



VALVE TEST CERTIFICATE / CERTIFICATE OF CONFORMANCE

EF

Certificate No. : 120302-11

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VALVE INFORMATION

S.O.#/P.O.#	13315 / P424387	S.O. ITEM #	230
VALVE TYPE	TRUNNION BALL VALVE	MODEL NUMBER	EB10R033TA01E3TG
SIZE	10"×8"	SERIAL NUMBER	12030211 01 TO 02
CLASS	300	QUANTITY	2

VALVE DETAIL

BODY/ADAPTER	ASTM A105N	BALL	ASTM A105N+ENP
STEM	ASTM A105N+ENP	TRUNNION	ASTM A105N+ENP
SEAT INSERT	RPTFE	SEAT	ASTM A105N+ENP
SEALS	GRAPHITE	O-RINGS	VITON B
BOLTS	A193 B7M	NUTS	A194 2HM

VALVE DESIGN CODE

DESIGN CODE:	<u>ASME B16.34</u>	YES	DESIGN CODE:	<u>ASME B16.5</u>	YES
	<u>API 6D / ISO 14313</u>	YES		<u>API 607 Rev 5</u>	YES
	<u>ASME B16.10</u>	YES		<u>CSA Z662 Region 3</u>	YES
	<u>API 608</u>	YES			
	<u>CSA Z245.15</u>	YES		<u>NACE MR0175/ISO 15156</u>	YES

VALVE TEST RESULTS

TEST PERFORMED	CODE	HYDRO SHELL	HYDRO SEAT	AIR SEAT	BACK SEAT	
PRESSURE- PSI/ MPA /BAR		MPA/PSI	MPA/PSI	MPA/PSI	MPA/PSI	-
TEST PRESSURE	API 6D	7.8/1125	5.7/825	0.55/80	-	-
DURATION (MINUTES MIN.)	API 6D	5	5	5	-	-
TEST RESULTS		PASS	PASS	PASS	-	-
DIMENSIONAL CHECK	B16.10	PASS	-	-	-	-
VISUAL	MSS-SP-55	PASS	-	-	-	-

We certify all valves indicated in this certificate are manufactured, inspected and tested in accordance with standards noted.

DATE: July 8, 2017



Ping Zhu

Bay K, 1423 45 Avenue NE, Calgary, Alberta, T2E 2P3



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TRACEABILITY SHEET

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SERIAL NO.	BODY HEAT #	ADAPTER HEAT #	BALL HEAT #	STEM HEAT #	TRUNNION HEAT#	BOLTING HEAT#	NUT HEAT#	
1	12030211-01	K2142	K1538	FR2849	K7626	K4763	15709805	G531103185
2	12030211-02	K2142	K1538	FR2849	K7626	K4763	15709805	G531103185
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DATE: 8/Jul/17



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MATERIAL TEST REPORT - EN10204 3.1

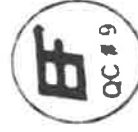
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CHEMICAL ANALYSIS

Component	Material	Heat-No.	C (%)	Mn (%)	Si (%)	Cr (%)	Ni (%)	Mo (%)	P (%)	S (%)	Cu (%)	V (%)	Nb (%)	Residual Elements	Carbon Equivalent
	A105N REV 11	Requirements	≤0.35	0.60-1.05	0.10-0.35	≤0.30	≤0.40	≤0.12	≤0.035	≤0.040	≤0.40	≤0.08	—	≤1.00	≤0.48
BODY	A105N	K2142	0.210	0.910	0.220	0.030	0.020	0.001	0.016	0.009	0.020	0.001	—	0.07	0.37
ADAPTER	A105N	K1538	0.190	0.880	0.230	0.170	0.040	0.010	0.006	0.004	0.070	0.001	—	0.29	0.38
BALL	A105N	FR2849	0.220	0.970	0.220	0.070	0.020	0.002	0.014	0.013	0.030	0.002	—	0.12	0.40
STEM	A105N	K7626	0.210	0.940	0.260	0.050	0.010	0.001	0.027	0.006	0.010	0.001	—	0.07	0.38
TRUNNION	A105N	K4763	0.210	0.960	0.220	0.130	0.020	0.005	0.012	0.003	0.040	0.002	—	0.20	0.40
			—	—	—	—	—	—	—	—	—	—	—	—	—
			—	—	—	—	—	—	—	—	—	—	—	—	—
			—	—	—	—	—	—	—	—	—	—	—	—	—
Component	Material	Heat-No.	C (%)	Mn (%)	Si (%)	Cr (%)	Ni (%)	Mo (%)	P (%)	S (%)	Cu (%)	V (%)	Nb (%)	Residual Elements	Carbon Equivalent
STUDS	A193 B7M REV 11	Requirements	.37-.49	.65-1.10	0.15-.035	0.75-1.20	—	0.15-0.25	≤0.035	≤0.040	—	—	—	—	—
NUTS	A194 2HM REV 10a	Requirements	>0.4	≤1.00	≤0.40	—	—	—	≤0.040	≤0.050	—	—	—	—	—
STUDS	B7M	15709805	0.410	0.840	0.220	0.880	—	0.170	0.010	0.003	—	—	—	—	—
NUTS	2HM	G531103185	0.450	0.640	0.230	—	—	—	0.010	0.003	—	—	—	—	—

We certify all materials are manufactured inspected and tested in accordance with material specification.



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July 8, 2017



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MECHANICAL PROPERTIES

Component	Material	Heat-No.	Yield strength ksi (MPA)	Tensile strength ksi (MPA)	Elongation (%)	Reduction of area (%)	Impact Value (J) @ -46 deg C	Hardness BHN
BODY	A105N REV 11	K2142	415	578	33	75	—	175
ADAPTER	A105N	K1538	301	548	35	60	—	152
BALL	A105N	FR2849	290	505	35	45	—	168
STEM	A105N	K7626	321	500	35	74	—	149
TRUNNION	A105N	K4763	325	516	32	68	—	149
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
Component	Material	Heat-No.	Yield strength ksi (MPA)	Tensile strength ksi (MPA)	Elongation (%)	Reduction of area (%)	Impact Value (J) @ -46 deg C	Hardness BHN
STUDS	A193 B7M REV 11	Requirements	≥80 (≥550)	≥100 (≥690)	≥18	≥50	—	≤235
NUTS	A194 2HM REV 10a	Requirements	—	—	—	—	—	159-235
STUDS	B7M	15709805	665	739	22	63	—	225
NUTS	2HM	G531103185	—	—	—	—	—	220

HEAT TREATMENT STATUS (IF APPLICABLE)

A105N: Normalized to 900 °C, 2 hours minimum, cooling in air.
(NACE MR 01-75 / ISO 15156)

#N/A

B7M: Quenched to 870 °C, 1 hours minimum, cooling in oil, tempered to 680 °C, 1.5 hours minimum, cooling in air.

2HM: Quenched to 830 °C, 1 hours minimum, cooling in oil, tempered to 680 °C, 1.5 hours minimum, cooling in air.

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