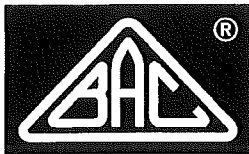


21. FEB. 2001



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CERTIFICADO DE INSPECCION DE ACUERDO CON DIN 50049/EN 10204 3.1.B.
INSPECTION CERTIFICATE ACCORDING TO DIN 50049 / EN 10204 3.1.B.

Nº: 30.548

Pedido Nº:
Customer Order N: 300198/HB

Cliente:
Customer: SIEKMANN ECONOSTO GmbH and co.KG

Valvula tipo:
Valve type: FBT PN40 BASF 1.0619 316 METAL DN 50

Cant.:
Qty.: 5

Serie nº:
Serial no: 01/0140

Observ.:
Remarks: METAL SEATED

Norma:
Standard: DIN 3357
14-142
14-003
TRB801 Nr.45

Pos. 1 1st. Tag Nr.: 481060

Especificaciones de prueba:
Test specifications: DIN 3230 Part 6

Table 1

Symbol	Test method	Pressure (in bar)	Time (in min)	Result
AA	Checking the information given in the order Checking the edition of standards			Satisfactory
AB	Inspection of design and fittings.			Satisfactory
AC	Inspection of marking			Satisfactory
AE	Surface inspection			Satisfactory
AG	Testing of operational functioning			Satisfactory
AH	Testing for confusion of materials. Spectroscopic test.			Satisfactory
BA	Strength test on housing (water, half-opened)	60	2	Satisfactory
BF	Leak test on the housing (air, half-opened)	6	2	Satisfactory Leakage rate 1 (BO)
BN	Leak test on the closure with water (water, closed)	44	2	Satisfactory Leakage rate 3

Table 2

Symbol	Test method	Result
AD	Dimensional check	Satisfactory
AF	Inspection of connecting surfaces	Satisfactory
	Testing of operational functioning	Torque: 40 Nm. Force to operation: 138 N

Anexos: Relación de coladas.
Enclosures: Casting Relations.

BAC VALVES, S.A.
Figueres, February 16, 2001

Z K



Joan Miquel Llinas / Quality Chief





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CERTIFICADO N°:

CERTIFICATE N.: 30.548

RELACION DE COLADAS

CASTING RELATIONS

Hoja N.:

Page N.: 1

Los certificados de material según DIN 50049 3.1.B están abajo relacionados:

The material certificates according to DIN 50049 3.1.B are related below:

Componente Component	Referencia Plano Drawing Reference	Material Material	Colada Casting	Certificado Certificate
=====				
BALL	FT.50.29	CF8M/QPQ	-	-
STEM	FT.50.31	316	-	-
BODY FB	F.50.10.40	1.0460	HS	1096
INSERT FB	F.50.40.40	1.0460	MA	1805
INSERT FB	F.50.40.40	1.0460	GP	662
INSERT FB	F.50.40.40	1.0460	LE	1313

BAC VALVES, S.A.

Figueres, 16 de FEBRERO de 2.001

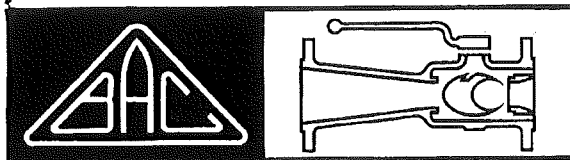


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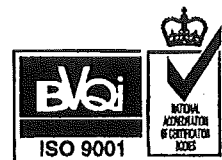
Joan Miquel Llinars

Quality Chief





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V. BACH, S/A

VÁLVULAS DE BOLA Y MARIPOSA
 BALL & BUTTERFLY VALVES

CERTIFICADO DE INSPECCION SEGUN EN 10204 3.1.B.
INSPECTION CERTIFICATE ACC. TO EN 10204 3.1.B.

NO. 662

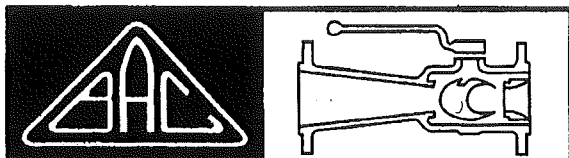
DESCRIPCION ITEM	MATERIAL (STANDARD)	COLADA HEAT NO.	TRAT. TERM. HEAT TREAT.	CANT. QTY.
F.50.40.40	C22.8 DIN 17243 (1.0460)	GP	1	1050
F.65.40.40	C22.8 DIN 17243 (1.0460)	GH	1	544

ANALISIS QUIMICO / CHEMICAL ANALYSIS													
COLADA	C	Mn	Si	P	S	Cr	Ni	Mo	Cu	Va	Cb	Al	CE
HEAT NO.	%	%	%	%	%	%	%	%	%	%	%	%	%
GP	0,190	0,700	0,210	0,013	0,014	0,110	0,070	0,010	0,160	0,002		0,020	
GH	0,190	0,680	0,240	0,014	0,014	0,060	0,040	0,010	0,140	0,002		0,020	

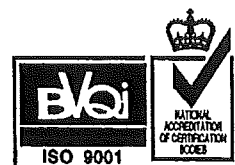
CARACTERISTICAS MECANICAS / MECHANICAL PROPERTIES							
COLADA HEAT NO.	R N/mm2	S N/mm2	A Elong. %	Z Red. Area %	Hardness HB	IMPACT TEST (J) +20°C	
GP	493	290	32,2	57,4	150	92	97
	482	284	34	58,1	138	88	101
	485	285	33,7	58	141	90	98
	495	290	32	57,2	152	99	94
	487	287	33,3	57,4	142	90	99
	490	288	33	57,3	147	97	104
GH	488	287	33,3	57,6	146	87	90
	482	286	33,2	58,4	142	92	87
	493	288	32,2	57,1	149	88	97
	481	284	33,6	58,8	139	95	94
	488	290	32,8	57,8	145	97	90
							102

NOTAS / REMARKS: ACC. TO NACE MR0175 1) NORMALIZATION AT 890° C, PER 2 H FOLLO- WED BY CALM AIR COOLING. 2) NORMALIZATION AT 930° C, THEN TEMPERED AT 640° C.	FECHA/DATE: 12/05/99 V. BACH, S/A Q.A. Manager Eng.: Joan Miquel Llinares
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V. BACH S/A

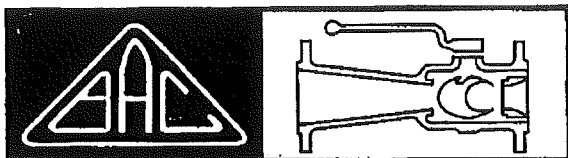
VÁLVULAS DE BOLA Y MARIPOSA
BALL & BUTTERFLY VALVES

INSPECTION CERTIFICATE ACCORDING TO EN 10204 3.1.B.

Standard: DIN 17243				Certificate no. 1313									
Grade: 1.0460													
ITEM	HEAT NO.	QTY.	Requirements:										
F.50.40.40	LE	553											
F.80.40.40	LC	550											
			Heat treatment: Normalization at 890°C, per 2 Hours followed by calm air cooling.										
CHEMICAL ANALYSIS													
HEAT NO.	C %	Si %	Mn %	P %	S %	Cu %	Ni %	Cr %	Mo %	V %	Sn %	Al %	CE %
LE	0,195	0,270	0,750	0,013	0,013	0,14	0,07	0,13	0,02	0,002	0,008	0,027	0,364
LC	0,195	0,220	0,700	0,014	0,012	0,18	0,05	0,08	0,01	0,002	0,007	0,023	0,345
MECHANICAL PROPERTIES													
Tensile test: EN 10002. Impact test: EN 10045-1 ISO V													
Heat no.	Yield point N / mm ²	Tensile strength N / mm ²	Elongation %	Red. of area %	Impact test T: 20°C (J)			Hardness HB					
LE LC	339	501	27	56,5	114	107	111	HB141					
	334	498	28,2	57	120	114	109	HB140					
	337	502	27,3	56,8	107	113	102	HB144					
	341	504	26,8	56,8	110	111	107	HB144					
	296	486	32,4	57	107	118	114	HB142					
	288	476	33,4	57	109	112	110	HB140					
	295	481	32,6	57,6	114	112	108	HB141					
	290	478	33	57,4	113	124	118	HB140					
					Date: 30/05/2000								
					 V. BACH S/A G.A. Manager								

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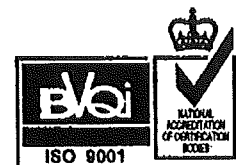
Eng.: Joan Miquel Llinares



V. BACH, S/A


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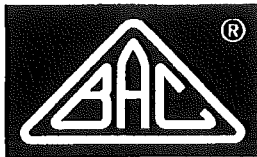
CERTIFICADO DE INSPECCION SEGUN EN 10204 3.1.B.
INSPECTION CERTIFICATE ACC. TO EN 10204 3.1.B.

NO. 1096

DESCRIPCION ITEM	MATERIAL (STANDARD)	COLADA HEAT NO.	TRAT. TERM. HEAT TREAT.	CANT. QTY.									
F.50.10.40	C22.8 DIN 17243 (1,0460)	HS	1	1302									
ANALISIS QUIMICO / CHEMICAL ANALYSIS													
COLADA HEAT NO.	C %	Mn %	Si %	P %	S %	Cr %	Ni %	Mo %	Cu %	V %	Sn %	Al %	CE %
HS	0,205	0,79	0,18	0,011	0,01	0,03	0,05	0,01	0,19	0,013	0,01	0,02	0,001
CARACTERISTICAS MECANICAS / MECHANICAL PROPERTIES													
COLADA HEAT NO.	Tensile st. N / mm ²	Yield st. N / mm ²	A % / ELONG	Z RED. AREA	Dureza (HB) HARDNESS	IMPACT VALUE (J) (+20°C)							
HS	310	495	34	56,5	HB146	92	109	102					
	311	499	33,4	56,2	HB148	101	116	101					
	309	493	34,4	56,8	HB144	104	117	112					
	310	496	33,6	56,4	HB146	111	117	111					
NOTAS / REMARKS:					FECHA/DATE:	30/1/2000							
1) Heat treatment: Normalization at 890°C, per 2Hours followed by calm air cooling.					 V. BACH, S/A Q.A. Manager								

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Eng.: Joan Miquel Llinares



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INSPECTION CERTIFICATE ACCORDING TO EN 10204 3.1.B.

Standard: DIN 17243				Certificate no. 1805										
Grade: 1.0460														
ITEM		HEAT NO.		QTY.	Requirements:									
F.50.40.40		MA		1155	Heat treatment: Normalization at 890°C, per 2 Hours followed by calm air cooling.									
F.65.10.40		MG		542										
CHEMICAL ANALYSIS														
HEAT NO.	C %	Si %	Mn %	P %	S %	Cu %	Ni %	Cr %	Mo %	V %	Sn %	Al %	CE %	
MA	0,190	0,180	0,760	0,016	0,010	0,150	0,050	0,090	0,010	0,005	0,019	0,020	0,351	
MG	0,190	0,240	0,770	0,016	0,009	0,130	0,050	0,070	0,010	0,002	0,006	0,020	0,347	
MECHANICAL PROPERTIES														
Tensile test: EN 10002. Impact test: EN 10045-1 ISO V														
Heat no.	Yield point N / mm ²	Tensile strength N / mm ²	Elongation %	Red. of area %	Impact test T: 20°C (J)			Hardness HB						
MA	308	483	34,2	57,4	103	100	99	HB144						
	309	485	34,5	58,0	102	100	98	HB146						
	310	486	34,4	58,0	108	103	102	HB147						
	307	480	33,6	57,1	99	112	110	HB144						
	307	482	34,0	57,2	107	112	109	HB145						
MG	311	497	32,5	56,4	104	96	104	HB146						
	311	494	32,8	57,4	101	109	96	HB144						
	309	495	32,6	57,0	100	107	110	HB143						
	314	501	31,6	55,8	107	92	104	HB151						
	317	499	32,4	56,2	97	113	110	HB148						
					Date: 9/10/2000									
					 BAC VALVES Joan Miquel Lluana / Quality Chief									

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Special Olympics

