FORM U-1 MANUFACTURERS' DATA REPORT FOR PRESSURE VESSELS

As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

93688

1. Manufactured by De Dietrich & Cie Zinswiller, France
(Name and address of manufacturer)

2. Manufactured for Singmaster & Breyer, Inc. New York, New York
(Name and address of purchaser)

3. Location of Installation FMC Corp. Baltimore, Maryland
(Name and address)

4. Type Vertical (Horiz. or vert. tank) Vessel No. 30971 (Mfgr's Serial No.) N/A (CRN) VT-2600-14:-2 CiAcVi-539-2 (Drawing)

1654 (Nat'l. Bd. No.) Year Built 1978

5. The chemical and physical properties of all parts meet the requirements of material specifications of the ASME BOILER AND PRESSURE VESSEL CODE. The design, construction, and workmanship conform to ASME Rules, Section VIII, Division 1 1974 (Year) and Addenda to Summer 76 (Date) and Code Case no. N/A Special service per UG-120(d) N/A

Manufacturers' Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report: N/A
(Name of part, item number, mfgr's name and identifying stamp)

Items 6-11 incl. to be completed for single wall vessels, jackets of jacketed vessels, or shells of heat exchangers

6. Shell: Material SA 285 B (Spec No., Grade) Nominal Thickness 35/64 in. Corrosion Allowance N/A in.

Diam. 8 ft 6-3/8 in. OD Length 7 ft 9-7/8 in.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in this report are correct and that all details of design, material, construction, and workmanship of this vessel conform to the ASME Code for Pressure Vessels, Section VIII, Division 1.

Date Feb. 2, 78 Signed De Dietrich&Cie (Manufacturer) by WAGNER R. Q.C. (Representative) MGR.

"U" Certificate of Authorization No. 11718 expires April 16, 1980

CERTIFICATE OF SHOP INSPECTION

Vessel made by De Dietrich & Cie at Zinswiller, France

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province of New York and employed by The Royal Indemnity Company of New York N.Y. have inspected the pressure vessel described in this Manufacturers' Data Report on February 2 19 78, and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel in accordance with ASME Code, Section VIII, Division 1.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in the Manufacturers' Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date February 2, 1978

Signed S.G. Akerman (Inspector) S.G. AKERMAN Commissions N.B. 8074 (Nat'l Board, State, Province and No.)

CERTIFICATE OF COMPLIANCE FOR FIELD WORK

We certify that the statements made in this report are correct and that all details of design, material, construction, and workmanship of this vessel conform to the ASME Code for Pressure Vessels, Section VIII, Division 1.

Date _____ Signed _____ (Manufacturer) _____ by _____ (Representative)

"U" Certificate of Authorization No. _____ expires _____, 19____.

CERTIFICATE OF FIELD ASSEMBLY INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province of _____ and employed by _____ of _____ have compared the statements in this Manufacturers' Data Report with the described pressure vessel and state that parts referred to as data items _____, not included in the certificate of shop inspection, have been inspected by me and that, to the best of my knowledge and belief, the Manufacturer has constructed and assembled this pressure vessel in accordance with ASME Code, Section VIII, Division 1.

The described vessel was inspected and subjected to a hydrostatic test of _____ psi.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturers' Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date _____

Signed _____ (Authorized Inspector) Commissions _____ (Nat'l Board, State, Province and No.)

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FORM U-1 (BACK)

7. Seams: Longitudinal Welded, Dbl. Butt (Welded, Dbl., Sngl. Lap, Butt) R.T. Spot (Spot or Full) Efficiency 85 %

H.T. Temp 1680° F Time 90min Girth Welded, Dbl Butt (Welded, Dbl, Sngl, Lap, Butt) R.T. Partial (Spot, Partial, or Full) No. of Courses 1

8. Heads: (a) Material SA 285 C (Spec No., Grade) (b) Material SA 285 C (Spec No., Grade)

	Location (Top, Bottom, Ends)	Minimum Thickness	Corrosion Allowance	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure (Convex or Concave)
(a)	Top	35/64"	N/A	102-3/8"	10-15/64"	N/A	N/A	N/A	N/A	Concave
(b)	Bottom	35/64"	N/A	102-3/8"	10-15/64"	N/A	N/A	N/A	N/A	Concave

If removable, bolts used (describe other fastenings) N/A (Material, Spec. No., Gr., Size, No.)

9. Type of Jacket N/A Proof Test

10. Jacket Closure N/A (Describe as ogee and weld, bar, etc.) If bar, give dimensions

If bolted, describe or sketch.

11. Constructed for max. allowable working pressure 40 or F.V. psi at max. temp. 400° F Min. temp. (when less than -20 F) N/A F. Hydrostatic, ~~pneumatic, or combination~~ test pressure 44 psi.

Items 12 and 13 to be completed for tube sections

12. Tubesheets: Stationary—Material N/A (Spec No Gr) Diam. (Subject to pressure) in.

Nominal Thickness in. Corrosion Allowance in. Attachment (Welded, Bolted)

Floating—Material (Spec No., Gr.) Diam. in. Nominal Thickness in. Corrosion Allowance in.

Attachment

13. Tubes: Material N/A (Spec No., Gr.) O.D. in. Nominal Thickness in. or gauge Number Type (Straight or "U")

Items 14-17 incl. to be completed for inner chambers of jacketed vessels or channels of heat exchangers

14. Shell: Material (Spec No., Gr.) Nominal Thickness in. Corrosion Allowance in.

Diam. ft in. Length ft in.

15. Seams: Longitudinal N/A (Welded, Dbl, Sngl, Lap, Butt) R.T. (Spot or Full) Efficiency %

H.T. Temp F Time Girth (Welded, Dbl., Sngl., Lap, Butt)

R.T. (Spot, Partial or Full) No. of courses

16. Heads: (a) Material N/A (Spec No Grade) (b) Material (Spec No Grade)

	Location (Top, Bottom, Ends)	Minimum Thickness	Corrosion Allowance	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure (Convex or Concave)
(a)										
(b)										

If removable, bolts used (describe other fastenings) N/A (Material, Spec. No., Gr., Size, No.)

17. Constructed for max. allowable working pressure N/A psi at max temp. F. Min. temp. (when less than -20 F) F. Hydrostatic, pneumatic, or combination test pressure psi.

Items below to be completed for all vessels where applicable

18. Safety Valve Outlets: Number N/A Size Location

19. Nozzles:

Purpose (Inlet, Outlet, Drain)	Number	Diam. or Size	Type	Material	Nominal Thickness	Reinforcement Material	How Attached
Inlet	4	3"	Lap Joint	SA 181-1	15/32"	None	Welded
Outlet	1	3"	Lap Joint	SA 181-1	15/32"	None	Welded

20. Inspection Openings:
Manholes No. 1 Size 17-3/4" dia. Location on top head
Handholes No. 0 Size Location
Threaded No. 0 Size Location

21. Supports: Skirt Yes (Yes or no) Lugs 2 lifting (No.) Legs 6-3" pipe (No.) Other 2 guiding lugs (Describe)
Attached Welded on heads. (Where and how)

22 Remarks Glass lined steel vessel for chemical use.

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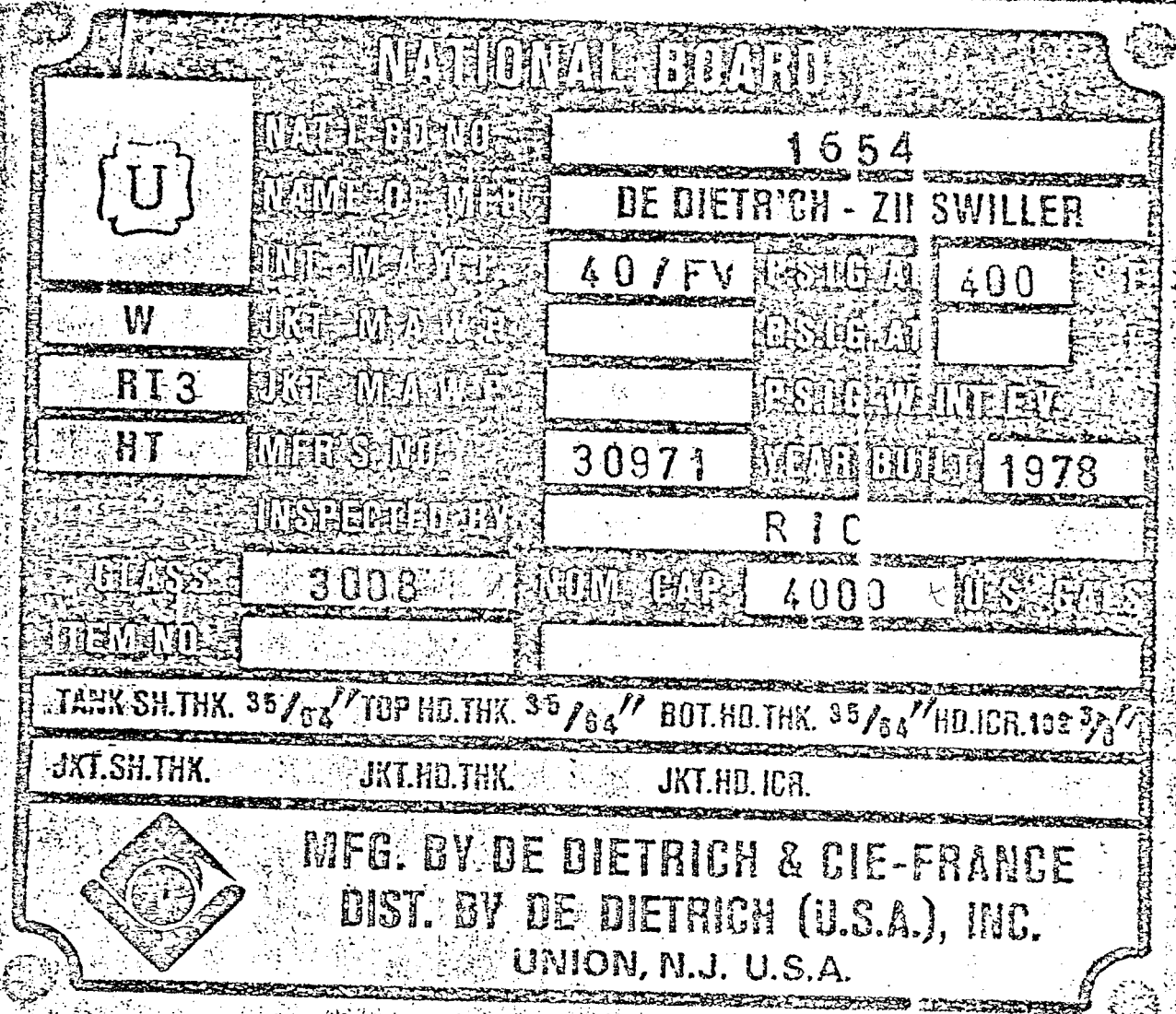
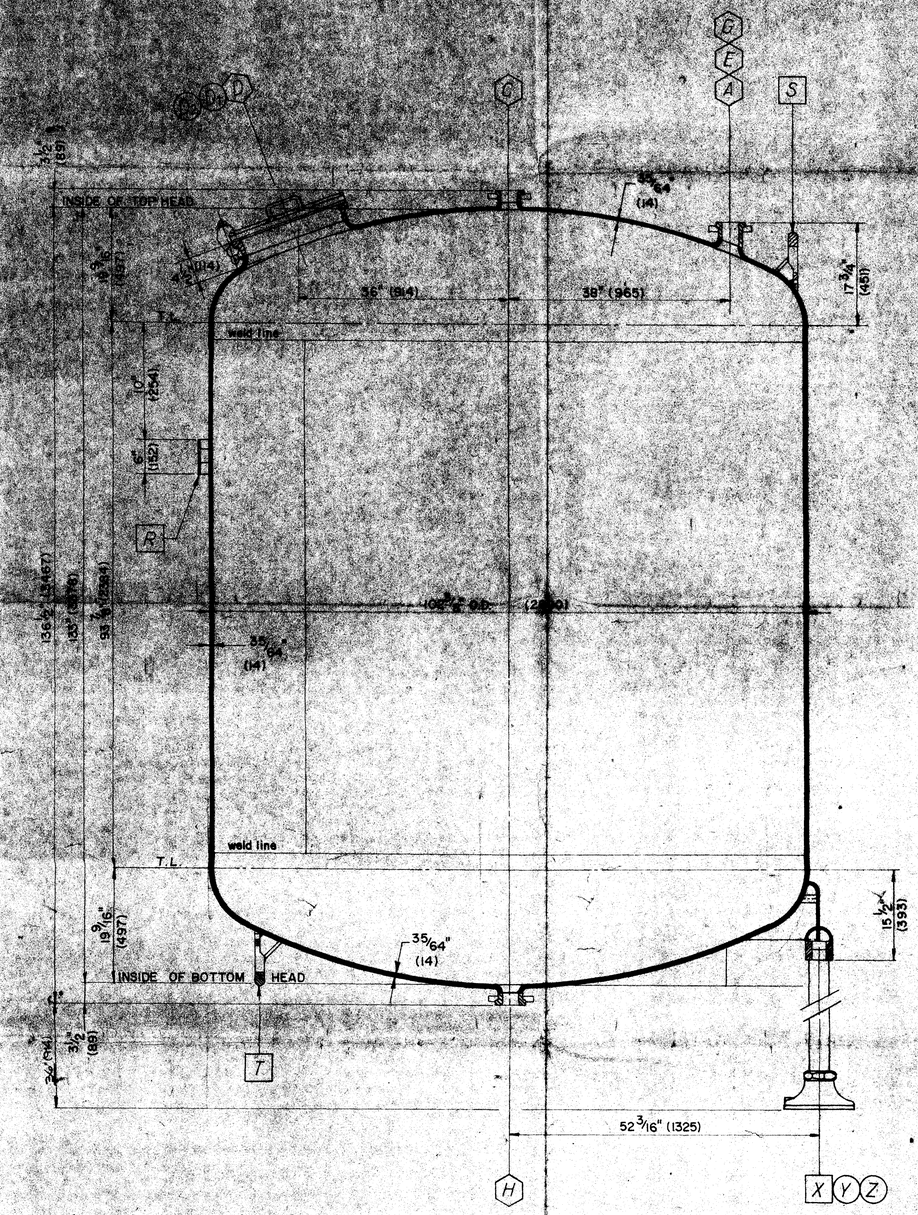
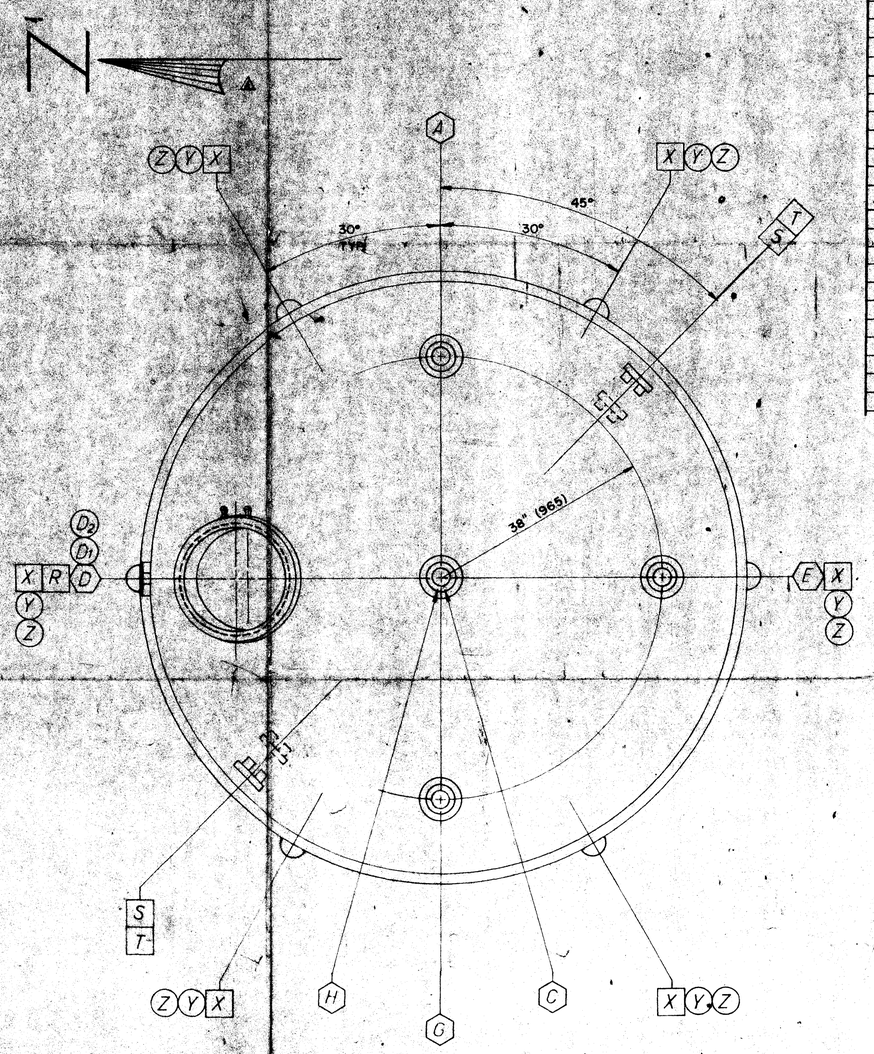

NATIONAL BOARD
U
NAT'L BD NO
1654
NAME OF MFR
DE DIETR'CH - ZII SWILLER
INT. MAWP
40 / FV
PSIG AT
400
W
JKT. MAWP
PSIG AT
RT 3
JKT. MAWP
PSIG W INT FV
HT
MFR'S NO
30971
YEAR BUILT
1978
INSPECTED BY
R I C
GLASS
3008
NOM. CAP.
4000
U.S. GAL.
ITEM NO
TANK SH.THK. 35/64" TOP HD.THK. 35/64" BOT.HD.THK. 35/64" HD.ICR. 10 3/8"
JKT.SH.THK.
JKT.HD.THK.
JKT.HD.ICR.
MFG. BY DE DIETRICH & CIE-FRANCE
DIST. BY DE DIETRICH (U.S.A.), INC.
UNION, N.J. U.S.A.





PLAN VIEW TRUE ORIENTATION

MARK	SIZE	SERVICE
		ATTACHMENTS
R	–	NAMEPLATE SUPPORT BRACKET
S	–	(2) LIFTING LUGS TOP HEAD
T	–	(2) GUIDING LUGS BOTTOM HEAD
X	3"	(6) LEG CPLG.
		ACCESSORIES
D_1	18"	PLAIN ROUND HINGED COVER
D_2	⅞"	(18) M CLAMPS W/RETAINING RING
Y	3"	(6) PIPE LEGS (SCH. 40)
Z	3"	(6) ADJUSTABLE FEET PER DWG. Pi-390B & Pi-391A

MARK	SIZE	SERVICE
		NOZZLE SCHEDULE
D	18"	MANWAY W/PLAIN HINGED COVER
C ⚠	3"	N_2 INLET
E ⚠	3"	EMER. VENT / VACUUM BREAKER
A ⚠	3"	PROCESS INLET/FILL CONN.
G ⚠	3"	CONSERVATION VENT
H	3	BOTTOM OUTLET

GENERAL NOTES

1- BOLT CIRCLE & O.D. OF ALL SPLIT LOOSE FLANGES IN ACCORDANCE WITH ANSI, B16.5 SERIES 150 LBS. EXCEPT AS NOTED.
2- ALL DIMENSIONS ARE STEEL TO STEEL, AND ARE NOMINAL DUE TO HIGH TEMP. FIRING.
3- DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH ASME CODE, SEC VIII, DIV. I, LATEST ADDENDA.
4- ELECTROSTATIC TESTS 15,000 VOLTS AT FACTORY, 6000 VOLTS IN FIELD.
5- ALL NOZZLES SUPPLIED WITH SPLIT LOOSE FLANGE, EXCEPT WHERE NOTED.

MATERIALS OF CONSTRUCTION

VESSEL- SHELL & HEADS	SA 285 B
MANHOLE COVER	SA 285B
NOZZLES	SA 181-1
FLANGES	SA 181-1 OR SA 515-60
BACK UP FLANGES	SA 105
CLAMPS	SA 449
GASKETS	TFE ENVELOPE W/ASBESTOS & CORRUGATED METAL INSERTS.
GLASS	NO. 3008, BLUE, ACID/ALKALI/ THERMAL SHOCK RESISTANT.
PLUGS	(IF REQUIRED) TANTALUM / TFE / FURAN RESIN.
PAINT	PRIMER: ZINC-RICH EPOXY BOUND. FINISH: WHITE, EPOXY ENAMEL.
LIFTING LUGS	SA 285 B
BOLTS (when req'd.)	SA 193-B7
NUTS	SA 325 OR SA 194-2H

SPECIFICATIONS

DESIGN PRESSURE	40 psig or F.V.	2.75 bars
TEST PRESSURE	44 psig	3.03 bars
DESIGN TEMPERATURE	400°F	204°C
CORROSION ALLOW.	NONE	
RADIOGRAPH (longitudinal) (circumferential)	SPOT & PARTIAL	
HEAT TREATMENT	YES	
ASME STAMP & N.B. REG.	YES	
VOL- EACH HEAD		
VOL- PER INCH ST. SIDE		
VOL- TOTAL	4152 gal	15,716 L.
WEIGHT- EMPTY	8,700#	3,947 kg.
WEIGHT- FLOODED W/ H_2O	43,430#	19,703 kg.
WEIGHT- SHIPPING		

RELEASED FOR CONSTRUCTION

VENDORS PRINT — SIGN & FILE — DO No. C-454-4001

9/25/79 2A

CERTIFIED CORRECT
De Dietrich
BY
DATE SEPT 25 1979

REV	DESCRIPTION	ENGR.	DATE	BY
A	REV. PER. CUST. MARKED UP DWG. 8-13-79	WK	9-12-79	L2

De Dietrich (USA), Inc.
U.S. ROUTE 22 • UNION, NEW JERSEY

93688

VT-4000 GALLON GLASTOR® STORAGE TANK

CUSTOMER: FMC CORP
P.O.# C-454-4001 BALTIMORE, MD.

ENGINEERS: SINGMASTER & BREYER INC. NY, NY.

CUST. REF. DWG. / SPEC. NO. 393-400B FMC-2-80257

QUANTITY (1) One

TAG NO.(S) T-300

	INT.	DATE		
DWG. BY	L2	8-7-79	D.D.Z. SO#	
APPROVED			D.D.U. PO#	
RELEASED			D.D.Z. DWG.	
			SCALE	NONE

DWG. NO. D-3530 A
93688