FORUM ENERGY TECHNOLOGIES

DSI

Inspection Certificate and Material Test Report (EN10204-1991 3.1.B / EN10204-2004 3.1)

DSI-Valve Solutions
12735 Dairy Ashford
Stafford TX 77477
281-637-2000 - Fax 281-637-2299
www.dsivalve.com

Certificate/Serial/Job No: XK322 *Quality Department:* John Ho

Quantity	Size (NPS)	Class	Product	Description	Type	SONumber	Line	Sold to	Date
18	2.5	300	/ 103052	DSI 23XUF	GATE				9/30/2011

Pressure Test: API598 ☑ Satisfactory	Shell Pressure : 1125 psi / 7756.6 kPa	BackSeat : 825 psi / 5688.2 kPa	Seat Pressure 825 psi / 5688.17 kPa	Seat Air Pressure 80 psi / 551.58 kPa

				Chemical Composition [%]														Mechanical Properties									
Part	Specif.	HEAT#	C	Si	Mn	P	S	Ni	Cr	Mo	Cu	V	W	Nb	Al	N	Ceq	Tensile [ksi] [MPa]	Yield [ksi] [MPa]	Elong [%]	Reduc [%]	Hard [HB]	Ch.1 [J]	Ch.2 [J]	Ch.3 [J]	Ch. A [J]	Temp. [F] [C]	Heat
XK322 / 8																											
BODY	ASTM A216 WCB-2004	J 1804	0.21	0.45	0.92	0.028	0.012	0.014	0.025	0.015	0.038	0.013					0.42	76.56 527.86	43.21 297.9	28	43	149						N
BONNET	ASTM A216 WCB-1993	J 1534	0.20	0.46	0.83	0.016	0.020	0.015	0.033	0.010	0.070	0.010					0.35	75.69 521.86	39.88 275	24	43	168						N
WEDGE	ASTM A216 WCB-2004	D 0205	0.20	0.45	0.72	0.019	0.017	0.026	0.125	0.026	0.031	0.001					0.35	76.71 528.9	46.11 317.9	24	44	171						N
XK322 / 9																											
BODY	ASTM A216 WCB-2004	J 1927	0.200	0.45	0.83	0.025	0.021	0.012	0.015	0.016	0.041	0.006					0.38	75.69 521.86	45.10 311	27	42	156						N
BONNET	ASTM A216 WCB-1993	J 1537	0.19	0.46	0.89	0.021	0.017	0.016	0.020	0.013	0.071	0.010					0.35	75.40 519.86	39.73 273.9	26	41	169						N
WEDGE	ASTM A216 WCB-2004	D 1508	0.18	0.43	0.77	0.018	0.010	0.013	0.081	0.011	0.035	0.001					0.33	76.42 526.9	47.42 326.9	27	43	173						N
XK322 / 10																											
BODY	ASTM A216 WCB-2004	J 1927	0.200	0.45	0.83	0.025	0.021	0.012	0.015	0.016	0.041	0.006					0.38	75.69 521.86	45.10 311	27	42	156						N
BONNET	ASTM A216 WCB-2004	J 1634	0.21	0.43	0.86	0.012	0.016	0.012	0.021	0.030	0.051	0.010					0.37	75.26 518.9	39.88 275	25	42	173						N
WEDGE	ASTM A216 WCB-2004	D 0205	0.20	0.45	0.72	0.019	0.017	0.026	0.125	0.026	0.031	0.001					0.35	76.71 528.9	46.11 317.9	24	44	171						N
XK322 / 11																											
BODY	ASTM A216 WCB-2004	J 1806	0.210	0.42	0.92	0.023	0.018	0.012	0.015	0.014	0.038	0.002					0.37	76.56 527.86	43.65 301	28	45	153						N
BONNET	ASTM A216 WCB-1993	J 1348	0.19	0.44	0.87	0.015	0.013	0.024	0.046	0.010	0.051	0.010					0.35	75.26 518.9	39.44 271.9	24	41	170						N
WEDGE	ASTM A216 WCB-2004	D 9562	0.22	0.46	0.94	0.026	0.024	0.028	0.051	0.020	0.017	0.002					0.39	76.13 524.9	46.11 317.9	27	44	171						N
XK322 / 12																											

BODY	ASTM A216 WCB-2004	J 1719	0.20	0.44	0.83	0.013	0.014	0.010	0.020	0.010	0.065	0.010		0.35	75.40 519.86	39.30 271	24	40	168		N
BONNET	ASTM A216 WCB-1993	J 1537	0.19	0.46	0.89	0.021	0.017	0.016	0.020	0.013	0.071	0.010		0.35	75.40 519.86	39.73 273.9	26	41	169		N
WEDGE	ASTM A216 WCB-2004	D 9562	0.22	0.46	0.94	0.026	0.024	0.028	0.051	0.020	0.017	0.002		0.39	76.13 524.9	46.11 317.9	27	44	171		N

XK322 / 13

BODY	ASTM A216 WCB-2004	J 1717	0.20	0.46	0.82	0.015	0.016	0.014	0.018	0.010	0.066	0.010		0.35	76.13 524.9	39.88 275	27	45	167		N
BONNET	ASTM A216 WCB-2004	J 1927	0.200	0.45	0.83	0.025	0.021	0.012	0.015	0.016	0.041	0.006		0.38	75.69 521.86	45.10 311	27	42	156		N
WEDGE	ASTM A216 WCB-2004	D 0202	0.19	0.42	0.84	0.020	0.019	0.028	0.126	0.026	0.045	0.002		0.37	77.14 531.86	45.53 313.9	26	43	172		N

XK322 / 14

BODY	ASTM A216 WCB-2004	J 1927	0.200	0.45	0.83	0.025	0.021	0.012	0.015	0.016	0.041	0.006		0.38	75.69 521.86	45.10 311	27	42	156		N
BONNET	ASTM A216 WCB-2008	A 11926	0.230	0.44	0.91	0.026	0.013	0.029	0.059	0.001	0.048	0.005	0.012	0.40	76.27 525.86	45.53 313.9	26	53	155		N
WEDGE	ASTM A216 WCB-2004	D 0205	0.20	0.45	0.72	0.019	0.017	0.026	0.125	0.026	0.031	0.001		0.35	76.71 528.9	46.11 317.9	24	44	171		N

XK322 / 15

BODY	ASTM A216 WCB-2004	J 1807	0.220	0.44	0.87	0.024	0.021	0.014	0.012	0.016	0.028	0.001		0.37	76.27 525.86	43.07 297	26	42	155		N
BONNET	ASTM A216 WCB-2008	A 11927	0.210	0.40	0.87	0.025	0.014	0.022	0.05	0.001	0.042	0.005	0.021	0.37	74.10 510.90	44.37 305.9	29	57	151		N
WEDGE	ASTM A216 WCB-2004	D 1508	0.18	0.43	0.77	0.018	0.010	0.013	0.081	0.011	0.035	0.001		0.33	76.42 526.9	47.42 326.9	27	43	173		N

XK322 / 16

BODY	ASTM A216 WCB-2004	J 1804	0.21	0.45	0.92	0.028	0.012	0.014	0.025	0.015	0.038	0.013		0.42	76.56 527.86	43.21 297.9	28	43	149		N
BONNET	ASTM A216 WCB-2008	A 11927	0.210	0.40	0.87	0.025	0.014	0.022	0.05	0.001	0.042	0.005	0.021	0.37	74.10 510.90	44.37 305.9	29	57	151		N
WEDGE	ASTM A216 WCB-2004	D 1508	0.18	0.43	0.77	0.018	0.010	0.013	0.081	0.011	0.035	0.001		0.33	76.42 526.9	47.42 326.9	27	43	173		N

XK322 / 17

BODY	ASTM A216 WCB-2004	J 1806	0.210	0.42	0.92	0.023	0.018	0.012	0.015	0.014	0.038	0.002		0.37	76.56 527.86	43.65 301	28	45	153		N
BONNET	ASTM A216 WCB-2008	A 11927	0.210	0.40	0.87	0.025	0.014	0.022	0.05	0.001	0.042	0.005	0.021	0.37	74.10 510.90	44.37 305.9	29	57	151		N
WEDGE	ASTM A216 WCB-2004	D 9562	0.22	0.46	0.94	0.026	0.024	0.028	0.051	0.020	0.017	0.002		0.39	76.13 524.9	46.11 317.9	27	44	171		N

XK322 / 18

BODY	ASTM A216 WCB-2004	J 1804	0.21	0.45	0.92	0.028	0.012	0.014	0.025	0.015	0.038	0.013		0.42	76.56 527.86	43.21 297.9	28	43	149		N
BONNET	ASTM A216 WCB-2008	A 11927	0.210	0.40	0.87	0.025	0.014	0.022	0.05	0.001	0.042	0.005	0.021	0.37	74.10 510.90	44.37 305.9	29	57	151		N
WEDGE	ASTM A216 WCB-2004	D 0202	0.19	0.42	0.84	0.020	0.019	0.028	0.126	0.026	0.045	0.002		0.37	77.14 531.86	45.53 313.9	26	43	172		N

Heat Treatment Codes:

A : Annealing	*AC : Air Cooling*	*DA : Double Aged*	*FT : Furnace Treatment*	*N : Normalizing*	*OQ : OilQuenched*
Ph-3 : Precipitation Hardening	*SA : Solution Annealed*	*SQ : Solution Quenched*	*ST : Solution Treatment*	*T : Tempering*	*WC : Water Cooling*
WQ : Water Quenched	*WT : Water Quenched/ Tempered*			*NT Normalized/Tempered*	

Part	Material
BACK SEAT	ASTM A276 410
BODY/BONNET	ASTM A216 WCB
BOLTING	ASTM A193 B7 / ASTM A194 2H
DISC-WEDGE-CLAPPER	ASTM A216WCB + 13%Cr Overlay
PACKING	GRAPHITE
SEAT RING	ASTM A105 + Stl.6 Faced
STEM	ASTM A182 F6A Cl. 3
STEM NUT	ASTM A439-D2

Valves Tested per API598

We hereby certify, that the material described above complies with the order requirements.

EC Declaration of Confirmity: JEV (Jiangyin Eastern Valve Co. Ltd.), Jiangsu Province, 214423, P.R. China

According to Annex VII of Pressure Equipment Directive 97/23/EC , hereby declare that the products detailed above are in compliance with PED 97/23/EC and have been manufactured in accordance with conformity assesment module B+D as approved Det Norske Veritas Inspection AB as Identification No 0575 (formally 0409). The products may cover Category I, II and III of pressure equipment.
For the most specific risks of this equipment, safety and compliance with essential requirements of the Directive has been based on API 600, API598, ASME B16.34, ASME B16.5, ASME B16.10 latest edition.

Undersigned by Liu Jian Qing, representing Jianyin Eastern Valve company Ltd. :