1.0 Valve Manufacturer :

2.0 Valve Size (NB), mm (inch) : ANSI Rating : **150#** Design Standard : **API 6D**

3.0 MECON's Technical Specification No. : **MEC/TS/05/21/002, Rev-1, Ed-1**

4.0 Connecting Pipeline Design Pressure, bar : **19 kg/cm2** Design Temperature, °C : -45 to 65°C

5.0 **Connecting Pipe Specification***
5.1 Material
5.2 Diameter (OD), mm (inch)
5.3 Thickness, mm

6.0 **Valve Construction Design**
6.1. Bore* : Reduced ☐ Full ☐
6.2. End Connections* :
6.3. Flanges (wherever applicable) : a) RF ☐ FF ☐ RT ☐ NA ☐
b) Serrated ☐ Smooth (125 to 200 microinches AARH) ☐ NA ☐
6.4 Valve Type : **Floating upto 8" and Trunnion Mounted above 8"**

7.0 **Valve Material Specification**

	Part	Specified Material	Material Offered
7.1	Body	**ASTM A350 Gr. LF2/ A352 Gr. LCB**	
7.2	Ball	**[(ASTM A350 Gr. LF2/ A352 Gr. LCB/SS 316)+75 microns ENP]**	
7.3	Body Seat Rings	**VITON/DEVLON for Floating type and (ASTM A350 Gr. LF2/ A352 Gr. LCB/SS 316)+75 microns ENP coating for Trunnion Mounted type**	
7.4	Seat Seal	**VITON for TMBV**	
7.5	Stem	**[(ASTM A350 Gr. LF2/SS 316)+75 microns ENP](No casting)**	
7.6	Stem Seals	**VITON/ PTFE**	
7.7	Stud Bolts/ Nuts	**ASTM A320 Gr. L7/ A194 Gr. 4**	

NOTE : AISI 410 has min. 35 HRC hardness

8.0 Corrosion Allowance : **1.5 mm** Service :

9.0 Location : Above Ground ☐ Buried ☐

10.0 Stem Extension Requirement : Yes ☐ No ☐

11.0 Gear Operator Requirement : Yes ☑ for 6" and above No ☑ upto 4"

12.0 Gas Powered Actuator Requirement : Yes ☐ No ☐

13.0 Fire Resistant Design Requirement : Type test as per API 607 for Floating Ball Valve
: Type test as per API 6FA for Trunion Mounted Ball Valve

14.0 **Valve Testing Requirement**

			Test Pressure (min.), kg/cm^2(g)	Minimum Duration, minutes
14.1	Hydrostatic Test	Body	**32**	**As per API 6D**
		Seat	**23**	**As per API 6D**
14.2	Air Test		**5.6-7**	**As per API 6D**

15.0 Anti-Static Testing Requirement : **As per Standard API 6D (2002 Ed.)**

16.0 **Valve Painting Specification**
i) Surface preparation by Short Blasting as per grade SA 2 1/2, Swedish Standard SIS-055 909.
ii) For above ground installation-Three coats of corrosion resistant paint shall be applied with minimum thickness of 300 micron (Permissible thickness in each coat shall be within 80 to 120 micron). Colour of paint shade shall be RAL-7038, however any change in colour shall be finalized during drawing approval stage.

17.0 Lock Open/ Lock Close Requirement : **As indicated in P&ID**

Notes: Vent & Drain connection for floating & trunnion mounted valves shall be provided as per details mentioned in MECON's TS.
1. This Valve Data Sheet shall be read in conjunction with MECON's Technical Specification No. MEC/TS/05/21/002,Rev 1 ,Ed. 1
2. Inspection and Testing shall be as per attached QAP, this Data Sheet, MECON's T.S., API 6D and other relevant standards.
3. Stops shall be provided for positive alignment of ball with ports and ensure proper installation of handle.
4. Short pattern valves (as per API 6D or otherwise) are not permitted. Only long pattern valves are to be supplied.
5. Charpy V-notch & Hardness test for body, body adaptor, end flanges, ball, body seat rings, stem & studs / nuts shall be conducted as per Cl. 3.4 & 3.6 of TS respectively. Min. Valve Body Wall Thickness as per ASME B16.34 .
6. Compressed asbestos fibre (CAF) shall not be used for body sealing / gasket materials.
7. Material for body shall have a guaranteed minimum yield strength of ……..psi. In case the same cannot be guaranteed, valves shall be provided with a 500 mm pup piece (integrally welded to the valve on each side) with strength equivalent to that of the connecting pipe - **N.A**.
8. For welding end, the out of roundness (i. e. difference between maximum and minimum ID at pipe end) shall not be more than 0.5% of pipe OD.
9. Valves shall be inspected and approved by Purchaser before despatch.

REV. NO.	DATE	ZONE	DESCRIPTIONS	BY	APPRD
			REVISIONS		

SECTION PROCESS & PIPING					CLIENT :	REFERENCES	DRG. NO.
	NAME	DATE	CHKD	DATE			
DSGN	PM	25.04.12	AKJ	25.04.12	PROJECT :		**MECON LIMITED**
DRWN							
APPROVED			O. P. Jain		**DATA SHEET FOR BALL VALVES (NB ≥ 2")**	DATA SHEET NO.: MEC/ WINO/05/28/M/001/DS/BV/77	REV 0

1.0 Valve Manufacturer :

2.0 Valve Size (NB), mm (inch) : ANSI Rating : **300#** Design Standard : **API 6D**

3.0 MECON's Technical Specification No. : **MEC/TS/05/21/002, Rev-1, Ed-1**

4.0 Connecting Pipeline Design Pressure, bar : **49 kg/cm2** Design Temperature, °C : **-29°C to +65°C**

5.0 **Connecting Pipe Specification** :
5.1 Material :
5.2 Diameter (OD), mm (inch) :
5.3 Thickness, mm :

6.0 **Valve Construction Design**
6.1. Configuration : Reduced Bore ☐ Full Bore ☐
6.2. End Connections : Flanged as per ASME B16.5 ☐ Butt Welded as per ASME B16.25 ☐
6.3. Flanges (wherever applicable) : a) RF ☐ FF ☐ RT ☐ NA ☐
b) Serrated ☐ Smooth (125 to 200 microinches AARH) ☐ NA ☐
6.4 Ball Mounting : **Floating Ball upto 4" and Trunnion Mounted above 4"**
6.5 Valve body type : Fully Welded ☐ Two/Three Piece Bolted ☐ Either ☐

7.0 **Valve Material Specification**

	Part	Specified Material	Material Offered (Equivalent or superior)
7.1	Body	**A 216 Gr. WCB/A 234 Gr. WPB/ A 352 Gr. LCB/A 350 Gr. LF2**	
7.2	Ball	**(A 216 Gr.WCB/A 234 Gr.WPB/ A 352 Gr.LCB/AISI 4140)+75 µENP coating/AISI410**	
7.3	Body Seat Rings	**VITON/DEVLON for Floating type and AISI 4140 + 75 micron ENP coating/AISI 410 for Trunnion Mounted type**	
7.4	Seat Seat	**VITON for TMBV**	
7.5	Stem	**AISI 4140 + 75 micron ENP coating/AISI 410 (No casting)**	
7.6	Stem Seals	**VITON/PTFE**	
7.7	Stud Bolts/ Nuts	**ASTM A 193 Gr. B7/ A194 Gr. 2H**	

NOTE : AISI 410 has min. 35 HRC hardness .

8.0 Corrosion Allowance : **1.5 mm** Service :

9.0 Location : Above Ground ☐ Buried ☐

10.0 Stem Extension Requirement : Yes ☐ No ☐

11.0 Gear Operator Requirement : Yes ☑ for 6" and above No ☑ for 4" and below

12.0 Actuator Requirement : Yes ☐ No ☐

13.0 Fire Resistant Design Requirement : **Type test as per API 607 for Floating Ball Valve**
: **Type test as per API 6FA for Trunnion Mounted Ball Valve**

14.0 **Valve Testing Requirement**

			Test Pressure (min.), kg/cm^2(g)	Minimum Duration, minutes
14.1	Hydrostatic Test	Body	**76**	**As per API 6D**
		Seat	**57**	**As per API 6D**
14.2	Air Test		**5.6-7**	**As per API 6D**

15.0 Anti-Static Testing Requirement : **As per Standard API 6D (Latest Ed.)**

16.0 **Valve Painting Specification**
16.1 Surface preparation by Short Blasting as per grade SA 2 1/2, Swedish Standard SIS-055 909.
16.2 For above ground installation-Three coats of corrosion resistant paint shall be applied with minimum thickness of 300 micron (Permissible thickness in each coat shall be within 80 to 120 micron). Colour of paint shade shall be RAL-7038, however any change in colour shall be finalized during drawing approval stage.
17.0 Lock Open/ Lock Close/Normally Close Requirement : **As indicated in P&ID.**

Notes: Vent & Drain connection for floating & trunnion mounted valves shall be provided as per details mentioned in MECON's TS.

1. This Valve Data Sheet shall be read in conjunction with MECON's Technical Specification No. MEC/TS/05/21/002,Rev 1 ,Ed. 1
2. Inspection and Testing shall be as per attached QAP, this Data Sheet, MECON's T.S., API 6D and other relevant standards.
3. Stops shall be provided for positive alignment of ball with ports and ensure proper installation of handle.
4. Short pattern valves (as per API 6D or otherwise) are not permitted. Only long pattern valves are to be supplied.
5. Charpy V-notch & Hardness test for body, body adaptor, end flanges, ball, body seat rings, stem & studs / nuts shall be conducted as per Cl. 3.4 & 3.6 of TS respectively. Min. Valve Body Wall Thickness as per ASME B16.34 .
6. Compressed asbestos fibre (CAF) shall not be used for body sealing / gasket materials.
7. Material for body shall have a guaranteed minimum yield strength of ……..psi. In case the same cannot be guaranteed, valves shall be provided with a 500 mm pup piece (integrally welded to the valve on each side) with strength equivalent to that of the connecting pipe - **N.A.**
8. For welding end, the out of roundness (i. e. difference between maximum and minimum ID at pipe end) shall not be more than 0.5% of pipe OD.
9. Valves shall be inspected and approved by Purchaser before despatch.

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SECTION PROCESS & PIPING				
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DSGN	PM	25.04.12	AKJ	25.04.12
DRWN				

CLIENT :

PROJECT :

MECON LIMITED

APPROVED O.P. Jain

DATA SHEET FOR BALL VALVES (NB ≥ 2")

SCALE :

DATA SHEET NO.: MEC/WINO/05/28/M/001/DS/BV/78

REV 0

1.0 Valve Manufacturer :

2.0 Valve Size (NB), mm (inch) : ANSI Rating : **300#** Design Standard : **API 6D**

3.0 MECON's Technical Specification No. : **MEC/TS/05/21/002, Rev-1, Ed-1**

4.0 Connecting Pipeline Design Pressure, bar : **49 kg/cm2** Design Temperature, °C : **-45°C to + 65°C**

5.0 **Connecting Pipe Specification** :
5.1 Material :
5.2 Diameter (OD), mm (inch) :
5.3 Thickness, mm :

6.0 **Valve Construction Design**
6.1. Configuration : Reduced Bore ☐ Full Bore ☐
6.2. End Connections : Flanged as per ASME B16.5 ☐ Butt Welded as per ASME B16.25 ☐
6.3. Flanges (wherever applicable) : a) RF ☐ ☐ RT ☐ NA ☐
b) Serrated ☐ Smooth (125 to 200 microinches AARH) ☐ NA ☐
6.4 Ball Mounting : **Floating upto 4" and Trunnion Mounted 6" and above**
6.5 Valve body type : Fully Welded ☐ Two/Three Piece Bolted ☐ Either ☐

7.0 **Valve Material Specification**

	Part	Specified Material	Material Offered (Equivalent or superior)
7.1	Body	**A 352 Gr. LCB/A 350 Gr. LF2**	
7.2	Ball	**SS316/ A 352 Gr.LCB/A 350 Gr. LF2 with 75 µENP coating**	
7.3	Body Seat Rings	**VITON/DEVLON for Floating type and SS316/ ASTM A352 Gr. LCB / A 350 GR. LF2 with 75 Micron ENP coating for Trunnion Mounted type**	
7.4	Seat Seal	**VITON/DEVLON for TMBV**	
7.5	Stem	**[(ASTM A350 Gr. LF2/SS 316)+75 microns ENP](No casting)**	
7.6	Stem Seals	**VITON/PTFE**	
7.7	Stud Bolts/ Nuts	**ASTM A320 Gr.L7 / ASTM A194 Gr.4**	

NOTE : AISI 410 has min. 35 HRC hardness

8.0 Corrosion Allowance : **1.5 mm** Service :

9.0 Location : Above Ground ☐ Buried ☐

10.0 Stem Extension Requirement : Yes ☐ No ☐

11.0 Gear Operator Requirement : Yes ☑ for 6" and above No ☑ for 4" and below

12.0 Actuator Requirement : Yes ☐ No ☐

13.0 Fire Resistant Design Requirement : **Type test as per API 607 for Floating Ball Valve**
: **Type test as per API 6FA for Trunnion Mounted Ball Valve**

14.0 **Valve Testing Requirement**

			Test Pressure (min.), kg/cm^2(g)	Minimum Duration, minutes
14.1	Hydrostatic Test	Body	**76**	**As per API 6D**
		Seat	**57**	**As per API 6D**
14.2	Air Test		**5.6-7**	**As per API 6D**

15.0 Anti-Static Testing Requirement : **As per Standard API 6D (Latest Ed.)**

16.0 **Valve Painting Specification**
16.1 Surface preparation by Short Blasting as per grade SA 2 1/2, Swedish Standard SIS-055 909.
16.2 For above ground installation-Three coats of corrosion resistant paint shall be applied with minimum thickness of 300 micron (Permissible thickness in each coat shall be within 80 to 120 micron). Colour of paint shade shall be RAL-7038, however any change in colour shall be finalized during drawing approval stage.
17.0 Lock Open/ Lock Close/Normally Close Requirement : **As indicated in P&ID.**

Notes: Vent & Drain connection for floating & trunnion mounted valves shall be provided as per details mentioned in MECON's TS.

1. This Valve Data Sheet shall be read in conjunction with MECON's Technical Specification No. MEC/TS/05/21/002,Rev 1 ,Ed. 1
2. Inspection and Testing shall be as per attached QAP, this Data Sheet, MECON's T.S., API 6D and other relevant standards.
3. Stops shall be provided for positive alignment of ball with ports and ensure proper installation of handle.
4. Short pattern valves (as per API 6D or otherwise) are not permitted. Only long pattern valves are to be supplied.
5. Charpy V-notch & Hardness test for body, body adaptor, end flanges, ball, body seat rings, stem & studs / nuts shall be conducted as per relevant material code. Min. Valve Body Wall Thickness as per ASME B16.34 .
6. Compressed asbestos fibre (CAF) shall not be used for body sealing / gasket materials.
7. Material for body shall have a guaranteed minimum yield strength of .....psi. In case the same cannot be guaranteed, valves shall be provided with a 500 mm pup piece (integrally welded to the valve on each side) with strength equivalent to that of the connecting pipe - **N.A.**
8. For welding end, the out of roundness (i. e. difference between maximum and minimum ID at pipe end) shall not be more than 0.5% of pipe OD.

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REFERENCES DRG. NO.

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DRWN					

MECON LIMITED

APPROVED O.P. Jain

DATA SHEET FOR BALL VALVES (NB ≥ 2")

SCALE :
DATA SHEET NO.: MEC/WINO/05/28/M/001/DS/BV/79
REV 0

1.0 Valve Manufacturer :

2.0 Valve Size (NB), mm (inch) : ANSI Rating : **600#** Design Standard : **API 6D**

3.0 MECON's Technical Specification No. : **MEC/TS/05/21/002, Rev-1, Ed-1**

4.0 Connecting Pipeline Design Pressure, bar : **92 kg/cm2** Design Temperature, °C : **-29°C to +65°C**

5.0 **Connecting Pipe Specification** :
5.1 Material :
5.2 Diameter (OD), mm (inch) :
5.3 Thickness, mm :

6.0 **Valve Construction Design**
6.1. Configuration : Reduced Bore ☐ Full Bore ☐
6.2. End Connections : Flanged as per ASME B16.5 ☐ Butt Welded as per ASME B16.25 ☐
6.3. Flanges (wherever applicable) : a) RF ☐ FF ☐ RT ☐ NA ☐
b) Serrated ☐ Smooth (125 to 200 microinches AARH) ☐ NA ☐
6.4 Ball Mounting : **Trunnion Mounted**
6.5 Valve body type : Fully Welded ☐ Two/Three Piece Bolted ☐ Either ☐

7.0 **Valve Material Specification**

	Part	Specified Material	Material Offered (Equivalent or superior)
7.1	Body	**A 216 Gr. WCB/A 234 Gr. WPB/ A 352 Gr. LCB/A 350 Gr. LF2**	
7.2	Ball	**(A 216 Gr.WCB/A 234 Gr.WPB/ A 352 Gr.LCB/AISI 4140)+75 µENP coating/AISI410**	
7.3	Body Seat Rings	**AISI 4140 + 75 micron ENP/AISI 410**	
7.4	Seat Seal	**VITON/DEVLON**	
7.5	Stem	**AISI 4140 + 75 micron ENP coating/AISI 410 (No casting)**	
7.6	Stem Seals	**VITON/PTFE**	
7.7	Stud Bolts/ Nuts	**ASTM A 193 Gr. B7/ A194 Gr. 2H**	

NOTE : AISI 410 has min. 35 HRC hardness

8.0 Corrosion Allowance : **1.5 mm** Service :

9.0 Location : Above Ground ☐ Buried ☐

10.0 Stem Extension Requirement : Yes ☐ No ☐

11.0 Gear Operator Requirement : Yes ☑ for 6" and above No ☑ for 4" and below

12.0 Actuator Requirement : Yes ☐ No ☐

13.0 Fire Resistant Design Requirement : **Type test as per API 6FA**

14.0 **Valve Testing Requirement**

			Test Pressure (min.), kg/cm^2(g)	Minimum Duration, minutes
14.1	Hydrostatic Test	Body	**157**	**As per API 6D**
		Seat	**114**	**As per API 6D**
14.2	Air Test		**5.6-7**	**As per API 6D**

15.0 Anti-Static Testing Requirement : **As per Standard API 6D (Latest Ed.)**

16.0 **Valve Painting Specification**
16.1 Surface preparation by Short Blasting as per grade SA 2 1/2, Swedish Standard SIS-055 909.
16.2 For above ground installation-Three coats of corrosion resistant paint shall be applied with minimum thickness of 300 micron (Permissible thickness in each coat shall be within 80 to 120 micron). Colour of paint shade shall be RAL-7038, however any change in colour shall be finalized during drawing approval stage.
17.0 Lock Open/ Lock Close/Normally Close Requirement : **As indicated in P&ID.**

Notes: Vent & Drain connection for floating & trunnion mounted valves shall be provided as per details mentioned in MECON's TS.

1. This Valve Data Sheet shall be read in conjunction with MECON's Technical Specification No. MEC/TS/05/21/002,Rev 1 ,Ed. 1
2. Inspection and Testing shall be as per attached QAP, this Data Sheet, MECON's T.S., API 6D and other relevant standards.
3. Stops shall be provided for positive alignment of ball with ports and ensure proper installation of handle.
4. Short pattern valves (as per API 6D or otherwise) are not permitted. Only long pattern valves are to be supplied.
5. Charpy V-notch & Hardness test for body, body adaptor, end flanges, ball, body seat rings, stem & studs / nuts shall be conducted as per Cl. 3.4 & 3.6 of TS respectively. Min. Valve Body Wall Thickness as per ASME B16.34 .
6. Compressed asbestos fibre (CAF) shall not be used for body sealing / gasket materials.
7. Material for body shall have a guaranteed minimum yield strength of ……..psi. In case the same cannot be guaranteed, valves shall be provided with a 500 mm pup piece (integrally welded to the valve on each side) with strength equivalent to that of the connecting pipe - **N.A.**
8. For welding end, the out of roundness (i. e. difference between maximum and minimum ID at pipe end) shall not be more than 0.5% of pipe OD.
9. Valves shall be inspected and approved by Purchaser before despatch.

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DRWN					

REFERENCES DRG. NO.

MECON LIMITED

APPROVED O.P. Jain

DATA SHEET FOR BALL VALVES (NB≥ 2")

SCALE :
DATA SHEET NO.: MEC/WINO/05/28/M/001/DS/BV/80
REV 0

1.0 Valve Manufacturer :

2.0 Valve Size (NB), mm (inch) : ANSI Rating : **600#** Design Standard : **API 6D**

3.0 MECON's Technical Specification No. : **MEC/TS/05/21/002, Rev-1, Ed-1**

4.0 Connecting Pipeline Design Pressure, bar : **92 kg/cm2** Design Temperature, °C : **-45°C to + 65°C**

5.0 **Connecting Pipe Specification** :
5.1 Material :
5.2 Diameter (OD), mm (inch) :
5.3 Thickness, mm :

6.0 **Valve Construction Design**
6.1. Configuration : Reduced Bore ☐ Full Bore ☐
6.2. End Connections : Flanged as per ASME B16.5 ☐ Butt Welded as per ASME B16.25 ☐
6.3. Flanges (wherever applicable) : a) RF ☐ FF ☐ RT ☐ NA ☐
b) Serrated ☐ Smooth (125 to 200 microinches AARH) ☐ NA ☐
6.4 Ball Mounting : **Trunnion Mounted**
6.5 Valve body type : Fully Welded ☐ Two/Three Piece Bolted ☐ Either ☐

7.0 **Valve Material Specification**

	Part	Specified Material	Material Offered (Equivalent or superior)
7.1	Body	**A 352 Gr. LCB/A 350 Gr. LF2**	
7.2	Ball	**SS316/ A 352 Gr.LCB/A 350 Gr. LF2 with 75 µENP coating**	
7.3	Body Seat Rings	**SS316/ ASTM A352 Gr. LCB / A 350 GR. LF2 with 75 Micron ENP coating**	
7.4	Seat Seal	**VITON/DEVLON**	
7.5	Stem	**[(ASTM A350 Gr. LF2/SS 316)+75 microns ENP](No casting)**	
7.6	Stem Seals	**VITON/PTFE**	
7.7	Stud Bolts/ Nuts	**ASTM A320 Gr.L7 / ASTM A194 Gr.4**	

NOTE : AISI 410 has min. 35 HRC hardness

8.0 Corrosion Allowance : **1.5 mm** Service :

9.0 Location : Above Ground ☐ Buried ☐

10.0 Stem Extension Requirement : Yes ☐ No ☐

11.0 Gear Operator Requirement : Yes ☑ for 6" and above No ☑ for 4" and below

12.0 Actuator Requirement : Yes ☐ No ☐

13.0 Fire Resistant Design Requirement : **Type test as per API 6FA**

14.0 **Valve Testing Requirement**

			Test Pressure (min.), kg/cm^2(g)	Minimum Duration, minutes
14.1	Hydrostatic Test	Body	**157**	**As per API 6D**
		Seat	**114**	**As per API 6D**
14.2	Air Test		**5.6-7**	**As per API 6D**

15.0 Anti-Static Testing Requirement : **As per Standard API 6D (Latest Ed.)**

16.0 **Valve Painting Specification**
16.1 Surface preparation by Short Blasting as per grade SA 2 1/2, Swedish Standard SIS-055 909.
16.2 For above ground installation-Three coats of corrosion resistant paint shall be applied with minimum thickness of 300 micron (Permissible thickness in each coat shall be within 80 to 120 micron). Colour of paint shade shall be RAL-7038, however any change in colour shall be finalized during drawing approval stage.
17.0 Lock Open/ Lock Close/Normally Close Requirement : **As indicated in P&ID./ Material Requisition**

Notes: Vent & Drain connection for floating & trunnion mounted valves shall be provided as per details mentioned in MECON's TS.

1. This Valve Data Sheet shall be read in conjunction with MECON's Technical Specification No. MEC/TS/05/21/002,Rev 1 ,Ed. 1
2. Inspection and Testing shall be as per attached QAP, this Data Sheet, MECON's T.S., API 6D and other relevant standards.
3. Stops shall be provided for positive alignment of ball with ports and ensure proper installation of handle.
4. Short pattern valves (as per API 6D or otherwise) are not permitted. Only long pattern valves are to be supplied.
5. Charpy V-notch & Hardness test for body, body adaptor, end flanges, ball, body seat rings, stem & studs / nuts shall be conducted as per relevant material code. Min. Valve Body Wall Thickness as per ASME B16.34 .
6. Compressed asbestos fibre (CAF) shall not be used for body sealing / gasket materials.
7. Material for body shall have a guaranteed minimum yield strength of ……...psi. In case the same cannot be guaranteed, valves shall be provided with a 500 mm pup piece (integrally welded to the valve on each side) with strength equivalent to that of the connecting pipe **- N.A.**
8. For welding end, the out of roundness (i. e. difference between maximum and minimum ID at pipe end) shall not be more than 0.5% of pipe OD.
9. Valves shall be inspected and approved by Purchaser before despatch.

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REFERENCES DRG. NO.

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DSGN	PM	25.04.12	AKJ	25.04.12
DRWN				

CLIENT :

PROJECT :

MECON LIMITED

APPROVED O.P. Jain

DATA SHEET FOR BALL VALVES (NB≥ 2")

SCALE :

DATA SHEET NO.: MEC/WINO/05/28/M/001/DS/BV/81

REV 0

1.0 Valve Manufacturer :

2.0 Valve Size (NB), mm (inch) : ANSI Rating : **800#** Design Standard : **BS 5351/BS EN ISO 17292**

3.0 MECON's Technical Specification No. :

4.0 Connecting Pipeline Design Pressure,t : Design Temperature, °C : **-29°C to +65°C**

5.0 **Connecting Pipe Specification** :
5.1 Diameter (OD), mm :
5.2 Material :
5.3 Wall Thickness, mm :

6.0 **Valve Construction Design**
6.1. Configuration : Reduced Bore [ ] Full Bore [√]
6.2. End Connections : **Socket Welded as per ASME B16.11**
100mm Extension Pups in ASTM A106 Gr.B (Sch. 160) at both ends
6.3.1 Flanges (wherever applicable) : RF [ ] FF [ ] RTJ [ ] NA [ ]
6.3.2 Flange Face Finish Serrated [ ] Smooth (125 to 200 microinches AARH) [ ] NA [ ]
6.4 Ball Mounting : **Floating Ball**

7.0 **Valve Material Specification**

	Part	Specified Material	Material Offered (Equivalent or superior)
7.1	Body	**ASTM A105**	
7.2	Ball	**13% Cr Steel**	
7.3	Body Seat	**RPTFE/ DELRIN**	
7.4	Gland	**13% Cr Steel**	
7.5	Stem	**13% Cr Steel (No Casting)**	
7.6	Body Seal	**Grafoil**	
7.7	Stem Seal	**Grafoil**	
7.8	Body Studs/Nuts	**ASTM A193 Gr. B7/ A194 Gr. 2H**	

8.0 Corrosion Allowance : **1.5 mm** Service :

9.0 Location : Above Ground [ ] Buried [ ]

10.0 Stem Extension Requirement : Yes [ ] No [ ]

11.0 Gear Operator Requirement : Yes [ ] No [ ]

12.0 Gas Operated Actuator Requirement : Yes [ ] No [ ]

13.0 Fire Resistant Design Requirement : **Type-Test as per API 607 / BS EN ISO 10497**

14.0 **Valve Testing Requirement**

			Test Pressure (min.) ($kg/cm^2(g)$)	Minimum Duration (**minutes**)
14.1	Hydrostatic Test	Body	**210**	**2**
		Seat	**155**	**2**
14.2	Air Test		**5.6 - 7**	**15**

15.0 Anti-Static Testing Requirement : **As per BS EN ISO 17292**

16.0 **Valve Painting Specification**
16.1 Surface preparation by Short Blasting as per grade SA 2 1/2, Swedish Standard SIS-055 909.
16.2 For above ground installation-Three coats of corrosion resistant paint shall be applied with minimum thickness of 300 micron (Permissible thickness in each coat shall be within 80 to 120 micron). Colour of paint shade shall be RAL-7038, however any change in colour shall be finalized during drawing approval stage.
17.0 Lock Open/ Lock Close/Normally Close Requirement : **As indicated in P&ID.**

Notes:
1. Charpy V-notch test for body, ball, body seat, gland, stem & studs/nuts shall be conducted as per A370. The test shall be conducted at 0°C. The minimum average absorbed energy per set of three specimen shall be 27 J with an individual minimum per specimen of 22 J.
2. Material test certificates and hydrostatic test reports shall be furnished prior to despatch.
3. Detailed dimensional drawings showing cross-section with part numbers and materials shall be submitted for Purchaser's approval prior to manufacture of the valves. Min. Valve Body Wall Thickness as per ISO 17292 .
4. All tests shall be as per BS EN 12266.
5. Valves shall have ball position indicator.
6. Stops shall be provided for positive alignment of ball with ports and ensure proper installation of handle.
7. Each valve shall be provided with a wrench.
8. Valves shall be inspected and approved by Purchaser before despatch.
9. Gland packing assembly shall permit repair of gland packing under full line pressure.
10. Inspection and Testing shall be as per attached QAP, this datasheet, BS EN 12266, other relevant standards&clause no. 5.0 of TS No.: MEC/TS/05/21/002,Rev. 1,Ed. 1.

REV. N	DATE	ZONE	DESCRIPTIONS	BY	APPRD

SECTION				CLIENT :	REFERENCES / DRG. NO.
	NAME	DATE	CHKD	DATE	
DSGN	PM	25.04.12	AKJ	25.04.12	PROJECT :
DRWN					
APPROVED			O.P. JAIN		**DATA SHEET FOR BALL VALVES (NB < 2")**

MECON LIMITED

SCALE :
DATA SHEET NO.: MEC/WINO/05/28/M/001/DS/BV/82
REV 0

1.0 Valve Manufacturer :

2.0 Valve Size (NB), mm (inch) : ANSI Rating : **800#** Design Standard : **BS EN ISO 17292**

3.0 MECON's Technical Specification No. : --

4.0 Connecting Pipeline Design Pressure, bar **: 92 kg/cm2** Design Temperature, °C :**-45 to 65°C**

5.0 **Connecting Pipe Specification** N.A
5.1 Material
5.2 Diameter (OD), mm (inch)
5.3 Thickness, mm

6.0 **Valve Construction Design**
6.1. Bore : Reduced [ ] Full [√]
6.2. End Connections : **Socket welded as per ASME B16.11**
100mm Extension Pups in ASTM A333 Gr.6 Sch. 160

6.3.1 Flanges (wherever applicable) : a) RF [ ] FF [ ] RTJ [ ] NA [ ]
6.3.2 Flange Face Finish Serrated [ ] Smooth (125 to 200 microinches AARH) [ ] NA [ ]
6.4 Ball Mounting : **Floating Ball**
7.0 **Valve Material Specification**

	Part	Specified Material	Material Offered
7.1	Body	**ASTM A350 GR. LF2**	
7.2	Ball	**SS 304/316 with 75µENP Coating**	
7.3	Body Seat	**RPTFE/ DELRIN**	
7.4	Gland	**SS304/SS316**	
7.5	Stem	**SS 304/316 + 75 µENP(No casting)**	
7.6	Body Seal	**Grafoil**	
7.7	Stem Seal	**Grafoil**	
7.8	Body Studs/Nuts	**ASTM A320 Gr. 7/ A194 Gr. 4**	

8.0 Corrosion Allowance : **1.5 mm** Service :

9.0 Location : Above Ground [ ] Buried [ ]

10.0 Stem Extension Requirement : Yes [ ] No [ ]

11.0 Gear Operator Requirement : Yes [ ] No [ ]

12.0 Gas Powered Actuator Requirement : Yes [ ] No [ ]

13.0 Fire Resistant Design Requirement : **Type-Test as per Standard API 607**

14.0 **Valve Testing Requirement**

			Test Pressure (min.), kg/cm2(g)	Minimum Duration, minutes
14.1	Hydrostatic Test	Body	**210**	**2**
		Seat	**155**	**2**
14.2	Air Test		**5.6-7.0**	**15**

15.0 Anti-Static Testing Requirement : **As per Standad BS EN ISO 17292**

16.0 **Valve Painting Specification**
i) Surface preparation by Short Blasting as per grade SA 2 1/2, Swedish Standard SIS-055 909.
ii) For above ground installation-Three coats of corrosion resistant paint shall be applied with minimum thickness of 300 micron (Permissible thickness in each coat shall be within 80 to 120 micron). Colour of paint shade shall be RAL-7038, however any change in colour shall be finalized during drawing approval stage.
17.0 Lock Open/ Lock Close Requirement : **As indicated in P&ID**

Notes:
1. Material test certificates and hydrostatic test reports shall be furnished prior to despatch.
2. Detailed dimensional drawings showing cross-section with part numbers and materials shall be submitted for Purchaser's approval prior to manufacture of the valves. Min. Valve Body Wall Thickness as per ISO 17292 .
3. All tests shall be as per BS:6755 (Part-I).
4. Valves shall have ball position indicator.
5. Stops shall be provided to ensure positive alignment of ball with ports and ensure proper installation of handle.
6. Each valve shall be provided with a wrench.
7. Valves shall be inspected and approved by Purchaser before despatch.
8. Gland packing assembly shall permit repair of gland packing under full line pressure.
9. Inspection and Testing shall be as per this specification, BS:6755 (Part-I) and other relevant standards and clause no. 5.0 of T.S. No.: MEC/TS/05/21/002,Rev-1,Ed-1.
10. Charpy V-notch & Hardness test for body, body adaptor, end flanges, ball, body seat rings, stem & studs / nuts shall be conducted as per relevant material code.

REV. NO.	DATE	ZONE	DESCRIPTIONS	BY	APPRD
			REVISIONS		

REFERENCES DRG. NO.

SECTION PROCESS & PIPING

	NAME	DATE	CHKD	DATE
DSGN	PM	25.04.12	AKJ	25.04.12
DRWN				

CLIENT :

PROJECT :

MECON LIMITED

APPROVED O. P. JAIN

DATA SHEET FOR BALL VALVES (NB<2")

DATA SHEET NO.: MEC/WINO/05/28/M/001/DS/BV/83

REV 0

1.0 Valve Manufacturer :

2.0 Valve Size (NB), mm (inch) : **ANSI Rating : 150#** Design Standard : **API 6D**

3.0 MECON's Technical Specification No. : **MEC/TS/05/62/003, Rev-2**

4.0 Connecting Pipeline Design Pressure, kg/cm^2(g) : **19 kg/cm2(g)** **Design Temperature, °C : -29°C to 65°C**

5.0 **Connecting Pipe Specification**
5.1 Material :
5.2 Diameter (OD), mm (inch) :
5.3 Thickness, mm :

6.0 **Valve Construction Design**
6.1. Pattern : Short ☐ Regular ☐ Venturi ☐
6.2. End Connections : **Flanged both ends** ☐ Flanged as per ASME B 16.5
: **Butt Weld both ends** ☐ Butt Weld as per ASME B16.25
: **Flanged one end, butt weld other end** ☐
6.3. Flanges (wherever applicable) : a) RF ☐ FF ☐ RTJ ☐ NA ☐
b) Serrated ☐ Smooth (125 to 200 microinches AARH) ☐ NA ☐

7.0 **Valve Material Specification**

	Part	Material	Material Offered (Equivalent or Superior)
7.1	Body	**ASTM A216 Gr. WCB/ A234 Gr. WPB**	
7.2	Plug	**(ASTM A216 Gr. WCB/ A234 Gr. WPB) + 75 microns ENP Coating**	
7.3	Cover	**ASTM A216 Gr. WCB/ A234 Gr. WPB**	
7.4	Stem	**(AISI 4140 + 75 microns ENP Coating)/ AISI 410 (No Casting)**	
7.5	Stem Seal	**PTFE/Graphite**	
7.6	Stud Bolts/ Nuts	**ASTM A193 Gr. B7/ A194 Gr. 2H**	

NOTE : AISI 410 has min. 35 HRC hardness

8.0 Corrosion Allowance : **1.5 mm** Service :

9.0 Location : Above Ground ☐ Buried ☐

10.0 Stem Extension Requirement : Yes ☐ No ☐

11.0 Gear Operator Requirement : Yes ☐ No ☐

12.0 Gas Powered Actuator Requirement : Yes ☐ No ☐

13.0 Fire Resistant Design Requirement : **Type-Test as per Standard API 6FA/ BS EN: 10497**

14.0 **Valve Testing Requirement**

			Test Pressure (min.), kg/cm2(g)	Minimum Duration, minutes
14.1	Hydrostatic Test	Body	**32**	**As per API 6D**
		Seat	**23**	**As per API 6D**
14.2	Air Test		**5.6 - 7**	**As per API 6D**

15.0 **Valve Painting Specification**
15.1 Surface preparation by Short Blasting as per grade SA 2 1/2, Swedish Standard SIS-055 909.
15.2 For above ground installation-Three coats of corrosion resistant paint shall be applied with minimum thickness of 300 micron (Permissible thickness in each coat shall be within 80 to 120 micron). Colour of paint shade shall be RAL-7038, however any change in colour shall be finalized during drawing approval stage.
16.0 Lock Open/ Lock Close Requirement : **As indicated in P&ID.**

Notes:
1. This Valve Data Sheet shall be read in conjunction with MECON's Technical Specification No. MEC/TS/05/62/003, Rev2
2. Inspection and Testing shall be as per attached QAP, this Data Sheet, MECON's T.S., API 6D and other relevant standards.
3. Stops shall be provided for positive alignment of plug with ports and ensure proper installation of handle.
4. Charpy V- notch & Hardness test for body, plug, cover, stem & studs/nuts shall be conducted as per Clause No.: 3.4 & 3.5 of TS respectively. Min. Valve Body Wall Thickness as per ASME B16.34 .
5. Material of the body shall have ……..equivalent to that of the connecting pipe.- **Not Applicable**
6. Bidder shall clearly write valves material (equivalent or superior) offered by them against each part/material of valve in the space provided for. Wherever bidder agrees with valves material as mentioned above in MECON's data sheet, bidder shall clearly indicate **"AGREED".**

REV. NO.	DATE	ZONE	DESCRIPTIONS	BY	APPRD
			REVISIONS		

REFERENCES DRG. NO.

SECTION OIL & GAS

CLIENT :

	NAME	DATE	CHKD	DATE
DSGN	PM	25.04.12	AKJ	25.04.12
DRWN				

PROJECT :

MECON LIMITED

APPROVED O. P. JAIN

DATA SHEET FOR PLUG VALVES (NB ≥ 2")

SCALE :

DATA SHEET NO.: MEC/WINO/05/28/M/001/DS/PV/76

REV 0