

MMC INTERNATIONAL

**TANK GAUGING STATION VAPOR
LOCKS
Model "B", "MB"**

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1. GENERAL

The gauging job on deck of tank ship for “ULLAGE”, “TEMPERATURE”, “OIL-WATER INTERFACE”, “TANK BOTTOM DRYNESS CHECKING”, “OXYGEN CONTENTS” and “CARGO LIQUID SAMPLING” by Portable Device satisfies the following requirement by installing the MMC Tank Gauging Station [Vapor Locks] on tank top in order to prevent leakage of dangerous vapor from tank.

Concerned Rule/Regulation

- IMO MARPOL CONSOLIDATED EDITION 2006, Annex 1. Chapter 4. Regulation 33 and SOLAS CONSOLIDATED EDITION 2004, Chapter II-2. Regulation 4 - 5.5.3.3 [Requirement of Closed Ullage System]
- UNIFIED INTERPRETATIONS OF SOLAS Chapter II-2, Regulation II-2/4.5.3.3 — Safety devices in venting systems — describes as follows;
 1. Ullage openings do not include cargo tank openings that are fitted with standpipe arrangements with their own manually operated shutoff valves.
 2. Examples include the common 2.54cm(1”) and 5.08cm(2”) diameter standpipe arrangements that are used for sampling, monitoring or measuring of ullage/temperature/interface, oxygen, liquid and hand dipping in the cargo tank.

Purpose of Tank Gauging Station

- PREVENTION OF DANGEROUS GAS LEAKAGE DURING GAUGING
 - * Protection of health for Gauger from dangerous vapor, and to avoid difficulty in gauging works due to pressure of dangerous vapor.
- DETERMINATION IN HEIGHT OF ULLAGE READ-OUT POINT
 - * Volume of Cargo Liquid in tank can easily be known accurately with the Ullage Table that the read-out point of the Portable Gauging Device coincides with the Ullage Zero Height on tank top by installing MMC Vapor Locks.
- GROUNDING (EARTHING) FOR THE GAUGING DEVICE
 - * By fitting the Portable Gauging Device on the Vapor Locks, Static Electricity can be drained.
- EASINESS OF GAUGING JOB ON TANK TOP
 - * By fitting the Portable Gauging Device on the Vapor Locks, gauging operation can be done easily.

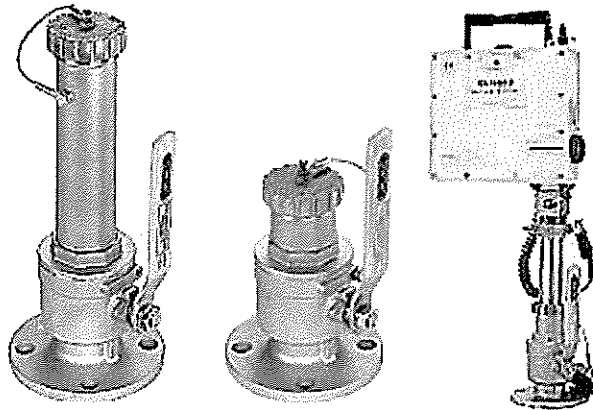
II. ULLAGE GAUGING & SAMPLING STATION [HAND OPEN/ CLOSE VALVE] MODEL. "B", "MB", "

This Tank Gauging & Sampling Station (Vapor Locks) Model "B", "MB" is manually operated for opening/closing mechanism, it has been developed to take a 0.5 liter capacity of cargo liquid sample in addition to various tank gauging by normal procedure without releasing dangerous gas atmosphere from tank.

1. PRODUCT SPECIFICATION SHEET

Vapor Control Valves for Gauging and Sampling Petroleum and Chemicals

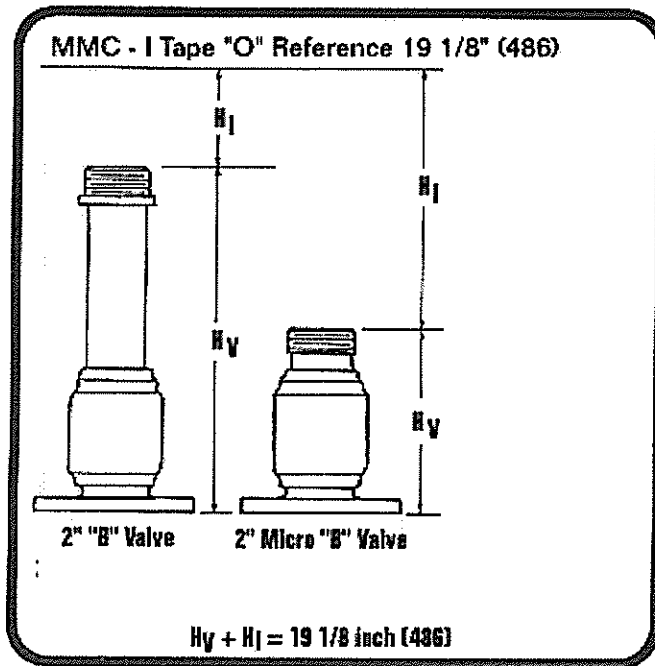
The "B" Series: 2" (50mm) "B" Valve, 2" (50mm) Micro "B" Valve,



Closed gauging tape is shown connected to Micro "B" valve.

Suitable for positive tank isolation, MMC B-type vapor-control valves are positive shut-off units that support Trimode tank gauging functions (ullage, interface & temperature) as well as oxygen sensing. They are available in two models. The original B-type and Micro "B" are all 2-inch (50mm) full-bore valves. All valves are flanged for ease in installation and accurate positioning.

Constructed of 316 stainless steel with a stainless steel or bronze cap, they have stainless steel ball valves with Teflon seals. In addition, 1/2 or 1/3 liter sampling is available in all 2 inch sizes with the use of MMC sampling tapes. All gauging tapes fit directly into any type of MMC vapor-control valve.



Note: H1 dimension fixed by gauging tape construction.

2. SPECIFICATIONS:

3. **Material:** 316 stainless steel or with bronze or stainless steel; cap Teflon ball valve seals. Viton ® used for all other seals.

4. **Mounting Flange Dimensions:** 2" "B" Valve (2318-23-F316-BC50) - 6" (152) O.D., BC 4 3/4" (121) - Bolt Holes (4) 3/4" (19).
 2" Micro "B" (2318-24-FMS-SC50) Bolt Holes (4) 3/4" (19).

5. **Weights:** 2" "B" Valve - 14 lb. (6.35 kg).
 2" Micro "B" - 13 lb. (5.9 kg).

6. **Pressure Rating:** 150 psi (10kg/cm sq), bubble tight at 2 psi (0.14kg).

III. INSTALLATION

The Tank Gauging & Sampling Station (Vapor Locks) Model "B", "MB", "" Adopts 2" Ball Valve Mechanism To Pass Through The 0.5 Liter Sampling Bottle Smoothly, And MMC Cargo Liquid Sampling Device Or Various Gauging Device Can Be Coupled Tightly On Top. The Lower Part Is Constructed With a Flange [2"-150#] To Fit To The Flanged Deck Stool Piece Installed On Tank Top. (See Dwg S2300-1V2)

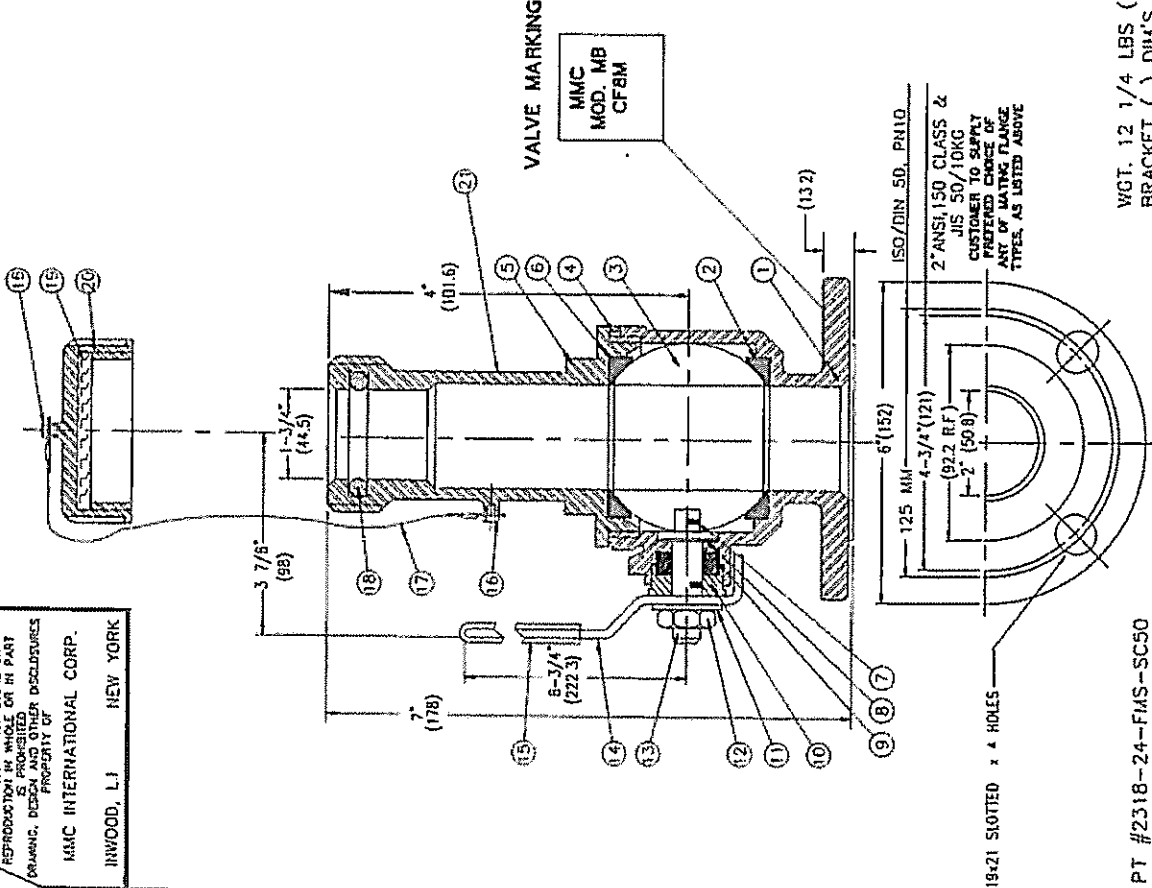
CAUTION FOR INSTALLATION

1. In Case The Flanged Deck Stool Piece Is Installed Apart From The Location Of The Standard Ullage Hole, Trim Must Be Taken Into Account For Gauging.
2. **When The Tank Gauging Station Is Installed, Proper Grounding (Earthing) Be Necessary To Drain Accumulated Static Electricity On Potable Gauging Device.**
So, It Is Recommended That At Least One Set Of Bolt and Nut Of Brass Or Stainless Steel Material Is To Be Used For Flange To Avoid Deterioration Of The Conductivity By Corrosion.
3. Inside Edge Of The Deck Stool Piece (End Of Pipe Inside Tank) Must Be Rounded By Grinder Or Machining With More Than 4mm R To Avoid The Damage To The Graduated Tape. **[In Case Sounding Pipe Is Installed Up To The Bottom Of Tank, This Treatment Must Also Be Done For Cut Edge Inside The Pipe At The Joint And Inside Edge Of Air Vent.]**
4. In Case The Small Tank Ships Without Inert Gas System, If Sounding Pipe To The Tank Bottom Shall Be Installed To Minimize Energy Of Static Electricity Accumulated In Tank, Refer Caution For Installation.

IV. LIST OF DRAWINGS

DRAWING NO.	REVISION	DESCRIPTION
B-2318-24-SSC	E	2" (50MM) Flange MMC Type "MB" Vapor Valve with STN. STL. End Cap
B-2318-24-SBC	E	2" (50MM) Flange MMC Type "MB" Vapor Valve with Bronze End Cap
B-2318-23-SCC	A	2" (50MM) Flange MMC Type "B" Vapor Valve with STN. STL. End Cap
B-2318-23-SBC	A	2" (50MM) Flange MMC Type "B" Vapor Valve with Bronze. End Cap
S-2300-1V2	-	Typical Installation Restricted Gauging "MB"
S-2300-3V1	-	Typical Installation Closed Gauging "MB"

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 INWOOD, L.I. NEW YORK



REVISIONS		
SYM.	DESCRIPTION	DATE APP'D
A	ADDED ADD'L MAT'L I.D. FOR PT'S 1, 3, 5, 20	03/00 FSG
B	VALVE PT# WAS 2318-25-FMS-BC	12/01 FSG
C	ADDED SLOTTED BOLT HOLE FOR DIN SIZE FLG.	02/04 FSG
D	ADDED OMITTED RAISED FACE TO DRAWING.	06/06 FSG
E	WAS 10-32NC RH	04/18 FSG

- NOTE.
1. END CAP ALSO AVAILABLE IN BRONZE.
 2. TEST PRESSURES:
 MAX. HYDROS. 150 PSI
 AIR BUBBLE TEST @ 2 PSI, HD BODY OR BALL SEAL LEAKAGE.
 3. VALVE BALL IS ELECTROSTATICALLY GROUND TO VALVE STEM AND VALVE BODY.
 4. MAXIMUM OPERATING TORQUE 20 FT./LBS.
 5. NAMEPLATE SERIAL NO. MARKING AS:
 JOB NO.-(DASH) PIECE NUM.

PART # 21
 SER. NO.
MMC
MMC INTERNATIONAL CORP.
 INWOOD, N.Y 11096 USA

QTY.	PART #	DESCRIPTION	MAT'L	RE-ORDER#	ASTM NO.
21	1	NAMEPLATE, MANUF. & SERIAL NO.	316 S.S.	A2318-40A	
20	1	ENDCAP	CF8M	22283-13SS	A-351
19	1	GASKET, CAP	VITON	19B2318B-24	
18	1	O-RING	VITON	O/R3227-BN	
17	1	CABLE, PLASTIC COATED	316 S.S.	CBLB2283-14	A-193
16	2	SCREW, HEX HD, 1/4-20NC, 1/2 LG.	304 S.S.		
15	1	PLASTIC HANDLE COVER	PLASTIC		
14	1	HANDLE	304 S.S.	WV-H220G	A-492
13	1	STEM	316 S.S.	WV-K102H11	A-276
12	1	NUT, 7/16-20NF	304 S.S.	WV-H211E	A-194
11	1	WASHER, STEM, 7/16 I.D.	304 S.S.	WV-H211E	A-492
10	1	GLAND	316 S.S.	WV-K103G	A-276
9	1	PACKING	TEFLON	WV-H209G	
8	1	WASHER, THRUST	TEFLON	WV-H208G	
7	2	SETS SPRING & BALL, ANTI-STATIC	316 S.S.	SEE PT.13	
6	1	BALL SEAL	TEFLON	WV-K140H	
5	1	TOP WORKS, THREADED	316SS		A-351
4	1	BODY SEAL	CF8M	WV-K166H1	A-351
3	1	BALL	CF8M	WV-K106H	A-351
2	1	BALL SEAT	CF8M	WV-B101H	A-351
1	1	BODY, VALVE	TEFLON	WV-K105H	
			CF8M	WV-K140H	A-351
			MAT'L	RE-ORDER#	ASTM NO.

DIMENSIONAL TOLERANCES UNLESS OTHERWISE SPECIFIED		SCALE NONE		REV.	
FRACTION	DECIMAL	NO.	DATE	BY	DATE
± 1/32	± .005				
TITLE 2" (50MM) FLANGED NIMC		APPROVED F S GIANNONE		DATE 03/96	
TYPE "MB" VAPOR VALVE WITH STN. STL. END CAP		MMC INTERNATIONAL CORP		NEW YORK	
		INWOOD, L.I.			
		DWG NO.		B2318-24SSC	

PT #2318-24-FMS-SC50

WGT. 12 1/4 LBS (5.6KG)
 BRACKET () DIM'S IN MM

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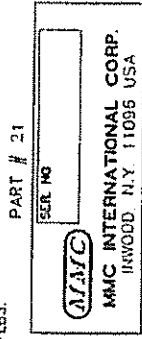
E WAS 10-32NF 10/15/ESG

REVISIONS

STL	DESCRIPTION	DATE	APP'D
A	ADDED ADD'L MAT'L ID. FOR PT'S 1, 3, 5, 20	03/00	FSG
B	VALVE PT# WAS 2318-2S-FMS-BC	12/01	FSG
C	ADDED SLOTTED BOLT HOLE FOR DR. SIZE FLG.	02/04	FSG
D	ADDED OMITTED RAISED FLG. TO DRAWING.	06/08	FSG

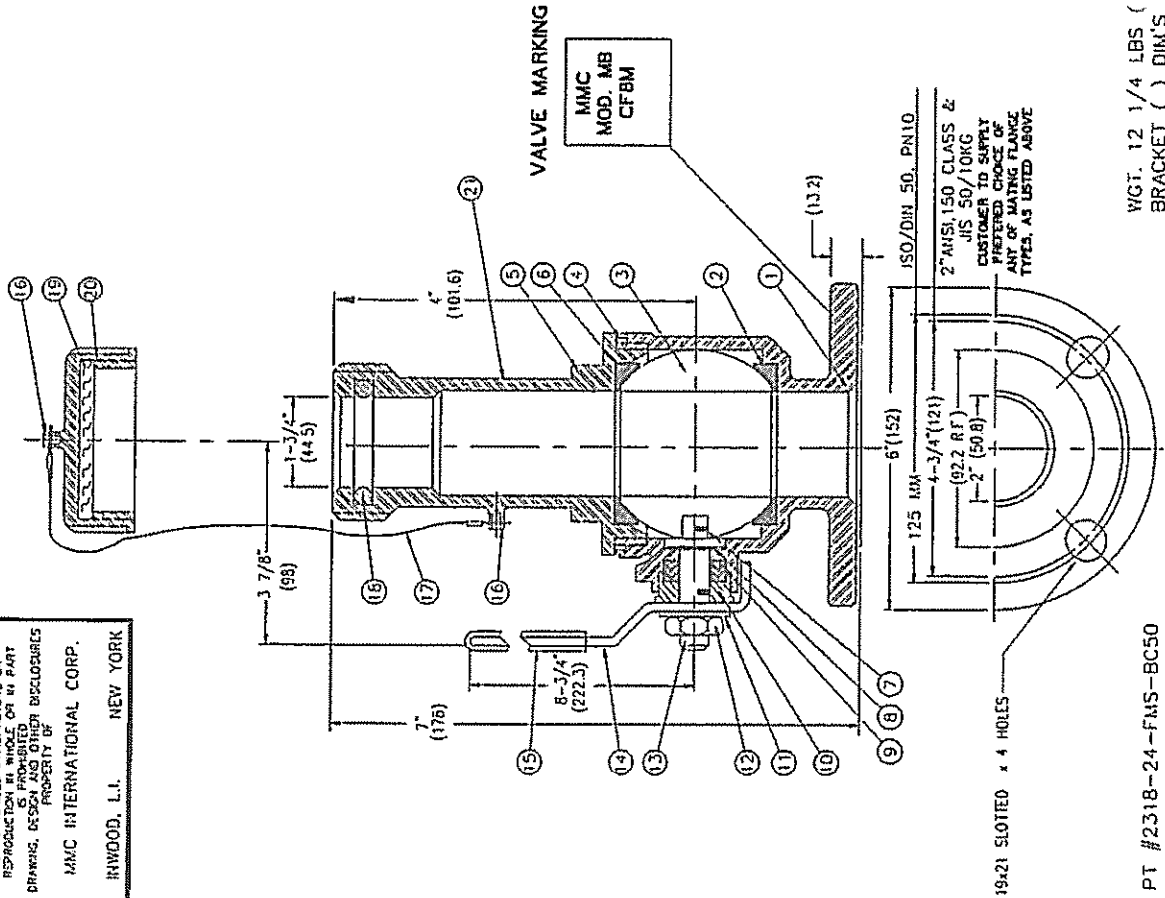
NOTE

1. END CAP ALSO AVAILABLE IN STAINLESS STEEL.
2. TEST PRESSURES:
MAX HYDROS. 150 PSI
AIR BUBBLE TEST @ 2 PSI, NO BODY OR BALL SEAL LEAKAGE
3. VALVE BALL IS ELECTROSTATICALLY GROUNDED TO VALVE STEM AND VALVE BODY.
4. MAXIMUM OPERATING TORQUE 20 FT./LBS.
5. NAMEPLATE SERIAL NO. MARKING AS JOB NO.-(DASH) PIECE NUM.



PART # 21

NAMEPLATE SERIAL NO. MARKING AS JOB NO.-(DASH) PIECE NUM.



VALVE MARKING

MMC
MOD. MB
CFBM

ISO/DIN 50, PN10
2" ANSI, 150 CLASS & JIS 50/10KG
CUSTOMER TO SUPPLY PREFERRED CHOICE OF ANY OF MATING FLANGE TYPES, AS LISTED ABOVE

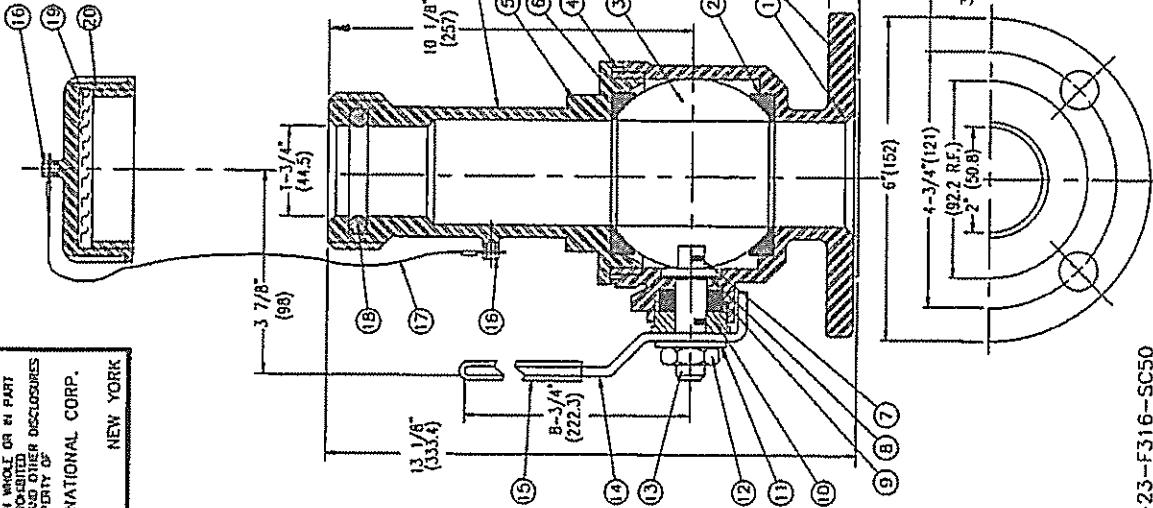
WGT. 12 1/4 LBS (5.6KG)
BRACKET () DIM'S IN MM

PT #2318-24-FMS-BC50

21	1	NAMEPLATE, MANUF. & SERIAL NO	316 S.S.	A2318-49A
20	1	ENDCAP	A-2283-13	A-147
19	1	GASKET, CAP	BUNA-N	19B2318B-24
18	1	O-RING	BUNA-N	O/R2327-801
17	1	CABLE, PLASTIC COATED	316 S.S.	CBLE22283-14
16	2	SCREW, HEX. HD. 1/4-20NC 1/2LG	304 S.S.	A-193
15	1	PLASTIC HANDLE COVER	PLASTIC	
14	1	HANDLE	304 S.S.	WV-H220G A-492
13	1	STEM	316 S.S.	WV-K102H11 A-276
12	1	NUT, 7/16-20NF	304 S.S.	WV-H211E A-194
11	1	WASHER, STEM, 7/16 ID	304 S.S.	A-492
10	1	GLAND	316 S.S.	WV-K103C A-276
9	1	PACKING	TEFLON	WV-H209C
8	1	WASHER, THRUST	TEFLON	WV-H208C
7	2	SETS SPRING & BALL, ANTI-STATIC	316 S.S.	SEE PT 13
6	1	BALL SEAL	TEFLON	WV-K140H
5	1	TOP WORKS, THREADED	316SS	CFBM WV-K166H1 A-357
4	1	BODY SEAL	316SS	CFBM WV-K106H A-351
3	1	BALL	316SS	CFBM WV-B101H A-351
2	1	BALL SEAT	TEFLON	WV-K105H
1	1	BODY, VALVE	316SS	CFBM WV-K140H A-351

PART #	QTY	DESCRIPTION	MAT'L	RE-ORDER#	ASSEMBY
2	1	FLANGED	MMC		
DIM 2 (50MM)					
TYPE 1/3" VAPOR VALVE WITH BRONZE END END CAP					
DATE	DATE	DATE	DATE	DATE	DATE
DRY	DRY	DRY	DRY	DRY	DRY
ASSEMBLED F.S. GIANNONE	DATE 03/96				
MMC INTERNATIONAL CORP.					
INWOOD, L.I. NEW YORK					
DRG #2					
B2318-24SBC					
REV E					

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VALVE MARKING

MMC
MODEL B
CF8M
2" CL150

2" ANSI 150 CLASS OR JIS 50/10KG
3/4" DIA. (19MM), 4 HOLES

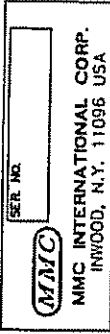
WGT. 12 1/4 LBS (5.6KG)
BRACKET () DIM'S IN MM

REVISIONS		
SYL.	DESCRIPTION	DATE
A	ADDED OMITTED RAISED FACE TO DRAWING.	06/06 FSG

NOTE:

1. END CAP ALSO AVAILABLE IN STN-STEEL.
2. TEST PRESSURES:
MAX. HYDROS. 150 PSI
AIR BUBBLE TEST @ 2 PSI. NO BODY OR BALL SEAL LEAKAGE.
3. VALVE BALL IS ELECTROSTATICALLY GROUND TO VALVE STEM AND VALVE BODY.
4. MAXIMUM OPERATING TORQUE 20 FT./LBS.
5. NAMEPLATE SERIAL NO. MARKING AS:
JOB NO.-(DASH) PIECE NUM.

PART # 21



PART #	QTY.	DESCRIPTION	MAT'L	RE-ORDER #	ASTM NO.	
21	1	NAMEPLATE	316 S.S.	A2318-40A		
20	1	ENDCAP	316 S.S.	A-2283-13SS	A-351	
19	1	GASKET, CAP	VITON	19B2318V-24		
18	1	O-RING	VITON	O/R2327-VT		
17	1	CABLE, PLASTIC COATED	316 S.S.	GBL2283-14		
16	2	SCREW, 1/4-20x.63-RH4S	304 S.S.		A-193	
15	1	PLASTIC HANDLE COVER	PLASTIC			
14	1	HANDLE	304 S.S.	WV-H220G	A-492	
13	1	STEM	316 S.S.	WV-K102H11	A-276	
12	1	NUT, 7/16-20NF	304 S.S.	WV-H211E	A-194	
11	1	WASHER, STEM, 7/16 I.D.	304 S.S.		A-492	
10	1	GLAND	316 S.S.	WV-K103G	A-276	
9	1	PACKING	TEFLON	WV-H209G		
8	1	WASHER, THRUST	TEFLON	WV-H208G		
7	2	SETS SPRING & BALL, ANTI-STATIC	316 S.S.	SEE PT.13		
6	1	BALL SEAL	TEFLON	WV-K140H		
5	1	TOP WORKS, THREADED	316SS	CF8M	WV-K166H1	A-351
4	1	BODY SEAL	TEFLON	WV-K106H		A-351
3	1	BALL	CF8M	WV-B101H		A-351
2	1	BALL SEAT	TEFLON	WV-K105H		A-351
1	1	BODY, VALVE	316SS	CF8M	WV-K140H	A-351

DIMENSIONAL TOLERANCES UNLESS OTHERWISE SPECIFIED		TYPICAL	
FRACTIONAL	DIM.	FRACTIONAL	DIM.
± 1/32	± .005	± .005	± .005

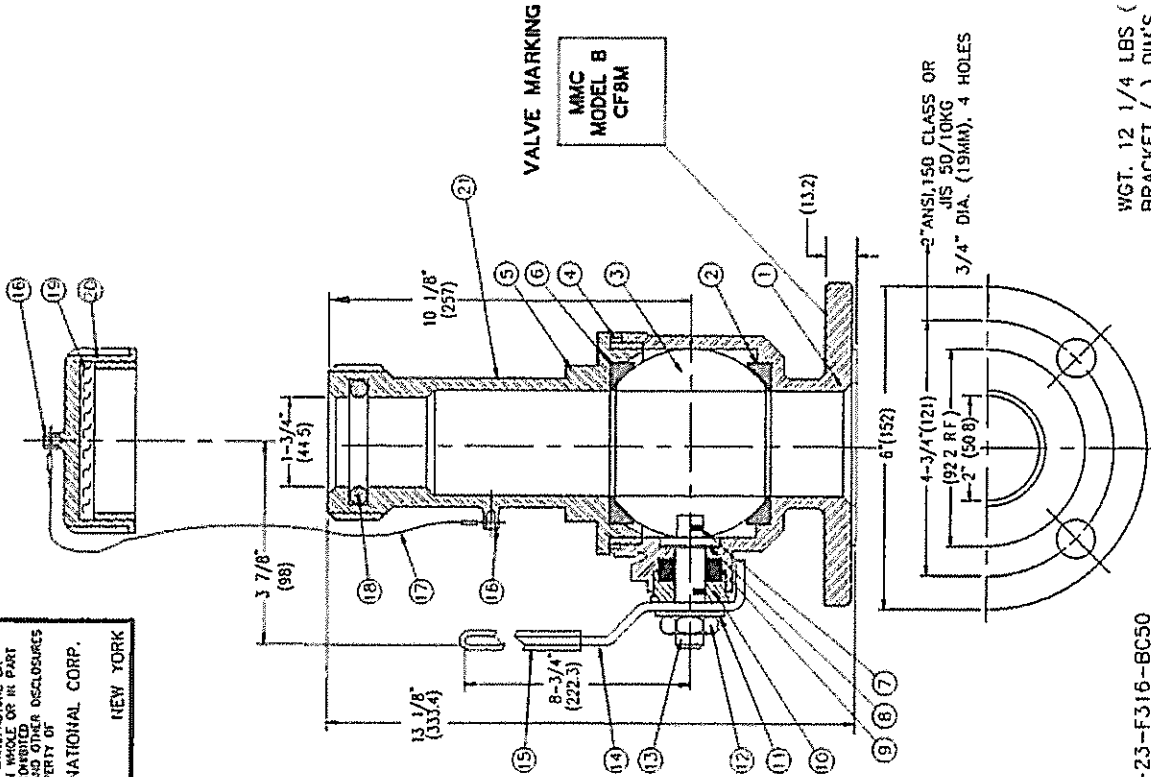
SCALE		NONE	
NONE		NONE	

DIMENSIONAL TOLERANCES UNLESS OTHERWISE SPECIFIED		TYPICAL	
FRACTIONAL	DIM.	FRACTIONAL	DIM.
± 1/32	± .005	± .005	± .005

TITL		2" (50MM) FLANGED	
MMC		TYPE "B" VAPOR VALVE WITH STN-STL END CAP	
DATE	DATE	DATE	DATE
DESIGNED BY	CHECKED	DATE	DATE
APPROVED F.S. GIANNONE		DATE	DATE
MMC INTERNATIONAL CORP.		INWOOD, LI NEW YORK	
REV		REV	
B2318-23SSC		A	

PT #2318-23-F316-SC50

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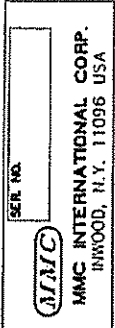
WGT. 12 1/4 LBS (5.6KG)
BRACKET () DIM'S IN MM

REVISIONS		
S1M	DESCRIPTION	DATE / APP'D
A	ADDED OMITTED RAISED FACE TO DRAWING.	06/08 FSG

NOTE:

1. END CAP ALSO AVAILABLE IN STN. STEEL.
2. TEST PRESSURES:
MAX. HYDROS. 150 PSI
AIR BUBBLE TEST @ 2 PSI, NO BODY OR BALL SEAL LEAKAGE
3. VALVE BALL IS ELECTROSTATICALLY GROUND TO VALVE STEM AND VALVE BODY.
4. MAXIMUM OPERATING TORQUE 20 FT./LBS.
5. NAMEPLATE SERIAL NO. MARKING AS:
JOB NO -(DASH) PIECE NUM.

PART # 21



QTY	PART #	DESCRIPTION	MAT'L	RE-ORDER#	LAST IN. NO
1	21	NAMEPLATE, MANUF. & SERIAL NO.	316 S.S.	A231B-40A	
1	20	END CAP	BRONZE	A-2283J-13	A-147
1	19	GASKET, CAP	BUNA-N	19B2318B-24	
1	18	O-RING	BUNA-N	10/R2327-BN	
2	17	CABLE, PLASTIC COATED	316 S.S.	ICBLB2283-14	A-193
1	16	SCREW, 10-32X.63-RHXS	304 S.S.		
1	15	PLASTIC HANDLE COVER	PLASTIC		
1	14	HANDLE	304 S.S.	WV-H220G	A-492
1	13	STEM	316 S.S.	WV-K102H11	A-276
1	12	NUT, 7/16-20NF	304 S.S.	WV-H211E	A-194
1	11	WASHER, STEM, 7/16 ID	304 S.S.	WV-H211E	A-492
1	10	GLAND	316 S.S.	WV-K103G	A-276
1	9	PACKING	TEFLON	WV-H209G	
1	8	WASHER, THRUST	TEFLON	WV-H209C	
2	7	SETS SPRING & BALL, ANTI-STATIC	316 S.S.	SEE PT.13	
1	6	BALL SEAL	TEFLON	WV-K140H	
1	5	TOP WORKS, THREADED	CF8M	WV-K166H1	A-351
1	4	BODY SEAL	TEFLON	WV-K106H	A-351
1	3	BALL	CF8M	WV-B101H	A-351
1	2	BALL SEAT	TEFLON	WV-K105H	A-351
1	1	BODY, VALVE	CF8M	WV-K140H	A-351

DIMENSIONAL TOLERANCES UNLESS OTHERWISE SPECIFIED		SCALE	
FRACTION	DEC	NO. HOLES	NO. REED
± .125	± .30	NONE	NONE

TITLE		DATE	
REV	DESCRIPTION	DATE	BY
03/96	APPROVED F. S. GIANNONE	03/96	

PT #2318-23-F316-BC50

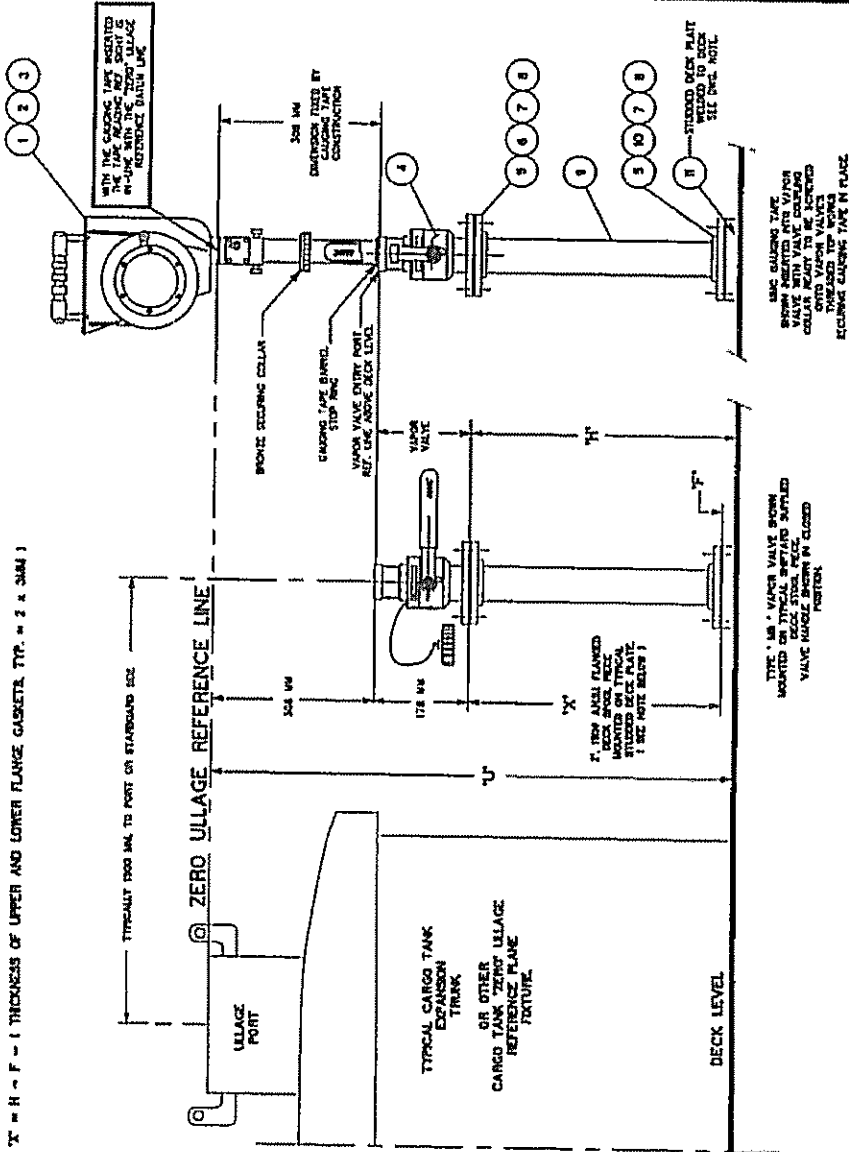
MMC INTERNATIONAL CORP.
INWOOD, L.I. NEW YORK

DWG NO. **B2318-23SBC**

SYN	DESCRIPTION	DATE	APP'D

TYPICAL INSTALLATION CRITERIA FOR ZERO ULLAGE MMC TYPE 'MB' VAPOR CONTROL VALVE FOR USE WITH MMC CLOSED/RESTRICTED GAUGING TAP ASSEMBLES.

U' = DIMENSION DECIDED BY SHIP BUILDERS/OWNERS PLAN
 'H' = HEIGHT FROM BOTTOM FLANGE FACE OF VAPOR VALVE TO DECK LEVEL (H = U - 466MM)
 'X' = H - F - t (THICKNESS OF UPPER AND LOWER FLANGE GASKETS. TYP. = 2 x 3MM)



NOTICE:
 ITEMS 5 THRU 11, NOT SUPPLIED BY MMC SHOWN AS TYP. SHIPYARD SUPPLY ONLY.

ITEM NO.	REQ.	DESCRIPTION	SUPPLY BY
4	1	MMC 2 INCH, 150#, FLANGED TYPE 'MB' VAPOR CONTROL VALVE WITH ATTACHED PRELOADED BRONZE VALVE CAP.	MMC
3	1	INSTRUCTION MANUAL FOR TRIPLE FUNCTION (UTI) HARD CARRIAGE TAPE, INCLUDED IN CARRYING CASE.	MMC
2	1	MMC TRIPLE FUNCTION (UTI) 30V GAUGING TAP ASSEMBLY, MOD. # D-2401-2, P142401TR30MCR30MM WITH TYPE 'MB' SENSOR STORAGE BARREL, ATTACHED. REFER TO GENERAL OUTLINE DRAWING DE-2582-1 (R) FOR GAUGE DETAILS. INTRINSICALLY SAFE APPARATUS.	MMC
1	1	MMC TRIPLE FUNCTION (UTI) 30V GAUGING TAP ASSEMBLY, MOD. # D-2401-2, P142401TR30MCR30MM WITH TYPE 'MB' SENSOR STORAGE BARREL, ATTACHED. REFER TO GENERAL OUTLINE DRAWING DE-2582-1 (R) FOR GAUGE DETAILS. INTRINSICALLY SAFE APPARATUS.	MMC

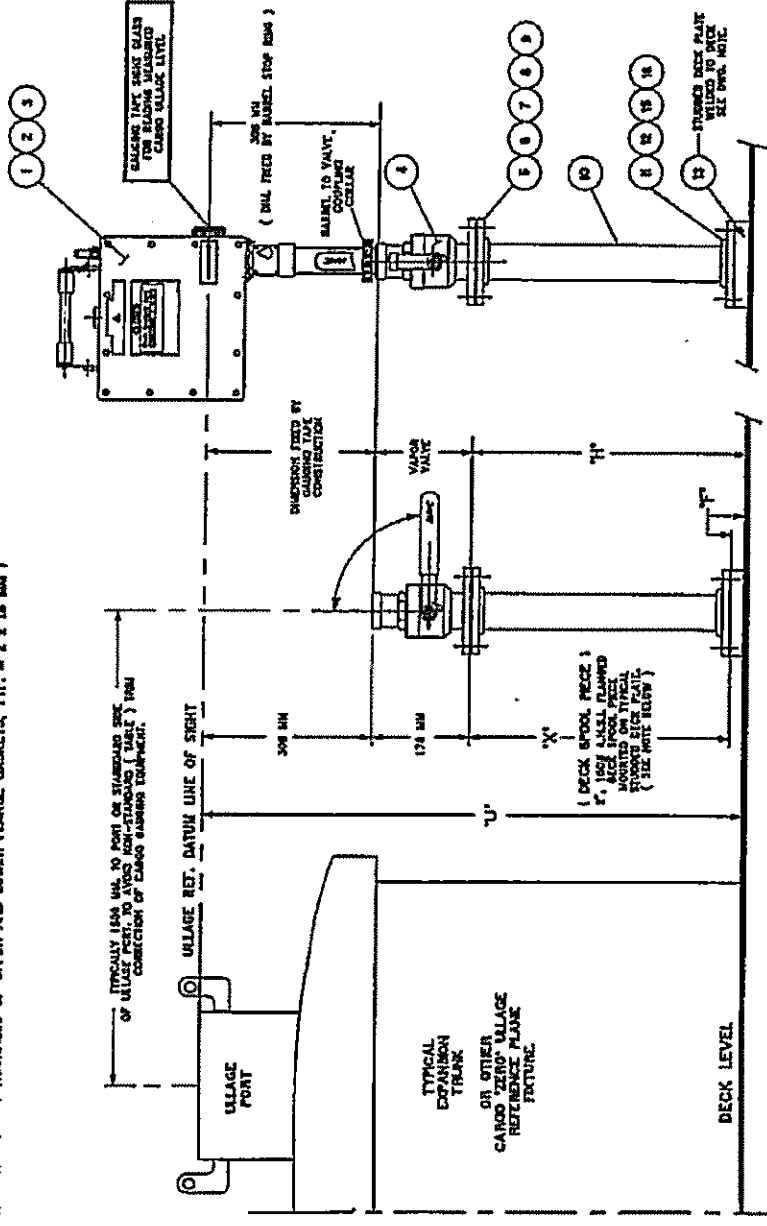
TYPICAL SHIP INSTALLATION CRITERIA FOR ZERO ULLAGE MMC TYPE 'MB' VAPOR VALVE RESTRICTED APPL OF UTI GAUGE
 DRAWN: F.S.G DATE: 1-11-99
 APP'D: F.S.G DATE:

DESCRIPTION: MMC INTERNATIONAL CORP INWOOD, NEW YORK
 DWG. NO. S2300-1V2
 REV

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TYPICAL INSTALLATION CRITERIA FOR "ZERO" ULLAGING MIC TYPE "MS" VAPOR CONTROL VALVE FOR USE WITH MIC CLOSED GAUGING/SAMPLING TAPE ASSEMBLY.

U = DIMENSION DECIDED BY SHIP BUILDERS/OWNERS PLAN
 X = HEIGHT FROM BOTTOM FLANGE FACE OF VAPOR VALVE TO DECK LEVEL. (H = U - 40MM.)
 X' = H - F - (THICKNESS OF UPPER AND LOWER FLANGE GASKETS, TYP. # 2 x 18 MM)



NOTE : SEE DRAWING 8-2300-1A FOR ALTERNATE TYPE DECK PLATE AND STOOL PIECE CONSTRUCTION.

MIC "ZERO" VAPOR VALVE SHOWN WITH TYPICAL SHIPBOARD SURFLOO DECK STROKING PIECE. VALVE HANDLE SHOWN IN CLOSED POSITION.

REFERENCE :

REVISIONS	
REV	DESCRIPTION

ITEM NO.	DESCRIPTION	BY	CHKD.
16	NUTS, HEX, 5/8-11, STEEL		
15	WASHER, FLAT, 5/8 SIZE, STN.STL.		
14	STUDS, 5/8 DIA., STEEL		
13	DECK PLATE, STUDDED TO MATCH FLANGE DRILLING OF ITEM #11, THICKNESS TO SUIT YARD PRACTICE. SEE ALSO DWG. 5-2300-1A FOR ALTERNATE DECK PLATE END OF SPOOL PIECE, STEEL		
12	GASKETS, FLG, 150g, 2" x 1/16 THK., TEFLON		
11	FLANGE, SLIP-ON, 2", 150g ASA, STEEL		
10	PIPE, 2", SCH 80 WALL LENGTH TO SUIT CALCULATED "X" DIMENSION, STEEL		
9	WASHER, FLAT, M16, 5/8 SIZE, STN.STL.		
8	GASKETS, FLG, 150g, 2" x 1/16 THK., TEFLON		
7	NUTS, HEX., (M16), STN. STEEL		
6	BOLTS, HEX HD., (M16) STN. STEEL		
5	FLANGE, SLIP-ON, 2" (50MM), 150g ASA, STEEL 6" (152MM) O.D., 4 HOLES, 0.75" (19MM) DIA. ON 4.75" (121MM) B.C., 0.75" (19MM) THK. EQUIVALENT = 10K0., SONAR, JR.		
4	MIC 2 WSH, 150g, FLANGED TYPE "MS" VAPOR CONTROL VALVE CAP, WITH ATTACHED THREADED STAINLESS STEEL REF. DWG. 8-2318-2452C		
3	INSTRUCTION MANUAL FOR TRIPLE FUNCTION (UT) C/D GAUGING TAPE, INCLUDED IN CARRIAGE CASE.		
2	HARD CARRYING CASE FOR ITEM #1, INCLUDING EXTRA 9 VOLT TYPE 3N 160g BATTERY.		
1	MIC TRIPLE FUNCTION (UT) 25 METER GAUGING TAPE ASSY, MOD. B-2401-2, FT.22401125KCS818 WITH TYPE "MS" SENSOR STORAGE BARREL ATTACHED. REF. GENERAL BUTTING DRAWING 5-2502-18B FOR FUNCTIONAL DETAILS.		

SCOPE OF SUPPLY FOR TYPICAL SHIP INSTALLATION OF 2" VAPOR CONTROL VALVES	MIC INTERNATIONAL CORP.
DRAWN: F.S.G	DATE: 10-13-95
APP'D: F.S.GIANRIONE	DATE: 10-13-95
REV	DWG. NO. S2300-3V1