



TAIWAN VALVE COMPANY LTD.
3,24TH ROAD TAICHUNG INDUSTRIAL PARK TAICHUNG, R.O.C

Pos. 15, 19 St.

Inspection Certificate (EN 10204-3.1B)

Report No.: ECH-5A9902-050413

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S/C ECH-5A9902

P/O 9460624 OP

Customer: ECONOSTO NEDERLAND B.V.

Article: ECON 3PC DIN2999 BALL VALVE

Material: EN10213-2(1995)/1.0619

Heat Treatment: 920 , Normalizing, Cooling by air, 1hr

A) Chemical Analysis

B) Tensile test / Hardness / Charpy (Test Temp RT)

Size	Heat No	Piece	Spec		C %	Si %	Mn %	P %	S %	Ni %	Cr %	Mo %	Cu %	V %	N %	Rp 0.2 N/mm ²	Rp 1.0 N/mm ²	Tensile N/mm ²	Elong- ation(%)	Reduct- -ion(%)	HB	Energy Charpy Impact (Joule)			
			Min	Max																		1	2	3	AVG
DN15	ABC75	30	BODY		0.23	0.60	1.20	0.030	0.020	-	-	-	-	-	-	240	-	420	22	-	-	-	-	27	
DN15	CBC56	50	BODY		0.19	0.50	0.82	0.018	0.018	-	-	-	-	-	-	268	-	549	37	-	157	46	42	48	45
DN15	CBD60	48	BODY		0.22	0.43	0.71	0.027	0.013	-	-	-	-	-	-	259	-	521	33	-	191	51	52	54	52
DN15	E9AOJ	52	BODY		0.20	0.45	0.74	0.022	0.012	-	-	-	-	-	-	260	-	469	30	-	191	45	42	41	43
DN15	NB933	75	BODY		0.18	0.51	0.64	0.013	0.014	-	-	-	-	-	-	251	-	524	27	-	162	44	46	45	45
DN15	CBC57	70	CAP		0.23	0.49	0.75	0.025	0.014	-	-	-	-	-	-	315	-	535	36	-	134	82	101	72	85
DN15	CBD40	80	CAP		0.22	0.43	0.72	0.025	0.015	-	-	-	-	-	-	255	-	502	31	-	193	52	54	50	52
DN15	E9AZ3	75	CAP		0.20	0.42	0.63	0.024	0.016	-	-	-	-	-	-	285	-	536	26	-	217	43	47	45	45
DN15	EBCD2	75	CAP		0.22	0.34	0.63	0.001	0.001	-	-	-	-	-	-	300	-	590	23	-	148	52	47	42	47
DN15	NB334	32	CAP		0.19	0.54	0.65	0.013	0.012	-	-	-	-	-	-	268	-	501	28	-	160	46	47	49	47
DN15	NB934	150	CAP		0.20	0.39	0.76	0.022	0.010	-	-	-	-	-	-	285	-	510	37	-	150	42	48	49	46
DN15	WB159	28	CAP		0.22	0.46	0.63	0.023	0.014	-	-	-	-	-	-	345	-	570	33	-	139	55	67	91	71
DN20	ABD38	10	BODY		0.19	0.30	0.72	0.020	0.009	-	-	-	-	-	-	267	-	519	46	-	154	44	41	43	43
DN20	CBD62	60	BODY		0.19	0.54	0.68	0.011	0.013	-	-	-	-	-	-	268	-	500	29	-	150	45	48	42	45
DN20	NB933	15	BODY		0.20	0.43	0.73	0.022	0.012	-	-	-	-	-	-	266	-	471	31	-	193	45	42	41	43
DN20	NB933	15	BODY		0.23	0.49	0.75	0.025	0.014	-	-	-	-	-	-	315	-	535	36	-	134	82	101	72	85

C) Dimensional check and NDT

Testing Item	Details	Result
Visual inspection & dimensional check	Kennzeichnung auf Aluschild H13003, H13003 H13013, H13013 H13080, H13088	OK
Surface crack inspection (PT)	H13180, H13181 H13280, H13281 H14006, H14012	N/A
Radiographic examination (RT)	H14080, H14081 H14088, H14180 H14181, H14280	N/A
I.K. Intergranular corrosion testing (ASTM A 262-98)	H14281	N/A

D) Remarks:

Delivery Condition:

Anti-rust

It is here by certified that above results are true and correct in every detail.

Place: Taiwan Taichung

Date: 2005/04/13

Works inspector

K-M. Cao



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Customer: ECONOSTO NEDERLAND B.V. Valve Type: ECON Date: 2005/04/13
 Specification: EN12516-1(2000) P/I NO: ECH-5A9902 Order No.: 9460624 OP
 Material: EN10213-2(1995)/1.0619

Content of Delivery Leak and Pressure Test according to DIN EN12266-1(2003)

Item No	No of Piece	Article	Size	Class	Trim (Ball/Stem/Seat)	Shell test (Water)		Seat test (Water)		Seat test (Air)		Test Result		
						94.5Bar	15SEC	N/A	N/A	6Bar	15SEC	Shell	Seat-Water	Seat-Air
1	75	ECON 3PC DIN2999 BALL VALVE	DN15	PN63		94.5Bar	15SEC	N/A	N/A	6Bar	15SEC	Acceptable	N/A	Acceptable
2	30	ECON 3PC DIN2999 BALL VALVE	DN15	PN63		94.5Bar	15SEC	N/A	N/A	6Bar	15SEC	Acceptable	N/A	Acceptable
3	150	ECON 3PC DIN2999 BALL VALVE	DN15	PN63		94.5Bar	15SEC	N/A	N/A	6Bar	15SEC	Acceptable	N/A	Acceptable
4	60	ECON 3PC DIN2999 BALL VALVE	DN20	PN63		94.5Bar	15SEC	N/A	N/A	6Bar	15SEC	Acceptable	N/A	Acceptable
5	25	ECON 3PC DIN2999 BALL VALVE	DN20	PN63		94.5Bar	15SEC	N/A	N/A	6Bar	15SEC	Acceptable	N/A	Acceptable
6	90	ECON 3PC DIN2999 BALL VALVE	DN25	PN63		94.5Bar	15SEC	N/A	N/A	6Bar	15SEC	Acceptable	N/A	Acceptable
7	20	ECON 3PC DIN2999 BALL VALVE	DN32	PN63		94.5Bar	15SEC	N/A	N/A	6Bar	15SEC	Acceptable	N/A	Acceptable
8	10	ECON 3PC DIN2999 BALL VALVE	DN40	PN63		94.5Bar	15SEC	N/A	N/A	6Bar	15SEC	Acceptable	N/A	Acceptable
9														
10														

Test Results		Test Item	Result
Check of Calculation and safety Requirements acc. to		According	Acceptable
Visual and functional tests		EN12516-1	Acceptable
NDE, material certificates (see material certificate, as annex)		TV STD	Acceptable
Annexes/		N/A	N/A

1) Material certificates of pressure parts
 2) Material list of other parts
 It is here by certified that above results are true and correct in every detail.
 Place: Taiwan Taichung Date: 2005/04/13
 Works inspector *A-M. Cao.*