



- INSPECTION REPORT

DESCRIPTION : BREATHER VALVE

CLIENT : FAMICO TRADING LIMITED

PROJECT : *

PROJECT NO. : *

P.O NO. : Project SSI205-Breather Valve(43803)

OUR REF NO. : T190564

TYPE & QUANTITY : KSBBJ-2" ----- 1 SET

TOPSAFE

TOPSAFE CO., LTD.

CERTIFICATE of COMPLIANCE

Certificate no. : **T1905641**

issued date : **Feb. 03, 2020**

This is to certify that the Details as following:

Client : FAMICO TRADING LIMITED
Project : *
P.O No. : Project SSI205-Breather Valve(43803)
Manufacturer : TOPSAFE CO., LTD.
#100, Seobu-ro 1293 beon-gil, Juchon-myeon, Gimhae-si,
Gyeongsangnam-do, 50877, Korea
Item name : BREATHER VALVE
TAG No. : BRV-TK-506
MFG No. : T190564101
Model : KSBBJ
Size : 2"
Material : A240-304
Quantity : 1 SET
Connection : ANSI150# F.F.
SET. P/V : 150/-22 mmW.C
Note : N/A

This is to certify that above item have been fabricated, tested and inspected satisfactorily in accordance with the related international rules, manufacturer's standard and/ or purchaser's specification.

An Inspection and a Test Surveyor by

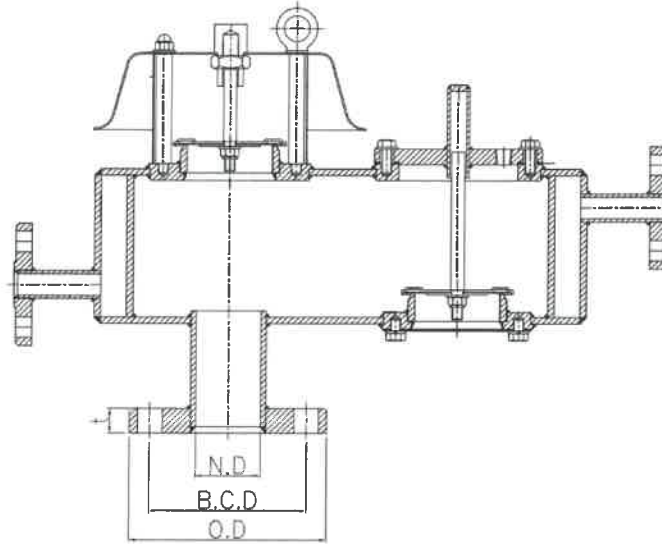


HWANG KYU JIN / Q.C Manager
TOPSAFE CO.,LTD.

Inspection Report of Dimensions Check

CLIENT	FAMICO TRADING LIMITED
PROJECT	*
DATE	2020.02.03

Outline DWG.



KSBBJ-2" TYPE

Unit : mm

		I.D	B.C.D	O.D	t	N-Φd	Result	Remark (Tag No.)
MFG No.	Std.	50	120.5	152	19.1	4-Φ19		
	Range	±1.5	±1.5	±1.6	0~ +1.6	-		
T190564101		49.8	120.3	152.4	20.2	4-Φ19	ACCEPTED	BRV-TK-506

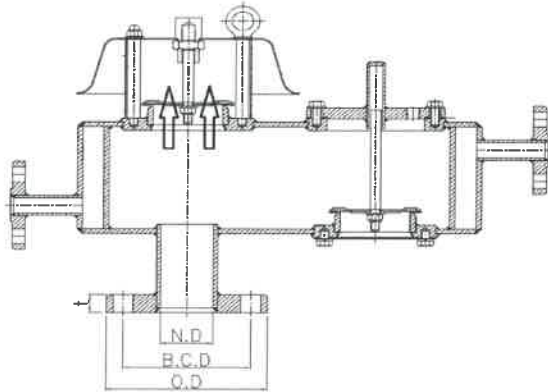
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Inspected by		Reviewed & Approval by		Witnessed by	
Signed		Signed		Signe d	
Name		Name		Name	
Date		Date		Date	

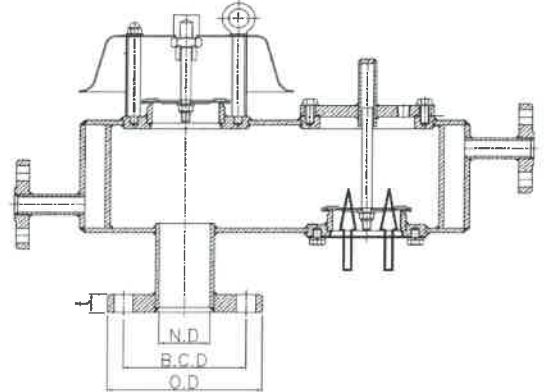
Inspection Report of Setting Press. & Vac. Test

CLIENT	FAMICO TRADING LIMITED
PROJECT	*
DATE	2020.02.03

Outline



SETTING PRESSURE



SETTING VACUUM

Unit : mmW.C

MFG No.	Pressure			Vacuum			Result	Remark (Tag No.)
	Spec.	Range	Testing	Spec.	Range	Testing		
T190564101	150	-10%	147	-22	+10%	-22	ACCEPTED	BRV-TK-506

*** LAST PAGE (End of Document) ***

Inspected by		Reviewed & Approval by		Witnessed by	
Signed		Signed		Signed	
Name		Name		Name	
Date		Date		Date	2020.02.03

Page : 1 of 1
 증명서 번호 : USTI5-146-576
 품명 : WELDED AUSTENITIC STAINLESS STEEL PIPE, ANNEALED & PICKLED
 규격 : KS D 3576

검사증명서

INSPECTION CERTIFICATE

UST UST CO., LTD.

Office(Plant) : 290, Cheolgang-ro, Nam-gu, Pohang-si, Gyeongsangbuk-do
 TEL:(054) 278-0011, fax:278-0015

EN 10204 3.1

발급일자 : 2018-05-11
 DATE OF ISSUE : 2018-05-11
 수요가 : 다분금속
 CUSTOMER : 다분금속
 수량 : 45
 QUANTITY : 45
 재질 : STS304TP-A
 MATERIAL : STS304TP-A

제품번호 LOT No.	주문치수 ORDER SIZE (O.DxW.TxL.mm)	수량 PCS.	중량 (KG)	기계적성질 MECHANICAL PROPERTIES					H.T (MPa)	제강번호 HEAT No.	구분	화학성분 CHEMICAL COMPOSITION(wt.%)							
				Y.S N/mm ²	T.S(B) N/mm ²	T.S(W) N/mm ²	E.L %	HARDNESS HRB				C*3	Si*2	Mn*2	P*3	S*3	Cr*2	Ni*2	Mo*2
				MIN MAX	205 520		35					0 80	0 100	0 200	0 40	0 30	1800 2000	800 1100	0
B174-3018	21.70 X 3.70 X 6000	45	447.9	282	652		52		160920A08	H P	19	51	105	28	3	1822	804	2.3	



OTHER TEST	고용화 열처리 온도 SOLUTION HEAT-TREATMENT Temp : 1,040℃이상	외관 및 치수 VISUAL AND DIMENSION : GOOD	NOTE Y.S : YIELD STRENGTH H : Heat Analysis T.S : TENSILE STRENGTH P1 : Product Analysis E.L : ELONGATION H.T : Hydrostatic Test *3 = 1000 *2 = 100	REMARKS
	수압시험 HYDROSTATIC TEST : N/A	비파괴 검사 NON-DESTRUCTIVE TEST : GOOD		
	편평시험(굽힘시험) FLATTENING(BENDING) TEST : GOOD	압확시험 FLARING TEST : N/A		
SURVEYOR TO :		본 제품은 관련 규격에 정한 시험 및 검사에 합격하였음을 증명합니다. WE CERTIFY THAT THE ABOVE MATERIAL HAS BEEN MADE IN ACCORDANCE WITH THE ORDER AND SPECIFICATION		APPROVED BY <u>Eum Young Dae</u> QA MANAGER

" 항상 유에스티 제품을 이용해 주셔서 감사합니다. (THANK YOU FOR USING ALWAYS UST PRODUCT.) "

A4 (297 X 210)



Page : 1 of 1
 증명서 번호 : USTJ2-146-212
 품명 : WELDED AUSTENITIC STAINLESS STEEL PIPE, ANNEALED & PICKLED
 규격 : KS D 3576

검사증명서

INSPECTION CERTIFICATE

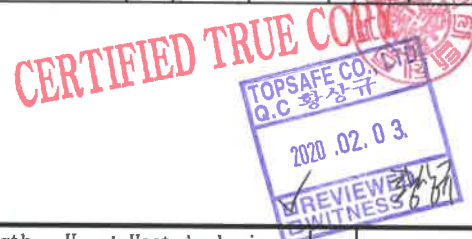
UST UST CO., LTD.

Office(Plant) : 290, Cheolgang-ro, Nam-gu, Pohang-si, Gyeongsangbuk-do
 TEL:(054) 278-0011, fax:278-0015

EN 10204 3.1

발급일자 : 2019-02-20
 DATE OF ISSUE : 2019-02-20
 수요가 : 다분금속
 CUSTOMER : 다분금속
 수량 : 73
 QUANTITY : 73
 재질 : STS304TP-A
 MATERIAL : STS304TP-A

제품번호 LOT No.	주문치수 ORDER SIZE (O.DxW.TxL.mm)	수량 PCS.	중량 (KG)	기계적성질 MECHANICAL PROPERTIES					H.T (MPa)	제강번호 HEAT No.	구분	화학적성분 CHEMICAL COMPOSITION(wt.%)							
				Y.S N/mm ²	T.S(B) N/mm ²	T.S(W) N/mm ²	E.L %	HARDNESS HRB				C*3	Si*2	Mn*2	P*3	S*3	Cr*2	Ni*2	Mo*2
				MIN MAX	205 520		35					0 80	0 100	0 200	0 40	0 30	1800 2000	800 1100	0
A18B-3232	60.50 X 3.50 X 6000	70	2,087.2	320	671		54		Y180613A11-5	H P	43	47	106	28	5	1818	806	0	
A18A-3105	76.30 X 3.50 X 6000	3	114.3	305	661		54		Y180613A09-5	H P	52	56	105	28	2	1820	804	0	



OTHER TEST	고용화 열처리 온도 : 1,040℃이상 SOLUTION HEAT-TREATMENT Temp : 1,040℃ 이상	외관 및 치수 : GOOD VISUAL AND DIMENSION : GOOD	수압시험 : N/A HYDROSTATIC TEST : N/A	비파괴 검사 : GOOD NON-DESTRUCTIVE TEST : GOOD	Y.S : Yield Strength H : Heat Analysis T.S : Tensile Strength P : Product Analysis E.L : Elongation H.T : Hydrostatic Test *3 = 1000 *2 = 100	R E M A R K S		
	편평시험(굽힘시험) : GOOD FLATTENING(BENDING) TEST : GOOD	압확시험 : N/A FLARING TEST : N/A	SURVEYOR TO :				본 제품은 관련 규격에 정한 시험 및 검사에 합격하였음을 증명합니다. WE CERTIFY THAT THE ABOVE MATERIAL HAS BEEN MADE IN ACCORDANCE WITH THE ORDER AND SPECIFICATION	APPROVED BY <u>Eum Young Dae</u> QA MANAGER

" 항상 유에스티 제품을 이용해 주셔서 감사합니다. (THANK YOU FOR USING ALWAYS UST PRODUCT.) "

A4 (297 X 210)



INSPECTION CERTIFICATE

CERTIFICATE NO : 191010-BS593

DATE OF ISSUE : Oct. 10. 2019



Morning Sts Co.,Ltd.
 STAINLESS STEEL PIPE & TUBE MANUFACTURING
 368-12, Songak-ro, Songak-eup,
 Dangjin-si, Chungnam
 KOREA (Zip:31732)
 HEAD OFFICE & DANG JIN FACTORY
 TEL. (041) 357-0436~7
 FAX. (041) 357-0438

CUSTOMER	대 본 금 속		
DESCRIPTION	Welded Austenitic Stainless Steel Pipe		
GRADE	STS 304 TP	SPECIFICATION	KS D3576

	DIMENSIONS (호칭지름*호칭두께*길이)	Q' TY	UNIT	LOT NO	HEAT NO
1	65 * Sch 40 * 6000	10	Pcs	190612_4449E1	A0804126
2	150 * Sch 20S * 6000	30	Pcs	190814_5864O1	A0901046
3	150 * Sch 40 * 6000	10	Pcs	190716_5262A1	A2902317
4	200 * Sch 20S * 6000	8	Pcs	190626_4783A1	A2901851
5					
6					
7					
8					
9					
10					

CHEMICAL COMPOSITION (%)								MECHANICAL PROPERTIES		
	C	Si	Mn	P	S	Cr	Ni	YIELD STRENGTH (N/mm ²)	TENSILE STRENGTH (N/mm ²)	ELONGATION (%)
KS	0.08 이하	1.00 이하	2.00 이하	0.04 이하	0.03 이하	18.00~20.00	8.00~11.00	205이상	520 이상	35 이상
1	0.0500	0.360	1.140	0.032	0.0020	18.19	8.05	260	680	56
2	0.0400	0.370	1.220	0.034	0.0030	18.27	8.12	283	685	55
3	0.0400	0.470	1.140	0.0250	0.0010	18.19	8.09	263	655	56
4	0.050	0.440	1.160	0.033	0.002	18.190	8.010	264	675	56
5										
6										
7										
8										
9										
10										

CERTIFIED TRUE COPY

TOPSAFE CO., LTD.
 O.C. 황장규
 2020.02.08
 REVIEWED
 WITNESS



HYDROSTATIC TEST (Mpa)		FLARING TEST		SK-KIM
VISUAL INSPECTION	GOOD	EDDY CURRENT	GOOD	
FLATTENING TEST	GOOD	DIMENSION INSPECTION	GOOD	
HARDNESS TEST (HRB)		REVERSE FLARING TEST		
HEAT TREATMENT	1040℃ QUENCHING IN WATER		MANAGE OF QUALITY CONTROL	

Mill Test Certificate

DABON METAL CO.,LTD		Product: Hot rolled stainless steel in coil Condition of Supply: No.1;Solid solution;Pickling;C		
Specification ASTM A240M-15	Grade 304	Mills No. 822655-90	Certificate No. 4744933646827455	
		Customer Order No. KCS1901BES0001-DAS	Consignment No. KCS190240A	
		Mark Of Manufacturer: 	Melting furnace EAF+AOD	
				Heat Treatment Temperature Solution 1040 °C Quenching in water

No.	Material No.	Heat No.	Dimensions (mm)	Quantity	Weight (Kg)
1	KA90224300N10	A2900633	5*1219	1	10730
2	KA90224300N20	A2900633	5*1219	1	9980
3	KA90224310N10	A2900633	5*1219	1	10900
4	KA90224310N20	A2900633	5*1219	1	9340
Acceptable Visual And Dimensions:OK			Total	4	40950

No.	Max. Min.	C%	Si%	Mn%	P%	S%	Cr%	Ni%	N%
2	H	0.05	0.45	1.10	0.028	0.003	18.25	8.00	0.04
3	H	0.05	0.45	1.10	0.028	0.003	18.25	8.00	0.04
4	H	0.05	0.45	1.10	0.028	0.003	18.25	8.00	0.04

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TOPSAFE CO., LTD
Q.C 検査部
2020.02.03
REVIEWED
WITNESSED

No.	P.D.	Y.S. Rp0.2 Mpa	T.S. Rm Mpa	EL. A50 %	Hardness HRB	Hardness HRB
1	2	303	705	54	81	83
2	2	303	705	54	81	83
3	2	351	730	50	91.5	92
4	2	351	730	50	91.5	92


SGS
KOREA / KR58
REVIEWED
WITNESSED

Notes: C=Cutting edge; H=Heat analysis; P=Product analysis; P.D.=Position and Direction; Y.S.=Yield Strength; Room = Normal Temperature (Room Temperature); T.S.=Tensile Strength; EL.=Elongation; A50:Lo=50mm; 2=横向 Transverse;

Remarks: 1.The quality management system is in conformity with ISO9001:2015 standard and ISO14001:2015.
2.No weld repair; Free of mercury;No radiation contamination.

CREDIT NUMBER: M3924901NU00018

Issued by Manufacturer.
We hereby certify that material described herein has manufactured and tested with satisfactory results in accordance with the requirements of the above material specification.



Manufacturer:SHANXI TAIGANG STAINLESS STEEL CO.,LTD.
Jiancaoping,Taiyuan,Shanxi,P.R. China zip code 030003
After-sale Service:800-806-1998, 400-653-1998

NAN HAI
Quality Manager



COLUMBUS STAINLESS
- (Pty) Ltd -

P.O. Box 133 Middelburg, 1050 South Africa
Switchboard +27 13 247 9111 Fax +27 13 246 1681
Website: <http://www.columbusstainless.co.za>
A Subsidiary of ACERINOX S.A.

INSPECTION CERTIFICATE 3.1

ACCORDING TO EN 10204

CERTIFICATE NO
3268893

Rev
1

ISSUE DATE
2018-05-07

MANUFACTURER'S MARK		INSPECTOR'S STAMP		MELTING PROCESS	E/AOD
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CUSTOMER SHINKWANG CORPORATION 6F LEE MA BLDG., 146-1, SOOSONG DONG, CHONGNO KU, South Korea	ORDER No. EP22827	ITEM No. 3	DELIVERY NOTE No. DEL104557
	CUSTOMER ORDER No.		
	REQUIREMENTS		



SPECIFICATIONS	MATERIAL GRADE	CASE MATERIAL	MASS
ASTM A240 / A240M-16a	304 304L	MHRP04702 4148261AABAAAB	2230 Kg
ASME BPVC IIA SA240 / SA240M-2015	304 304L	MHRP04703 4148261AABAAAA	2784 Kg

TOLERANCE Columbus Negative Tolerance	HEAT No. 414826	TYPE
PRODUCT No. 1 Hot rolled, annealed & descaled	QUANTITY 9	TOTAL MASS 5014 kg
	DIMENSIONS 15 mm x 1524 mm x 3048 mm	

CHEMICAL COMPOSITION (%)

	C	S	P	Mn	Si	Cr	Ni	N										
Min						17.5	8.0											
Max	0.030	0.030	0.045	2.00	0.75	19.5	10.5	0.10										
Actual	0.022	0.001	0.027	1.18	0.36	18.0	8.0	0.07										

MECHANICAL PROPERTIES

TEMPERATURE	DIRECTION	POSITION	Rp0.2 MPa	Rp1.0 MPa	Rm MPa	A50 %	HRBW HRBW								
Ambient	Transverse	Requirement Min Max	205		515	40	92								
Ambient	Transverse	Head Tail	282	336	628	59	80								

INTERGRANULAR CORROSION

TEST	RESULT
ASTM A262 Practice E	PASS

Columbus Stainless (Pty) Ltd. certifies that the analysis and material on this certification is correct and meets the specifications stated. This document is issued without alteration or erasure and may only be reproduced in full. Number on material might differ from this document due to a split in material after marking, with a character and/or number added to the end. Made and melted in South Africa. This Material is PMI Tested. Visual and dimensional control: no exceptions. The delivery is in accordance with the order. Material not weld repaired. This material is free from mercury contamination. The radiation level exhibited by this material is not greater than the normal background level. This material meets the Hardness requirement of NACE MR0175 / ISO 15156-3 : 2015 & NACE MR0103 / ISO 17945 : 2015. Columbus Stainless is ISO 9001:2008 & ISO 14001:2004 Certified. Columbus Stainless (Pty) Ltd is part of the Acerinox Group

HEAT TREATMENT (SOLUTION ANNEALED)

Anneal °C	Quench
1050 - 1100	AIR/ WATER SPRAY

Permeability 1.1 Max

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COLUMBUS STAINLESS (PTY) LTD
Hendrina Road, Middelburg
Mpumalanga, South Africa

P.J. Kruger
WORKS EXPERT



INSPECTION CERTIFICATE

(CERTIFICATE TO EN 10204 3.1)



TAEWON FLANGE CO., LTD.

21, GWAHAKSANDAN-RO 369BEON-GIL,
KANG SEO-GU, BUSAN, KOREA
TEL.(82-51)941 - 8970,1 FAX.: (82-51)941-8972

Certificate No : TWF200109-09

Order No :

Customer : (주)성진에스티에스

Project Name :

Material : ASTM A182F304 (2015ED)

Issued date : 09 - Jan - 2020

1 of 1

Chemical Composition		C	Si	Mn	P	S	Ni	Mo	Cr		N					UT * 5	-
Spec Heat No.	min	~	~	~	~	~	8.00		18.00		~					MT * 5	-
	max	0.08	1.00	2.00	0.045	0.030	11.00		20.00		0.10					PT * 5	-
E170948	H	0.0160	0.340	1.210	0.0320	0.003	8.140	0.460	18.21		0.061					Dimension Visual	GOOD
	P																

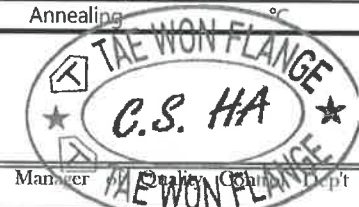
▶ Remark : Size Of Test Piece (Φ12.5x50ℓ)

No.	Description of Dimension	Q'ty	Mechanical Properties	Tension Test *3				Hardness Test (HB)	Impact Test				Bend Test	
				Y.S	T.S	E.L	R.A		Test Temp : °C		Unit :			Radius :
				Mpa	Mpa	%	%		Notch :		Avg.			Angle :
1	B16.5 CL150 SOHRF 6"	2 EA	Specification	Min	Min	Min	Min		1	2	3	20		
2	B16.5 CL150 SOHRF 4"	2 EA	Lot No	205	515	30	50							
3	B16.5 CL150 SOHRF 3"	2 EA												
4	B16.5 CL150 SOHRF 2 1/2"	2 EA												
5	B16.5 CL150 SOHRF 2"	2 EA												
6	B16.5 CL150 SOHRF 1 1/2"	2 EA												
7	B16.5 CL150 SOHRF 1"	2 EA												
8	B16.5 CL150 SOHRF 3/4"	2 EA												
			SIMULATION P.W.H.T											



Heat Treatment *4	Normalizing °C		hrs		Tempering °C		hrs		Quenching °C		hrs	
		Solution	1055	°C	9.0	hrs	W.C	Stabilization	°C	hrs	Annealing	°C

We hereby certify that the material here in has been made and tested in accordance with as above specification and also with the requirement called for the above order.



- Note :
- *1 ----- H=Heat Analysis , P=Product Analysis
 - *2 ----- L=Longitudinal, T=Tangential, Tr=Transverse, R=Radial
 - *3 ----- Tensile Test : Y,S=Yield Strength(0.2% offset), T,S=Tensile Strength, E,L=Elongation, R,A=Reduction of Area.
 - *4 ----- Heat Treatment : S,R=Stress Relieved, A,C=Air Cooled, F,C=Furnace, W,C=Water Cooled, O,C=Oil Cooled.
 - *5 ----- UT : Ultrasonic Examination, MT=Magnetic Examination, PT=Penetrant Testing.

Certificate No. : KFT20200106-01
 Customer : ㈜성진에스티에스
 Customer P.O.No. :
 Job No. :
 Material : ASTM A182F304 (13ED)





INSPECTION CERTIFICATE

K F T KOREA FITTING CO., LTD

13, Hwajeonsandan 6-ro 54beon-gil,
 Gangseo-gu, Busan, Korea

(EN 10204 Type 3.1)

Date : 2020.01.06

Description			Mechanical Properties		Tensile Test ※ 2				Impact Test		Hardness Test	Bend Test	Remark
					Y.S	T.S	E.L	R.A	Temp. Notch				
No.	Item	Q'ty	Lot No.	Min	Max	Mpa	Mpa	%	%	J	HB		
						205.0	515.0	30.0	50.0	Min.	Ave.		
1	300# SORF 1/2"	2	E180138			345.0	540.0	54.0	70.0				
***** B L A N K *****													
													
													
Chemical Composition (%) ※ 3											Customer's Requirement.		
Heat No.	SPEC	C	Si	Mn	P	S	Ni	Cr	Mo	N			
E180138	Min						8.00	18.00					
	Max	0.08	1.00	2.00	0.045	0.030	11.00	20.00		0.10			
	H	0.023	0.35	1.32	0.034	0.001	8.06	18.32	0.38	0.063			
Heat Treatment									Dimension & Visual		UT	MT	PT
S.T : 1050°C X 10.0 HRS W.C									GOOD		N/A	N/A	N/A
We hereby certify that the material described here in has been tested and satisfied as above in accordance with the specification.											 Manager of Quality Assurance Dep't		
Surveyor _____													

Notes: ※.1... Heat Treatment : N=Normalized A=Annealed Q=Quenched T=Tempered S.T=Solution Treated S.R=Stress Relieved A.C=Air Cooled W.C=Water Cooled F.C=Furnace Cooled O.C=Oil Cooled
 ※.2... Tensile Test : Y.S=Yield Strength T.S=Tensile Strength E.L=Elongation R.A=Reduction Of Area G.L=Gauge Length D =Diameter
 ※.3... Chemical Composition : H=Heat analysis, P=Product analysis

TOPSAFE SPECIFICATION SHEET for BREATHER VALVE

GENERAL SPECIFICATION

1	TAG NO.	BRV-TK-506		
2	Service	Benzene Storage		
3	Fluid	Benzene		
4	TANK DIAMETER mm	3660		
5	TANK HEIGHT mm	3725		
6	CAPACITY OF TANK m ³	38.5		
7	TANK DESIGN PRESSURE mmH ₂ O	250		
8	TANK DESIGN VACUUM mmH ₂ O	-		
9	OPERATION PRESSURE mmH ₂ O	150		
10	DESIGN TEMPERATURE °C	65		
11	FLASH POINT °C	-11.1		

VENTING CAPACITY SPECIFICATION

12	CODE or STD.	API 2000		
13	TOTAL OUT-BREATHING m ³ /hr	-		
14	VALVE OUT-CAPACITY m ³ /hr	452.8 @ 300 mmW.C		
15	SETTING PRESSURE mmH ₂ O	150		
16	TOTAL IN-BREATHING m ³ /hr	-		
17	VALVE IN-CAPACITY m ³ /hr	141.5 @ -44 mmW.C		
18	SETTING VACUUM mmH ₂ O	-22		

PRESSURE & VACUUM RELIEF VALVE SPECIFICATION

19	TYPE	END-LINE		
20	MODEL	KSBBJ-2"		
21	MATERIALS			
	(1) BODY	A240-304		
	(2) DISC	A240-304		
	(3) COVER	A240-304		
	(4) DIAPHRAGM	FEP		
22	SIZE INLET/OUTLET	2" /		
23	FLANGE CONNECTION	ANSI 150 # F.F		
24	QUANTITY	1		
25	DRAWING NO.	KSBBJ-ZZ-ZZ-R0		

NOTE

PROJECT NAME		DOCUMENT NO.	
JOB NO.		REVISION NO.	

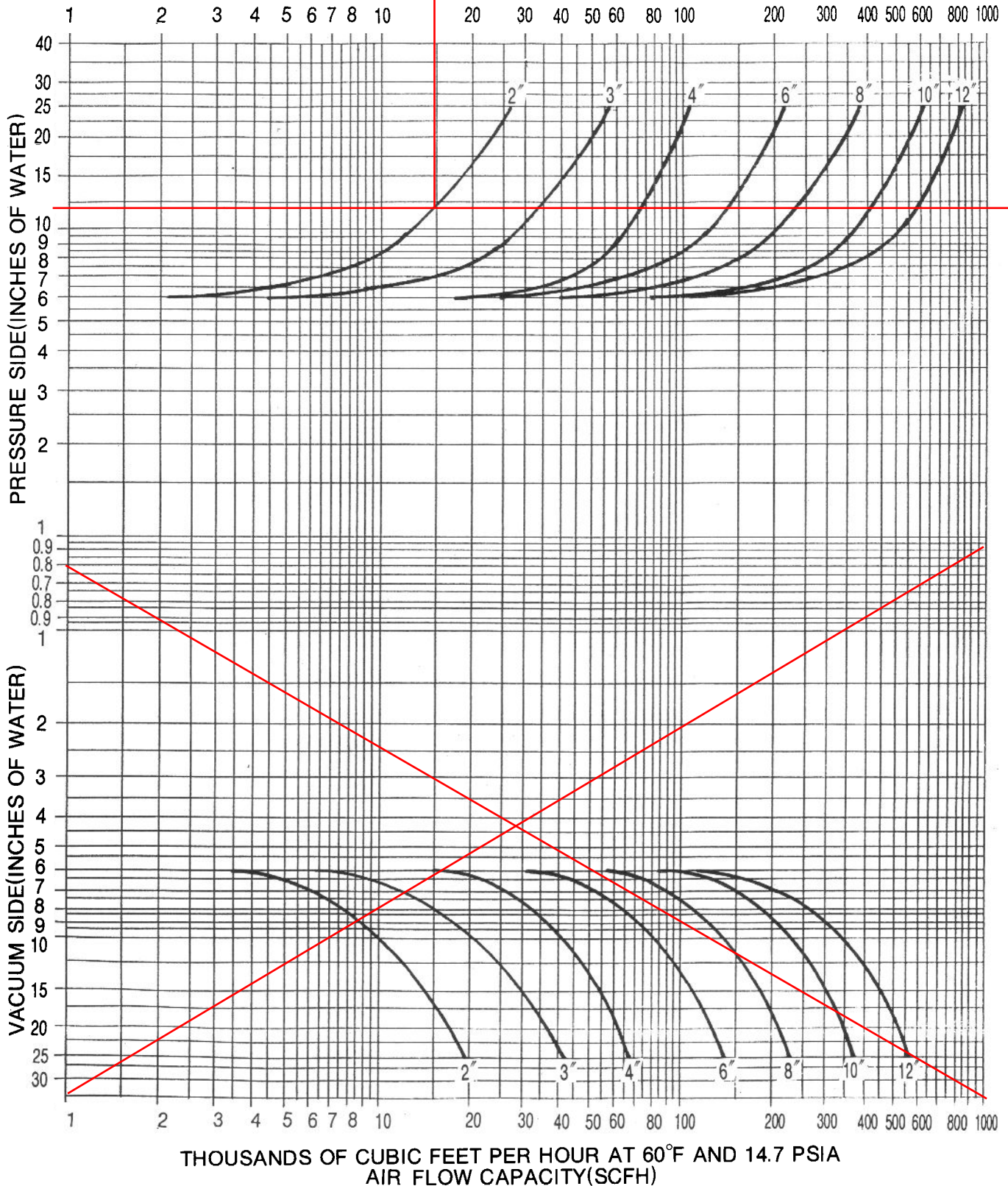
TOPSAFE SAFETY EQUIPMENT

PRESSURE/VACUUM RELIEF BREATHER VALVE

$$16 \times 1000 \times 0.0283 = 452.8 \text{ m}^3/\text{hr}$$

FLOW CAPACITY CURVE (FOR KSBB TYPE ONLY)

THOUSANDS OF CUBIC FEET PER HOUR AT 60°F AND 14.7 PSIA
AIR FLOW CAPACITY(SCFH)
SET AT 6 INCHES

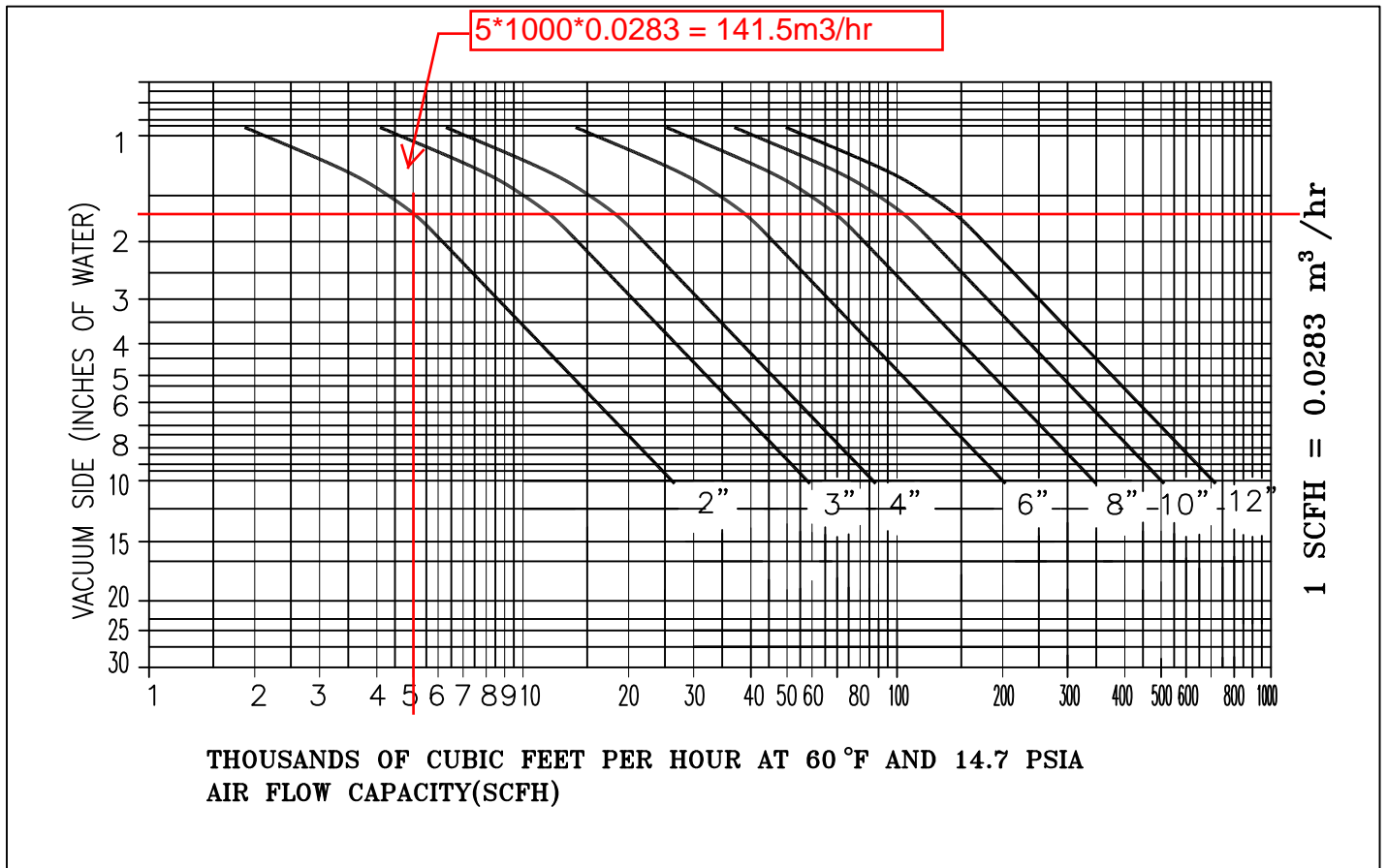


TOPSAFE SAFETY EQUIPMENTS

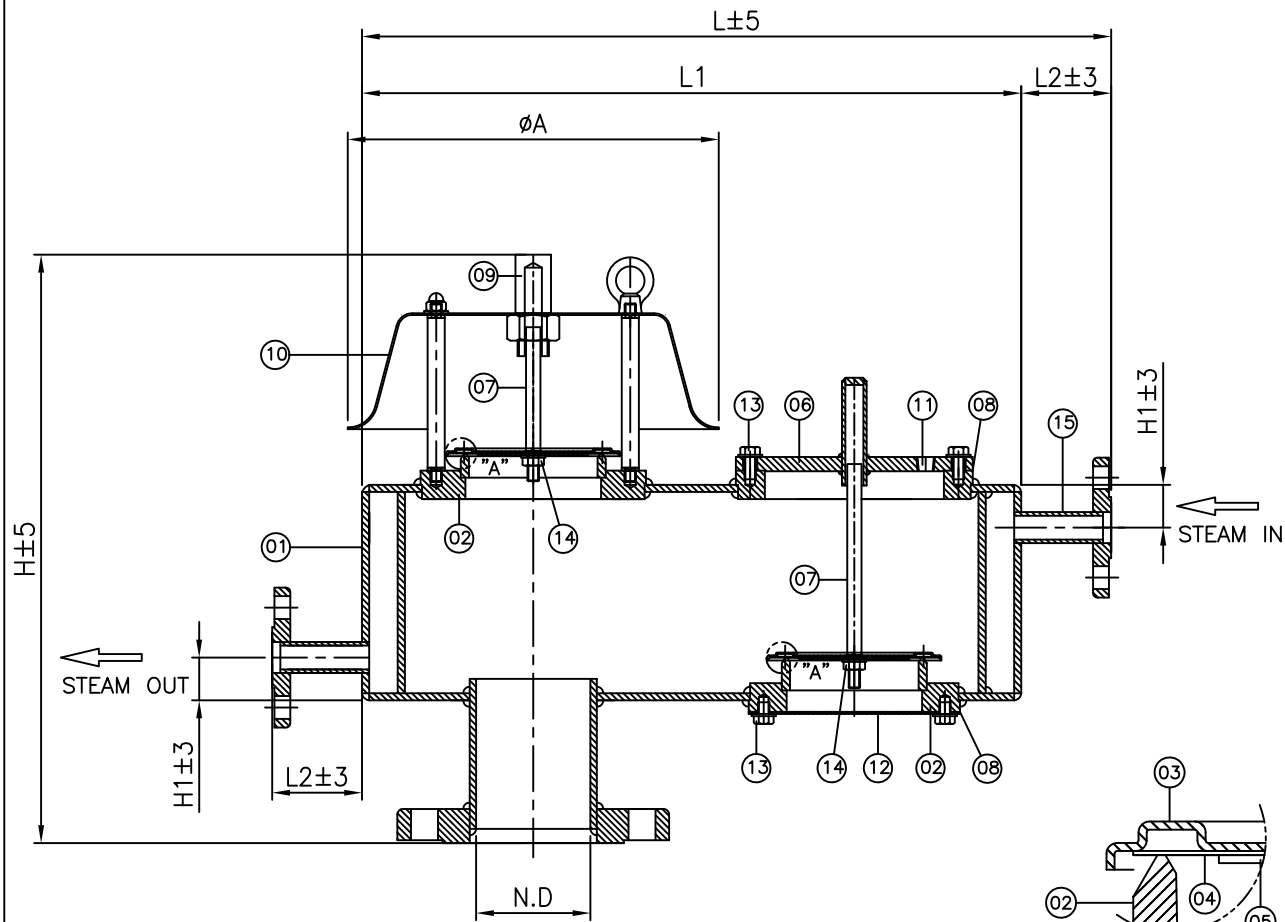
PRESSURE/VACUUM RELIEF BREATHER VALVE

FLOW CAPACITY CURVE (FOR BREATHER VALVE TYPE)

THOUSANDS OF CUBIC FEET PER HOUR AT 60 °F AND 14.7 PSIA
 AIR FLOW CAPACITY(SCFH)
 SET AT 0.88 INCHES (= 22mmH2O)



INSPECTION AND TEST PLAN			PROJECT : -			PROJECT NO. : -	
			ITEM : Breather Valve			P.O NO. : -	
NO.	PROCESS	INSPECTION AND TEST REQUIREMENTS	REFERENCE DOCUMENT	INSP. BY		REPORT	REMARK
				TOP SAFE	OWNER		
01	MATERIAL	- BODY MATERIAL	APPROVAL DWG.	P	R	MILL SHEET	R : TEST REPORT REVIEW W : WITNESS R/S : TEST REPORT REVIEW & SAMPLE CHECK S: Spot Witness P: Inspection / Test to be Performance by Vendor
02	ASS'Y	- VISUAL & DIMENSION	APPROVAL DWG.	P	R	DIMENSION CHECK SHEET	
03	PAINTING	- CABON STEEL PARTS (IN / OUT SIDE Only)	OWNER REQUIREMENT.	-	-	PAINT REPORT	
		- STAINLESS (IN / OUT SIDE Only)	NO PAINT.	-	-	PAINT REPORT	
04	FUNCTION TEST	- SETTING PRESSURE TESTING (RANGE : -10% ~ 0%) - SETTING VACUUM TESTING (RANGE : +10% ~ 0%)	RELATED SPEC.	P	R	SETTING TEST REPORT	
	FINAL	- FINAL INSPECTION (DIMENSION CHECK)	MAKER STD.	P	R	INSPECTION REPORT	
05	PACKING	- WOODEN BOX or PALLET	MAKER STD.	P	R		TOPSAFE-ITP-BV-0001 0 PROCEDURE NO. REV 0. SHEET NO. <u> 1 </u> OF <u> 1 </u>

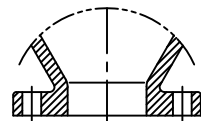


FRONT CROSS SECTION VIEW

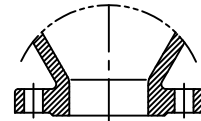
DIMENSION TABLE

UNIT : mm

MODEL	N.D1	L1	L	L2	H	H1	ØA	REMARK
✓ KSBBJ-2	50	381	444	63	317.2	30	210	Q:1
KSBBJ-3	80	462	525	63	421.3	30	260	
KSBBJ-4	100	555	618	63	451.2	30	280	
KSBBJ-6	150	780	843	63	503.9	30	365	
KSBBJ-8	200	850	913	63	645.2	30	450	
KSBBJ-10	250	980	1043	63	788.2	30	520	



FLAT FACE FLANGE



RAISED FACE FLANGE

NAME PLATE DETAIL

BREATHER VALVE	
TAG NO.	TYPE
MFG. NO.	MAT'L
SETTING PRESS.	mmW.C/VAC.
FLANGE	mmW.C
TOPSAFE CO., LTD. TEL : 02-85-338-8888 FAX : 02-85-338-8887	

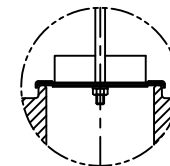
NO.	DESCRIPTION	MATERIAL				Q'TY	REMARK
		SPEC.1	SPEC.2	SPEC.3	SPEC.4		
1	BODY	SS400	A240-304	A240-316	A240-316L	1	
2	P/V SEAT	A240-304	A240-304	A240-316	A240-316L	2	
3	P/V DISC	A240-304	A240-304	A240-316	A240-316L	2	
4	P/V DIAPHRAGM	FEP	FEP	FEP	FEP	2	
5	P/V DIAHRAGM SUP'T	A240-304	A240-304	A240-316	A240-316L	2	
6	VACUUM COVER	SS400	A240-304	A240-316	A240-316L	1	
7	P/V STEM	A276-304	A276-304	A276-316	A276-316L	2	
8	GAKSET	NON-ASBESTOS	NON-ASBESTOS	NON-ASBESTOS	NON-ASBESTOS	1	
9	STEM GUIDE	MC NYLON	MC NYLON	MC NYLON	MC NYLON	1	
10	HOOD	A240-304	A240-304	A240-304	A240-304	1	
11	TEST PLUG	A240-304	A240-304	A240-304	A240-304	1	
12	VACUUM SCREEN	A240-304	A240-304	A240-304	A240-304	1	
13	HEX BOLT/SW	SUS304	SUS304	SUS304	SUS304	-	
14	LOCK NUT	SUS304	SUS304	SUS304	SUS304	2	
15	STEAM CONNECTION	A240-304	A240-304	A240-316	A240-316L	2	1/2" ANSI 300#R.F

NOTE

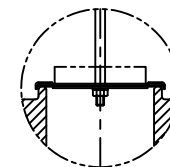
- FIELD CONNECTION FLANGE STANDARD
ANSI 150# F.F.
(FOR DETAIL FLANGE FACE DIMENSION,
PLEASE REFER TO OUR INSTRUCTION MANUAL)
- FLANGE SURFACE
✓ SMOOTH FINISH
— 150 - 250 AARR SPIRAL SERRATION
- SERVICE CONDITION
SETTING PRESSURE 150 mmW.C
SETTING VACUUM -22 mmW.C
- PAINT SPECIFICATION
✓ NO PAINT
— BLUE EPOXY 150 mic. (IN/OUTSIDE) FOR CARBON STEEL
— OWNER REQUIREMENT
- DESIGN STANDARD
— API 2000 REGULATION.

FIELD INFORMATION

- SUPPLY Q'TY
KSBBJ-2(Q:1)
- TAG & ITEM NO.
SEE DATA SHEET FOR SPEC.

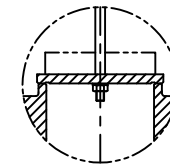


PRESSURE SIDE

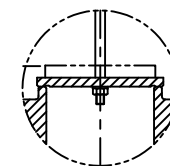


VACUUM SIDE

TEFLON SEAL TYPE



PRESSURE SIDE



VACUUM SIDE

MATAL SEAL TYPE

0	18.01.02	FOR APPROVAL	H.S.B	G.J.H	D.W.W
NO.	DATE	DESCRIPTION	DWG.	CHK.	APP.
TITLE			BREATHER VALVE		
MODEL			KSBBJ JACKET TYPE		
SCALE N : S		DWG NO. KSBBJ-ZZ-ZZ-R0			
TOPSAFE CO., LTD					