

<b>MSA</b>				<b>Inspection Certificate</b>						TPHU 412141-2		Ing. Drobik Quality Manager, Msa, a.s.		<b>MSA, a.s.</b> DOLNÍ BENEŠOV odbor kvality 1					
Dolní Benesov, Hlučinská 41 Tel: 00420-553-541111 Fax: 00420-553-51236 E-mail: sales@msa.cz		according to DIN EN 10204 3.1 B						P3 403/VI/2003		Date: 24.06.03		We hereby certify that the items listed below are satisfactory in accordance with the requirements of valve standard and purchase order.							
Customer: Zy-Tech Global Industries, Inc.		Projekt: 5000 OB		Terms of delivery: API 598,600,NACE MR 01-75		Allow work pressure: ANSI 300 WOG 100°F 740 PSI		Allow work temperat: 800°F		EC DECLARATION OF CONFORMITY MSA DOLNÍ BENEŠOV, Hlučinská 41, CZECH REPUBLIC According to annex VII of 97/23/EC directive, hereby declare that the products detailed below are in compliance with the directive 97/23/EC and have been manufactured in accordance with conformity assessment module B+C1, as approved by Strojirensky zkusebni ustav (CODE 1015) of Brno, Czech republic Category: III Fluid group: II									
Order: 22-6034		Order(customer): 5000 OB		Code: 220 483 6034															
ITEM 0090																			
Product Gate valve		Serial nr. D032084		PVP 001		Pieces 37		DN 2.5		PN 300		Type C 09.2 202 5300/23 LUF-N		Material A 216 WCB					
SP 3																			
API DIN		Function test AG AQ		Shell test BA		Backseat BP		Seat test-water BN		Seat test-air BO		Additional tests BE,BF		Test date		Passed Inspector's mark			
Work No. am.		Z-O 2		Mpa 7.9		min 1		Mpa 5.7		min 1		Mpa 5.7		min 2		Mpa 0.6		min 2	
		Result Operator		Result Operator		Result Operator		Result Operator		Result Operator		Result Operator		Result Operator		Result Operator			
36		GOOD 373		GOOD 373		GOOD 373		GOOD 373		GOOD 373		GOOD 373		-- --		23.05.03		-- B 24	
37		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 819		-- --		26.05.03		-- B 24	
38		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 819		-- --		26.05.03		-- B 24	
39		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 819		-- --		26.05.03		-- B 24	
40		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 819		-- --		26.05.03		-- B 24	
41		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 819		-- --		26.05.03		-- B 24	
42		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 819		-- --		26.05.03		-- B 24	
43		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 819		-- --		26.05.03		-- B 24	
44		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 819		-- --		26.05.03		-- B 24	
45		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 819		-- --		26.05.03		-- B 24	
46		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 819		-- --		26.05.03		-- B 24	
47		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 819		-- --		26.05.03		-- B 24	
48		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 819		-- --		26.05.03		-- B 24	
49		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 819		-- --		26.05.03		-- B 24	
50		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 819		-- --		26.05.03		-- B 24	
51		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 819		-- --		26.05.03		-- B 24	
52		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 819		-- --		26.05.03		-- B 24	
53		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 819		-- --		26.05.03		-- B 24	
54		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 819		-- --		26.05.03		-- B 24	
55		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 819		-- --		26.05.03		-- B 24	
56		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 819		-- --		26.05.03		-- B 24	
57		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 819		-- --		26.05.03		-- B 24	
58		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 819		-- --		26.05.03		-- B 24	
59		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 819		-- --		26.05.03		-- B 24	
60		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 819		-- --		26.05.03		-- B 24	
61		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 819		-- --		26.05.03		-- B 24	
62		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 819		-- --		26.05.03		-- B 24	
63		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 819		-- --		26.05.03		-- B 24	
64		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 819		-- --		26.05.03		-- B 24	
65		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 819		-- --		26.05.03		-- B 24	
66		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 819		-- --		26.05.03		-- B 24	
67		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 819		-- --		26.05.03		-- B 24	
68		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 819		-- --		26.05.03		-- B 24	
69		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 819		-- --		26.05.03		-- B 24	
70		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 819		-- --		26.05.03		-- B 24	
71		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 29		GOOD 819		-- --		26.05.03		-- B 24	
72		GOOD 388		GOOD 388		GOOD 388		GOOD 388		GOOD 388		GOOD 388		-- --		26.05.03		-- B 24	
Other tests:		Hardness of:		Stem nut 139-202 HB		Backseat bushing min. 140-174 HB.		Basic material of the seat 130-150 HB		Note:									

Work. No. arm.	Body			Bonnet			Wedge			Stem		Socket		Seat	Control
	pattern	material		pattern	material		pattern	material		pattern	material	material	material	EM type	
	4132-209		A 216 WCB	5714-064		A 216 WCB	3817-295		A 182 F 316		3536-389	A 182 F 316			
	piece No.	heat	certificate	piece No.	heat	certificate	piece No.	heat	certificate	heat	certificate	heat	forging	heat	Manuf. No.
36	40	RX7	RS030325	16	SN4	RS030266	--	F	11/03	103	98/2002	--	--	--	--
37	65	RX9	RS030325	54	SN5	RS030266	--	F	11/03	111	154/2003/A	--	--	--	--
38	66	RX9	RS030325	78	SN6	RS030300	--	F	11/03	111	154/2003/A	--	--	--	--
39	92	RY1	RS030325	98	SN6	RS030300	--	F	11/03	111	154/2003/A	--	--	--	--
40	94	RY4	RS030352	60	SN5	RS030266	--	F	11/03	111	154/2003/A	--	--	--	--
41	85	RY1	RS030325	85	SN6	RS030300	--	F	11/03	111	154/2003/A	--	--	--	--
42	73	RX9	RS030325	34	SN4	RS030266	--	F	11/03	111	154/2003/A	--	--	--	--
43	5	RX6	RS030319	20	SN4	RS030266	--	F	11/03	111	154/2003/A	--	--	--	--
44	96	RY4	RS030352	26	SN4	RS030266	--	F	11/03	111	154/2003/A	--	--	--	--
45	39	RX7	RS030325	91	SN6	RS030300	--	F	11/03	111	154/2003/A	--	--	--	--
46	77	RX9	RS030325	66	SN5	RS030266	--	F	11/03	111	154/2003/A	--	--	--	--
47	91	RY1	RS030325	11	SN3	RS030266	--	F	11/03	111	154/2003/A	--	--	--	--
48	11	SR1	RS030319	41	SN4	RS030266	--	F	11/03	111	154/2003/A	--	--	--	--
49	29	RX7	RS030325	12	SN3	RS030266	--	F	11/03	111	154/2003/A	--	--	--	--
50	27	RX7	RS030325	33	SN4	RS030266	--	F	11/03	111	154/2003/A	--	--	--	--
51	20	BP2	RS011966	29	SN4	RS030266	--	F	11/03	111	154/2003/A	--	--	--	--
52	23	RX7	RS030325	30	SN4	RS030266	--	F	11/03	111	154/2003/A	--	--	--	--
53	21	RX7	RS030325	45	SN4	RS030266	--	F	11/03	111	154/2003/A	--	--	--	--
54	75	RX9	RS030325	61	SN5	RS030266	--	F	11/03	103	98/2002	--	--	--	--
55	3	RV9	RS030861	28	SN4	RS030266	--	F	11/03	111	154/2003/A	--	--	--	--
56	1	SL8	RS030861	71	SN5	RS030266	--	F	11/03	103	98/2002	--	--	--	--
57	50	RX8	RS030325	51	SN5	RS030266	--	F	11/03	111	154/2003/A	--	--	--	--
58	59	RX9	RS030325	70	SN5	RS030266	--	F	11/03	111	154/2003/A	--	--	--	--
59	14	RX7	RS030325	83	SN6	RS030300	--	F	11/03	111	154/2003/A	--	--	--	--
60	36	RX7	RS030325	36	SN4	RS030266	--	F	11/03	111	154/2003/A	--	--	--	--
61	23	RX7	RS030325	80	SN6	RS030300	--	F	11/03	111	154/2003/A	--	--	--	--
62	63	RX9	RS030325	59	SN5	RS030266	--	F	11/03	111	154/2003/A	--	--	--	--
63	8	RX6	RS030319	87	SN6	RS030300	--	F	11/03	111	154/2003/A	--	--	--	--
64	49	RX8	RS030325	65	SN5	RS030266	--	F	11/03	111	154/2003/A	--	--	--	--
65	79	RX9	RS030325	24	SN4	RS030266	--	F	11/03	111	154/2003/A	--	--	--	--
66	20	RX7	RS030325	89	SN6	RS030300	--	F	11/03	111	154/2003/A	--	--	--	--
67	43	RX8	RS030325	86	SN6	RS030300	--	F	11/03	111	154/2003/A	--	--	--	--
68	93	BT6	RS012211	116	SN7	RS030300	--	F	11/03	111	154/2003/A	--	--	--	--
69	46	RX8	RS030325	120	SN7	RS030300	--	F	11/03	111	154/2003/A	--	--	--	--
70	70	RX9	RS030325	63	SN5	RS030266	--	F	11/03	111	154/2003/A	--	--	--	--
71	44	RX8	RS030325	106	SN7	RS030300	--	F	11/03	111	154/2003/A	--	--	--	--
72	6	RX6	RS030319	81	SN6	RS030300	--	F	11/03	111	154/2003/A	--	--	--	--

Heat	Chemical analysis											Tension					Impact				
	C %	Mn %	Si %	P %	S %	Cu %	Ni %	Cr %	Mo %	V %	W %	Ceq	Rp 0,2 MPa	Rm MPa	A %	Z %	HB	1 J	2 J	3 J	X J
172422/111	0.026	1.80	0.45	0.026	0.026	--	--	16.32	2.02	--	--	--	302	611	53.6	77.9	156	--	--	--	--
272882/F	0.025	1.38	0.43	0.026	0.024	--	--	16.60	2.00	--	--	--	267	573	53	74	--	--	--	--	--
77437/103	0.04	1.02	0.38	0.031	0.009	--	--	17.31	2.23	--	--	--	266	557	54	70.8	143-155	--	--	--	--
BP2	0.21	1.08	0.34	0.018	0.017	0.11	0.03	0.05	0.01	0.016	--	0.41	317	508	32.3	53	156	85	97	92	91.3
BT6	0.21	1.02	0.33	0.018	0.018	0.10	0.03	0.04	0.01	0.015	--	0.40	312	495	33.3	50.9	156	75	67	74	72
RV9	0.20	1.05	0.43	0.016	0.010	0.05	0.04	0.10	0.00	0.005	--	0.41	300	516	34.7	59.1	162	67	85	70	74
RX6	0.20	1.01	0.42	0.017	0.014	0.05	0.04	0.03	0.00	0.004	--	0.38	286	522	31.4	58.2	164	86	101	79	88.6
RX7	0.20	1.01	0.41	0.016	0.012	0.04	0.03	0.03	0.00	0.004	--	0.38	301	507	33.6	59.4	162	101	100	86	95.6
RX8	0.19	1.13	0.37	0.016	0.013	0.04	0.03	0.02	0.00	0.004	--	0.39	288	507	34.3	60.3	162	93	93	103	96.3
RX9	0.21	1.01	0.43	0.016	0.012	0.04	0.04	0.04	0.00	0.004	--	0.39	300	519	33	51.5	164	70	76	75	73.6
RY1	0.20	0.98	0.40	0.017	0.012	0.04	0.03	0.03	0.00	0.004	--	0.38	280	505	31.6	58.7	162	76	95	69	80
RY4	0.21	1.02	0.40	0.018	0.013	0.04	0.03	0.03	0.00	0.004	--	0.39	313	519	30	49.4	164	102	90	94	95.3
SL8	0.21	1.09	0.39	0.014	0.015	0.05	0.05	0.11	0.00	0.005	--	0.43	289	496	31	43.8	160	98	76	89	87.6
SN3	0.21	1.01	0.44	0.018	0.013	0.05	0.04	0.03	0.00	0.004	--	0.39	321	530	31	51.6	168	95	78	92	95
SN4	0.22	1.03	0.45	0.018	0.010	0.04	0.03	0.03	0.00	0.004	--	0.40	299	526	29.6	56.7	168	67	89	71	67
SN5	0.23	0.67	0.39	0.015	0.011	0.05	0.03	0.03	0.00	0.004	--	0.35	282	500	32.6	51.9	160	52	52	52	52
SN6	0.22	1.04	0.42	0.018	0.014	0.05	0.04	0.03	0.00	0.004	--	0.41	296	522	31	54.8	166	83	73	76	83
SN7	0.20	1.03	0.40	0.017	0.013	0.04	0.03	0.03	0.00	0.004	--	0.38	308	517	29.1	48.2	164	83	75	87	83
SR1	0.20	1.03	0.37	0.017	0.013	0.05	0.04	0.03	0.00	0.004	--	0.38	277	503	34.5	56.6	160	80	100	78	86