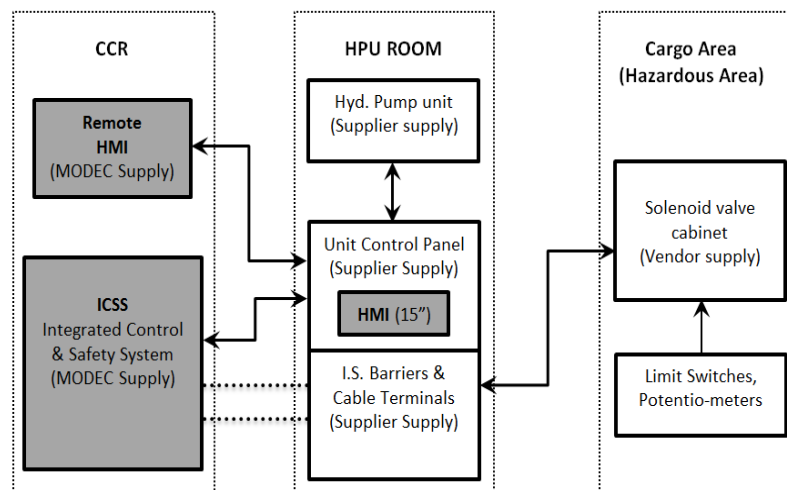
Butterfly Valve Specification for Cargo System/Inert Gas System/Fire Water System

- The marine system butterfly valves shall be in compliance with valve data sheet, refer attachment.
- All remote/local operated cargo valves shall be located at main deck or in tanks.
- All remote/local operated cargo valves inside cargo/slop/off spec tanks shall be submersible type.
- Valve position shall be provided locally at the valve via mechanical/hydraulic indicators, and remotely at the control system/ICSS via valve-mounted magnetic proximity switches (for on/off valves) and position feedback transducers for the control valves. Proximity switches and position indicators shall be intrinsically safe type.
- On/Off = Open and Close sensors required.
- Positionable = Opening % feedback sensor + Open and Close sensors required
- Operation of Fire Ring Main Valve (6 sets)
CCR operation,

Butterfly Valve Specification for Ballast System Valves

- All remote operated ballast valves shall be located at main deck and in void/ballast tanks.
- All remote operated ballast valves inside void tank/ballast tank shall be submersible type.
- On/Off - Open and Close sensors required.
- Positionable - Opening % feedback sensor + Open and Close sensors required
 - Hydraulic Actuator + Position Indication (Magnetic Proximity Switches)
- Actuator Material – Carbon Steel / Supplier Standard
- Type – Single Acting / Double Acting
- Tubing Connection – 6 Moly Tubing with 6 Moly/SS316 Fittings (Tubing size to be confirmed by Supplier)

Block Diagram of Signal Flow



Contract Award Q2 2020; Delivery Q4 2020 all units

Project Registration

ConocoPhillips is committed to ensuring Australian Industry full, fair and reasonable opportunity to participate in the Barossa Offshore Project. Expressions of Interest are invited from contractors and suppliers with the relevant capability and capacity to undertake the scope of work.

This is a request for specific expressions of interest. Contractors and suppliers will be considered for prequalification and tender if suitably qualified against this package.

Note that an important part of the project registration process is to register an Expression of Interest at the correct Scope level.

Scope level definition:

Full scope: Able to produce / supply the entire package.

Partial scope: Able to produce / supply one or more of the sub-packages.

All registrations are to be completed via ICN Gateway BarossaOffshore.icn.org.au. Please contact the ICNNT if registration assistance is required. Contact details: (08) 8922 9422 or admin@icnnt.org.au.

Project Website: ConocoPhillips Australia

BUTTERFLY VALVE DATA SHEET

1	General	Vendor	51	Material of Construction	Vendor
2	Valve Type: Butterfly Valve		52	Body ASTM A216 GR WCB Epoxy Coated Internally	
3	Piping Class: A43 ,A21, A23		53	Disc ASTM A182 F316	
4	Valve Code 7RYE		54	Stem/Shaft ASTM A182 F316	
5	Valve TAGs: XX(size)-A43-7RYE		55	Seat Ring ASTM A182 F316	
6	Size Range: 3" to 36"		56	Seat [Note 3] PTFE RPTFE	
7	Rating ASME Class 150		57	Gland Flange/ring ASTM A105N	
8			58	Packing/Seal [Note 3] PTFE (Wetted Parts)	
9	Process Data		59	Secondary Fire Safe Seal Graphite (Non Wetted) / Manuf. Std	
10	Service : Process Liquids (Cargo Tank),Inert Gas		60	Lifting & Support Lug Same as Valve Body Material	
11	Design Temperature : -29 °C to 150 °C		61	Stud Bolts/Nuts [Note 5] ASTM A320 GR L7 / ASTM A194 7	
12	Design Pressure 1900 kPag @ -29 °C		62		
13	1480 kPag @ 150 °C		63		
14	Operating Temperature : -		64		
15	Operating Pressure : -		65		
16	NACE Requirement : -		66		
17			67	Lever / Wrench 316 SS (Solid)	
18	Corrosion Allowance: 3 mm		68	Lever / Wrench Nut 316 SS	
19	PED Classification: Not Applicable		69	Name Plate 316 SS	
20			70	Gear Box Heavy Duty Gear Box (Mnf Std)	
21	Design and Construction		71	Body: Vendor to Specify	
22	Valve Construction: Lug Type / ≥ 24" double flanged, Double offset, Bi-directional		72	Gears: Vendor to Specify	
23	Design Standard API 609 Category 'B'		73	Input Shaft: Solid SS316	
24	Disc Smooth Aerodynamic Shape		74	Handwheel: Solid SS 316	
25	Ends RF B16.5 (up to 24")		75	Non Destructive Testing (as per 0468-MI20-42S1-0090-01)	
26	ASME B16.47 Series A (26"& above)		76	Visual Inspection 100%	
27	Face To Face Dimensions: API 609 Category B		77	Magnetic Particle Test 100%	
28	Blow-out proof Stem Yes		78	Liquid Penetrant Testing 100%	
29	Anti-Static Design Yes		79	Radiography 10% of castings	
30	Operation: Handwheel (upto 4")		80	Ultrasonic Examination 10% of forgings	
31	Gear Operator (6" and above)		81	PMI 10% of valves (for CRA components)	
32	Throttling Suitable For Throttling At Full Class		82		
33	Differential Pressure		83	Material Certification	
34	Locking Facility At Every 10 Degree ,		84	BS EN 10204 Type 3.1 Body, Seat, Disc, Stem, Bolting	
35	Open & Closed Position		85	BS EN 10204 Type 2.2 Other trims and non-metallic parts	
36	Lifting & Support Lug Required (250 Kg & Heavier)		86		
37	Fire Safe As per ISO 10497 / API 607 / API 6FA		87	Testing	
38			88	Pressure Test [7] API 598	
39	Isolation Suitable for Isolation in both directions		89	Shell Hydrotest 1.5 x Class Rated Pressure @amb temp.	
40			90	Seat Hydrotest (HP) 1.1 x Class Rated Pressure @amb temp.	
41			91	Seat Test (LP) 550 kPag (80 PSIG) using Air	
42			92	Torque Test Required	
43			93		
44	Additional Tests		94		
45	Charpy Impact Test Temperature -29 Deg C.		95		
46	Acceptance Criteria 16 J (Min)/ 20 J (Ava)		96	Painting	
47	Hardness Test Required		97	Specification 0468-MI20-00S1-0030	
48	SSC Not Required		98	Paint System (Valve) B2	
49	HIC Not Required		99	Paint System (Gear Box) B2	
50			100		

Notes:

1. Refer Valve Specification 0468-MI20-42S1-0090-01 for detail reqmt.
2. Valve shall be capable of opening and closing against a diff. pressure equal to the maximum rated pressure.
3. Manufacturer to confirm suitability of soft seal/seat material for intended service fluid and design Pressure / Temperature.
4. Marking system as per MSS-SP-25.
5. Bolting shall be coated as per Section 5.7 in Valve Specification.
6. Bolt holes shall be through drilled and not tapped holes.
7. Valve seats shall be tested at 1.1 times full class pressure, in both directions.
8. Preferred flow direction, if any, shall be marked on valve body.

					VALVE SPECIFICATION - VALVE DATA SHEETS		Sheet 171 / 187	
					Client Doc. No. N/A			
					Modec Doc. No. 0468-MI20-42S1-0090-002			
					MODEC OFFSHORE PRODUCTION SYSTEMS PTE. LTD.			
No.	Revision	By	Checker	Approver				

BUTTERFLY VALVE DATA SHEET

1	General	Vendor	51	Material of Construction	Vendor
2	Valve Type: Butterfly Valve		52	Body ASTM B148 UNS C95800	
3	Piping Class: A53		53	Disc ASTM B148 UNS C95800	
4	Valve Code 7FYA		54	Stem/Shaft MONEL K500	
5	Valve TAGs: XX(size)-A53-7FYA		55	Seat R-PTFE	
6	Size Range: 3" to 36"		56	Gland Flange/ring MONEL K500	
7	Rating ASME B16.5 Class 150		57	*Packing/Seal [3] PTFE	
8			58	Secondary Fire Safe Seal [9] Graphite (Non-Wetted) / Manuf. Std	
9	Process Data		59	Lifting & Support Lug Same as Valve Body Material	
10	Service : Sea Water		60	Stud Bolts/Nuts [5] ASTM A320 GR B8M Cl.2 / ASTM A194 8M	
11	Design Temperature : -29 °C to 75 °C		61		
12	Design Pressure 1900 kPag @ -29 °C		62		
13	1780 kPag @ 75 °C		63		
14	Operating Temperature : -		64		
15	Operating Pressure : -		65		
16	NACE Requirement : -		66		
17			67	Lever / Wrench 316 SS (Solid)	
18	Corrosion Allowance: -		68	Lever / Wrench Nut 316 SS	
19	PED Classification: Not Applicable		69	Name Plate 316 SS	
20			70	Gear Box Heavy Duty Gear Box (Mnf Std)	
21	Design and Construction		71	Body: Vendor to Specify	
22	Valve Construction: Double Flanged , Double offset, Bi-directional		72	Gears: Vendor to Specify	
23	Design Standard 2" & above API 609 Category 'B'		73	Input Shaft: Solid SS316	
24	Disc Smooth Aerodynamic Shape		74	Handwheel: Solid SS 316	
25	Ends FF B16.5 (up to 24")		75	Non Destructive Testing (as per 0468-MI20-42S1-0090-01)	
26	ASME B16.47 Series A (26" & above)		76	Visual Inspection 100%	
27	Face To Face Dimensions: API 609 Category B		77	Magnetic Particle Test -	
28	Blow-out proof Stem Yes		78	Liquid Penetrant Testing 100%	
29	Anti-Static Design Yes		79	Radiography 10% of castings	
30	Operation: Handwheel (upto 4")		80	Ultrasonic Examination 10% of forgings	
31	Gear Operator (6" and above)		81	PMI 10% of valves (for CRA components)	
32	Throttling Suitable For Throttling At Full Class		82		
33	Differential Pressure		83	Material Certification	
34	Locking Facility At Every 10 Degree ,		84	BS EN 10204 Type 3.1 Body, Seat, Disc, Stem, Bolting	
35	Open & Closed Position		85	BS EN 10204 Type 2.2 Other trims and non-metallic parts	
36	Lifting & Support Lug Required (250 Kg & Heavier)		86		
37	Fire Safe As per ISO 10497 / API 607 / API 6FA		87	Testing	
38			88	Pressure Test [7] API 598	
39	Isolation Suitable for Isolation in both directions		89	Shell Hydrotest 1.5 x Class Rated Pressure @amb temp.	
40			90	Seat Hydrotest (HP) 1.1 x Class Rated Pressure @amb temp.	
41			91	Seat Test (LP) 550 kPag (80 PSIG) using Air	
42			92	Torque Test Required	
43			93		
44	Additional Tests		94		
45	Charpy Impact Not Required		95		
46			96	Painting	
47	Hardness Test Required		97	Specification 0468-MI20-00S1-0030	
48	SSC Not Required		98	Paint System (Valve) NA	
49	HIC Not Required		99	Paint System (Gear Box) B1	
50			100		

Notes:

- | | |
|---|--|
| <ol style="list-style-type: none"> Refer Valve Specification 0468-MI20-42S1-0090-01 for detail requirement. Valve shall be capable of opening and closing against a diff. pressure equal to the maximum rated pressure. Manufacturer to confirm suitability of soft seal/seat material for intended service fluid and design Pressure / Temperature. Marking system as per MSS-SP-25. Bolting shall be coated as per Section 5.7 in Valve Specification. | <ol style="list-style-type: none"> Bolt holes shall be through drilled and not tapped holes. Valve seats shall be tested at 1.1 times full class pressure, in both directions. Preferred flow direction, if any, shall be marked on valve body. Vendor shall ensure that the graphite fire safe seal is non-wetted or propose alternative material suitable for this service. |
|---|--|

VALVE SPECIFICATION - VALVE DATA SHEETS				
Client Doc. No.	N/A			
Modec Doc. No.	0468-MI20-42S1-0090-002			
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Sheet
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BUTTERFLY VALVE DATA SHEET

1	General	Vendor	51	Material of Construction	Vendor
2	Valve Type: Butterfly Valve		52	Body ASTM B148 UNS C95800	
3	Piping Class: A63		53	Disc ASTM B148 UNS C95800	
4	Valve Code 7FYA		54	Stem/Shaft MONEL K500	
5	Valve TAGs: XX(size)-A63-7FYA		55	Seat [3] R-PTFE	
6	Size Range: 3" to 36"		56	Gland Flange/ring MONEL K500	
7	Rating ASME Class 150		57	Packing/Seal [3] PTFE	
8			58	Secondary Fire Safe Seal [10] Graphite (Non-Wetted) / Manuf. Std	
9	Process Data		59	Lifting & Support Lug Same as Valve Body Material	
10	Service : Fire Water		60	Stud Bolts/Nuts [5] ASTM A320 GR B8M Cl.2 / ASTM A194 8M	
11	Design Temperature : -29 °C to 75 °C		61		
12	Design Pressure 1900 kPag @ -29 °C		62		
13	1780 kPag @ 75 °C		63		
14	Operating Temperature : -		64		
15	Operating Pressure : -		65		
16	NACE Requirement : -		66		
17			67	Lever / Wrench 316 SS (Solid)	
18	Corrosion Allowance: -		68	Lever / Wrench Nut 316 SS	
19	PED Classification: Not Applicable		69	Name Plate 316 SS	
20			70	Gear Box Heavy Duty Gear Box (Mnf Std)	
21	Design and Construction		71	Body: Vendor to Specify	
22	Valve Construction: Lug Type / DBL flanged [9],		72	Gears: Vendor to Specify	
23	Double offset, Bi-directional		73	Input Shaft: Solid SS316	
24	Design Standard 2" & above API 609 Category 'B'		74	Handwheel: Solid SS 316	
25	Disc Smooth Aerodynamic Shape		75	Non Destructive Testing (as per 0468-MI20-42S1-0090-01)	
26	Ends FF B16.5 (up to 24")		76	Visual Inspection 100%	
27	ASME B16.47 Series A (26" & above)		77	Magnetic Particle Test -	
28	Face To Face Dimensions: API 609 Category B		78	Liquid Penetrant Testing 100%	
29	Blow-out proof Stem Yes		79	Radiography 10% of castings	
30	Anti-Static Design Yes		80	Ultrasonic Examination 10% of forgings	
31	Operation: Handwheel (upto 4")		81	PMI 10% of valves (for CRA components)	
32	Gear Operator (6" and above)		82		
33	Throttling Suitable For Throttling At Full Class		83	Material Certification	
34	Differential Pressure		84	BS EN 10204 Type 3.1 Body, Seat, Disc, Stem, Bolting	
35	Locking Facility At Every 10 Degree ,		85	BS EN 10204 Type 2.2 Other trims and non-metallic parts	
36	Open & Closed Position		86		
37	Lifting & Support Lug Required (250 Kg & Heavier)		87	Testing	
38	Fire Safe As per ISO 10497 / API 607 / API 6FA		88	Pressure Test [7] API 598	
39			89	Shell Hydrotest 1.5 x Class Rated Pressure @amb temp.	
40	Isolation Suitable for Isolation in both directions		90	Seat Hydrotest (HP) 1.1 x Class Rated Pressure @amb temp.	
41			91	Seat Test (LP) 550 kPag (80 PSIG) using Air	
42			92	Torque Test Required	
43			93		
44	Additional Tests		94		
45	Charpy Impact Not Required		95		
46			96	Painting	
47	Hardness Test Required		97	Specification 0468-MI20-00S1-0030	
48	SSC Not Required		98	Paint System (Valve) Fire Red RAL 3020	
49	HIC Not Required		99	Paint System (Gear Box) B1, Fire Red RAL 3020	
50			100		

Notes:

1. Refer Valve Specification 0468-MI20-42S1-0090-01 for detail reqmt.
2. Valve shall be capable of opening and closing against a diff. pressure equal to the maximum rated pressure.
3. Manufacturer to confirm suitability of soft seal/seat material for intended service fluid and design Pressure / Temperature.
4. Marking system as per MSS-SP-25.
5. Bolting shall be coated as per Section 5.7 in Valve Specification.
6. Bolt holes shall be through drilled and not tapped holes.
7. Valve seats shall be tested at 1.1 times full class pressure, in both directions.
8. Preferred flow direction, if any, shall be marked on valve body.
9. Valves in fire water main ring shall be double flanged end.
10. Vendor shall ensure that the graphite fire safe seal is non-wetted or propose alternative material suitable for this service.

				VALVE SPECIFICATION - VALVE DATA SHEETS		Sheet 174 / 187
				Client Doc. No. N/A		
				Modec Doc. No. 0468-MI20-42S1-0090-002		
				MODEC OFFSHORE PRODUCTION SYSTEMS PTE. LTD.		
No.	Revision	By	Checker	Approver		

BUTTERFLY VALVE DATA SHEET

1	General	Vendor	51	Material of Construction	Vendor
2	Valve Type: Butterfly Valve		52	Body ASTM B148 UNS C95800	
3	Piping Class: N9		53	Disc ASTM B148 UNS C95800	
4	Valve Code 7FYA		54	Stem/Shaft MONEL K500	
5	Valve TAGs: XX(size)-N9-7FYA		55	Seat [3] R-PTFE	
6	Size Range: 3" to 24"		56	Gland Flange/ring MONEL K500	
7	Rating ASME Class 150		57	Packing/Seal [3] PTFE	
8			58	Secondary Fire Safe Seal Graphite (Non-Wetted)	
9	Process Data		59	Lifting & Support Lug Same as Valve Body Material	
10	Service : DG		60	Stud Bolts/Nuts [5] ASTM A320 GR B8M Cl.2 / ASTM A194 8M	
11	Design Temperature : 0 °C to 75 °C		61		
12	Design Pressure 1600 kPag @ 0 °C		62		
13	1600 kPag @ 75 °C		63		
14	Operating Temperature : -		64		
15	Operating Pressure : -		65		
16	NACE Requirement : -		66		
17			67	Lever / Wrench 316 SS (Solid)	
18	Corrosion Allowance: 0.5 mm		68	Lever / Wrench Nut 316 SS	
19	PED Classification: Not Applicable		69	Name Plate 316 SS	
20			70	Gear Box Heavy Duty Gear Box (Mnf Std)	
21	Design and Construction		71	Body: Vendor to Specify	
22	Valve Construction: Lug Type, Double offset Bidirectional [4]		72	Gears: Vendor to Specify	
23	Design Standard API 609 Category B		73	Input Shaft: Solid SS316	
24	Disc Smooth Aerodynamic Shape		74	Handwheel: Solid SS 316	
25	Ends FF ASME B16.5		75	Non Destructive Testing (as per 0468-MI20-42S1-0090-01)	
26			76	Visual Inspection 100%	
27	Face To Face Dimensions: API 609 Category B		77	Magnetic Particle Test -	
28	Blow-out proof Stem Yes		78	Liquid Penetrant Testing 100%	
29	Anti-Static Design Yes		79	Radiography 10% of castings	
30	Operation: Handwheel (upto 4")		80	Ultrasonic Examination 10% of forgings	
31	Gear Operator (6" and above)		81	PMI 10% of valves (for CRA components)	
32	Throttling Suitable For Throttling At Full Class		82		
33	Differential Pressure		83	Material Certification	
34	Locking Facility At Every 10 Degree ,		84	BS EN 10204 Type 3.1 Body, Seat, Disc, Stem, Bolting	
35	Open & Closed Position		85	BS EN 10204 Type 2.2 Other trims and non-metallic parts	
36	Lifting & Support Lug Required (250 Kg & Heavier)		86		
37	Fire Safe As per ISO 10497 / API 607 / API 6FA		87	Testing	
38			88	Pressure Test [7] API 598	
39	Isolation Suitable for Isolation in both directions		89	Shell Hydrotest 1.5 x Class Rated Pressure @amb temp.	
40			90	Seat Hydrotest (HP) 1.1 x Class Rated Pressure @amb temp.	
41			91	Seat Test (LP) 550 kPag (80 PSIG) using Air	
42			92	Torque Test Required	
43			93		
44	Additional Tests		94		
45	Charpy Impact Not Required		95		
46			96	Painting	
47	Hardness Test Required		97	Specification 0468-MI20-00S1-0030	
48	SSC Not Required		98	Paint System (Valve) NA	
49	HIC Not Required		99	Paint System (Gear Box) B1	
50			100		

Notes:

1. Refer Valve Specification 0468-MI20-42S1-0090-01 for detail reqmt.
2. Valve shall be capable of opening and closing against a diff. pressure equal to the maximum rated pressure.
3. Manufacturer to confirm suitability of soft seal/seat material for intended service fluid and design Pressure / Temperature.
4. Marking system as per MSS-SP-25.
5. Bolting shall be coated as per Section 5.7 in Valve Specification.
6. Bolt holes shall be through drilled and not tapped holes.
7. Valve seats shall be tested at 1.1 times full class pressure, in both directions.
8. Preferred flow direction, if any, shall be marked on valve body.

VALVE SPECIFICATION - VALVE DATA SHEETS				
				Client Doc. No. N/A
				Modec Doc. No. 0468-MI20-42S1-0090-002
				MODEC OFFSHORE PRODUCTION SYSTEMS PTE. LTD.
No.	Revision	By	Checker	Approver

BUTTERFLY VALVE DATA SHEET

1	General	Vendor	51	Material of Construction	Vendor
2	Valve Type: Butterfly Valve		52	Body ASTM A216 GR WCB Epoxy Coated Internally	
3	Piping Class: B43		53	Disc ASTM A182 F316	
4	Valve Code 7RYE		54	Stem/Shaft ASTM A182 F316	
5	Valve TAGs: XX(size)-B43-7RYE		55	Seat Ring ASTM A182 F316	
6	Size Range: 3" to 24"		56	Seat [Note 3] RPTFE	
7	Rating ASME Class 300		57	Gland Flange/ring ASTM A105N	
8			58	Packing/Seal [Note 3] PTFE (Wetted Parts)	
9	Process Data		59	Secondary Fire Safe Seal Graphite (Non Wetted) / Manuf. Std	
10	Service : Process Liquids (Cargo Tank) [9]		60	Lifting & Support Lug Same as Valve Body Material	
11	Design Temperature : -29 °C to 150 °C		61	Stud Bolts/Nuts [Note 5] ASTM A320 GR L7 / ASTM A194 7	
12	Design Pressure 4960 kPag @ -29 °C		62		
13	3850 kPag @ 150 °C		63		
14	Operating Temperature : -		64	RPTFE	
15	Operating Pressure : -		65		
16	NACE Requirement : -		66		
17			67	Lever / Wrench 316 SS (Solid)	
18	Corrosion Allowance: 3 mm		68	Lever / Wrench Nut 316 SS	
19	PED Classification: Not Applicable		69	Name Plate 316 SS	
20			70	Gear Box Heavy Duty Gear Box (Manuf's Std)	
21	Design and Construction		71	Body: Vendor to Specify	
22	Valve Construction: Lug Type, Double offset, Bi-directional		72	Gears: Vendor to Specify	
23	Design Standard API 609 Category 'B'		73	Input Shaft: Solid SS316	
24	Disc Smooth Aerodynamic Shape		74	Handwheel: Solid SS 316	
25	Ends RF B16.5 (up to 24")		75	Non Destructive Testing (as per 0468-MI20-42S1-0090-01)	
26	ASME B16.47 Series A (26" & above)		76	Visual Inspection 100%	
27	Face To Face Dimensions: API 609 Category B		77	Magnetic Particle Test 100%	
28	Blow-out proof Stem Yes		78	Liquid Penetrant Testing 100%	
29	Anti-Static Design Yes		79	Radiography 10% of castings	
30	Operation: Handwheel (upto 4")		80	Ultrasonic Examination 10% of forgings	
31	Gear Operator (6" and above)		81	PMI 10% of valves (for CRA components)	
32	Throttling Suitable For Throttling At Full Class		82		
33	Differential Pressure		83	Material Certification	
34	Locking Facility At Every 10 Degree ,		84	BS EN 10204 Type 3.1 Body, Seat, Disc, Stem, Bolting	
35	Open & Closed Position		85	BS EN 10204 Type 2.2 Other trims and non-metallic parts	
36	Lifting & Support Lug Required (250 Kg & Heavier)		86		
37	Fire Safe As per ISO 10497 / API 607 / API 6FA		87	Testing	
38			88	Pressure Test [7] API 598	
39	Isolation Suitable for Isolation in both directions		89	Shell Hydrotest 1.5 x Class Rated Pressure @ amb temp.	
40			90	Seat Hydrotest (HP) 1.1 x Class Rated Pressure @ amb temp.	
41			91	Seat Test (LP) 550 kPag (80 PSIG) using Air	
42			92	Torque Test Required	
43			93		
44	Additional Tests		94		
45	Charpy Impact Test Temperature -29 Deg C.		95		
46	Acceptance Criteria 16 J (Min)/ 20 J (Ava)		96	Painting	
47	Hardness Test Required		97	Specification 0468-MI20-00S1-0030	
48	SSC Not Required		98	Paint System (Valve) B2	
49	HIC Not Required		99	Paint System (Gear Box) B2	
50			100		

Notes:

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. Refer Valve Specification 0468-MI20-42S1-0090-01 for detail reqmt. 2. Valve shall be capable of opening and closing against a diff. pressure equal to the maximum rated pressure. 3. Manufacturer to confirm suitability of soft seal/seat material for intended service fluid and design Pressure / Temperature. 4. Marking system as per MSS-SP-25. 5. Bolting shall be coated as per Section 5.7 in Valve Specification. | <ol style="list-style-type: none"> 6. Bolt holes shall be through drilled and not tapped holes. 7. Valve seats shall be tested at 1.1 times full class pressure, in both directions. 8. Preferred flow direction, if any, shall be marked on valve body. |
|--|---|

No.	Revision	By	Checker	Approver		
					VALVE SPECIFICATION - VALVE DATA SHEETS	
					Client Doc. No. N/A	
					Modec Doc. No. 0468-MI20-42S1-0090-002	
					MODEC OFFSHORE PRODUCTION SYSTEMS PTE. LTD.	Sheet 178 / 187
					MODEC	