

Allegato A

Report software Tanks 4.09d



TANKS 4.0.9d
Emissions Report - Detail Format
Tank Identification and Physical Characteristics

Identification

User Identification:	TK101
City:	Brindisi
State:	Italy
Company:	Brundisium
Type of Tank:	External Floating Roof Tank
Description:	Gasolio

Tank Dimensions

Diameter (ft):	78,08
Volume (gallons):	1.585.033,06
Turnovers:	8,34

Paint Characteristics

Internal Shell Condition:	Light Rust
Shell Color/Shade:	White/White
Shell Condition	Good

Roof Characteristics

Type:	Pontoon
Fitting Category	Detail

Tank Construction and Rim-Seal System

Construction:	Welded
Primary Seal:	Mechanical Shoe
Secondary Seal	Shoe-mounted

Deck Fitting/Status

Quantity

Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	2
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1
Unslotted Guide-Pole Well/Ungasketed Sliding Cover	1
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.	1
Roof Leg (3-in. Diameter)/Adjustable, Pontoon Area, Ungasketed	15
Roof Leg (3-in. Diameter)/Adjustable, Center Area, Ungasketed	10
Rim Vent (6-in. Diameter)/Weighted Mech. Actuation, Gask.	1



Meteorological Data used in Emissions Calculations: Brindisi, Italy (Avg Atmospheric Pressure = 14 psia)

TANKS 4.0.9d Emissions Report - Detail Format Liquid Contents of Storage Tank

TK101 - External Floating Roof Tank Brindisi, Italy

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg.	Min.	Max.		Avg.	Min.	Max.					
Distillate fuel oil no. 2	All	66,69	59,10	74,27	64,92	0,0082	N/A	N/A	130,0000			188,00	Option 1: VP60 = .0065 VP70 = .009
Benzene						1,4018	N/A	N/A	78,1100	0,0000	0,0020	78,11	Option 2: A=6.905, B=1211.033, C=220.79
Unidentified Components						0,0081	N/A	N/A	130,1720	1,0000	0,9980	188,00	

TANKS 4.0.9d Emissions Report - Detail Format Detail Calculations (AP-42)

TK101 - External Floating Roof Tank Brindisi, Italy

Annual Emission Calculations	
Rim Seal Losses (lb):	6,7689
Seal Factor A (lb-mole/ft-yr):	1,6000
Seal Factor B (lb-mole/ft-yr (mph) ⁿ):	0,3000
Average Wind Speed (mph):	4,3600
Seal-related Wind Speed Exponent:	1,6000
Value of Vapor Pressure Function:	0,0001
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0,0082
Tank Diameter (ft):	78,0800
Vapor Molecular Weight (lb/lb-mole):	130,0000
Product Factor:	1,0000
Withdrawal Losses (lb):	40,4712
Annual Net Throughput (gal/yr.):	13.215.213,1500
Shell Clingage Factor (bbl/1000 sqft):	0,0015
Average Organic Liquid Density (lb/gal):	7,1000



Tank Diameter (ft):	78,0800
Roof Fitting Losses (lb):	15,5179
Value of Vapor Pressure Function:	0,0001
Vapor Molecular Weight (lb/lb-mole):	130,0000
Product Factor:	1,0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	852,8472
Average Wind Speed (mph):	4,3600
Total Losses (lb):	62,7580

Roof Fitting/Status	Quantity	Roof Fitting Loss Factors		m	Losses(lb)
		KFa(lb-mole/yr)	KFb(lb-mole/(yr mph^n))		
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	2	1,60	0,00	0,00	0,0582
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1	14,00	5,40	1,10	0,5900
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6,20	1,20	0,94	0,1751
Unslotted Guide-Pole Well/Ungasketed Sliding Cover	1	31,00	150,00	1,40	13,5799
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.	1	0,47	0,02	0,97	0,0096
Roof Leg (3-in. Diameter)/Adjustable, Pontoon Area, Ungasketed	15	2,00	0,37	0,91	0,8246
Roof Leg (3-in. Diameter)/Adjustable, Center Area, Ungasketed	10	0,82	0,53	0,14	0,2619
Rim Vent (6-in. Diameter)/Weighted Mech. Actuation, Gask.	1	0,71	0,10	1,00	0,0185

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

TK101 - External Floating Roof Tank
Brindisi, Italy

Components	Losses(lbs)				Total Emissions
	Rim Seal Loss	Withdrawal Loss	Deck Fitting Loss	Deck Seam Loss	
Distillate fuel oil no. 2	6,77	40,47	15,52	0,00	62,76
Benzene	0,01	0,00	0,03	0,00	0,04
Unidentified Components	6,76	40,47	15,49	0,00	62,71



TANKS 4.0.9d
Emissions Report - Detail Format
Tank Identification and Physical Characteristics

Identification

User Identification:	TK-201
City:	Brindisi
State:	Italy
Company:	Brundisium
Type of Tank:	External Floating Roof Tank
Description:	Benzina

Tank Dimensions

Diameter (ft):	55,12
Volume (gallons):	792.516,53
Turnovers:	8,33

Paint Characteristics

Internal Shell Condition:	Light Rust
Shell Color/Shade:	White/White
Shell Condition	Good

Roof Characteristics

Type:	Pontoon
Fitting Category	Detail

Tank Construction and Rim-Seal System

Construction:	Welded
Primary Seal:	Mechanical Shoe
Secondary Seal	Shoe-mounted

Deck Fitting/Status

Quantity

Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	2
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1
Unslotted Guide-Pole Well/Ungasketed Sliding Cover	1
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.	1
Roof Leg (3-in. Diameter)/Adjustable, Pontoon Area, Ungasketed	9
Roof Leg (3-in. Diameter)/Adjustable, Center Area, Ungasketed	7
Rim Vent (6-in. Diameter)/Weighted Mech. Actuation, Gask.	1



Meteorological Data used in Emissions Calculations: Brindisi, Italy (Avg Atmospheric Pressure = 14 psia)

TANKS 4.0.9d Emissions Report - Detail Format Liquid Contents of Storage Tank

TK-201 - External Floating Roof Tank Brindisi, Italy

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg.	Min.	Max.		Avg.	Min.	Max.					
Gasoline (RVP 15.0)	All	66,69	59,10	74,27	64,92	9,1939	N/A	N/A	60,0000			92,00	Option 4: RVP=15, ASTM Slope=3
Benzene						1,4018	N/A	N/A	78,1100	0,0100	0,0023	78,11	Option 2: A=6.905, B=1211.033, C=220.79
Unidentified Components						9,2867	N/A	N/A	59,9674	0,9900	0,9977	92,17	

TANKS 4.0.9d Emissions Report - Detail Format Detail Calculations (AP-42)

TK-201 - External Floating Roof Tank Brindisi, Italy

Annual Emission Calculations	
Rim Seal Losses (lb):	3.835,0650
Seal Factor A (lb-mole/ft-yr):	1,6000
Seal Factor B (lb-mole/ft-yr (mph) ⁿ):	0,3000
Average Wind Speed (mph):	4,3600
Seal-related Wind Speed Exponent:	1,6000
Value of Vapor Pressure Function:	0,2434
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	9,1939
Tank Diameter (ft):	55,1200
Vapor Molecular Weight (lb/lb-mole):	60,0000
Product Factor:	1,0000
Withdrawal Losses (lb):	22,5749
Annual Net Throughput (gal/yr.):	6.597.700,1170
Shell Clingage Factor (bbl/1000 sqft):	0,0015
Average Organic Liquid Density (lb/gal):	5,6000



Tank Diameter (ft):	55,1200
Roof Fitting Losses (lb):	12.126,5517
Value of Vapor Pressure Function:	0,2434
Vapor Molecular Weight (lb/lb-mole):	60,0000
Product Factor:	1,0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	830,4003
Average Wind Speed (mph):	4,3600
Total Losses (lb):	15.984,1915

Roof Fitting/Status	Quantity	Roof Fitting Loss Factors		m	Losses(lb)
		KFa(lb-mole/yr)	KFb(lb-mole/(yr mph^n))		
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	2	1,60	0,00	0,00	46,7304
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1	14,00	5,40	1,10	473,5288
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6,20	1,20	0,94	140,5598
Unslotted Guide-Pole Well/Ungasketed Sliding Cover	1	31,00	150,00	1,40	10.898,9271
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.	1	0,47	0,02	0,97	7,7256
Roof Leg (3-in. Diameter)/Adjustable, Pontoon Area, Ungasketed	9	2,00	0,37	0,91	397,0937
Roof Leg (3-in. Diameter)/Adjustable, Center Area, Ungasketed	7	0,82	0,53	0,14	147,1609
Rim Vent (6-in. Diameter)/Weighted Mech. Actuation, Gask.	1	0,71	0,10	1,00	14,8252

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

TK-201 - External Floating Roof Tank
Brindisi, Italy

Components	Losses(lbs)				Total Emissions
	Rim Seal Loss	Withdrawal Loss	Deck Fitting Loss	Deck Seam Loss	
Gasoline (RVP 15.0)	3.835,07	22,57	12.126,55	0,00	15.984,19
Benzene	8,97	0,23	28,35	0,00	37,54
Unidentified Components	3.826,10	22,35	12.098,20	0,00	15.946,65