

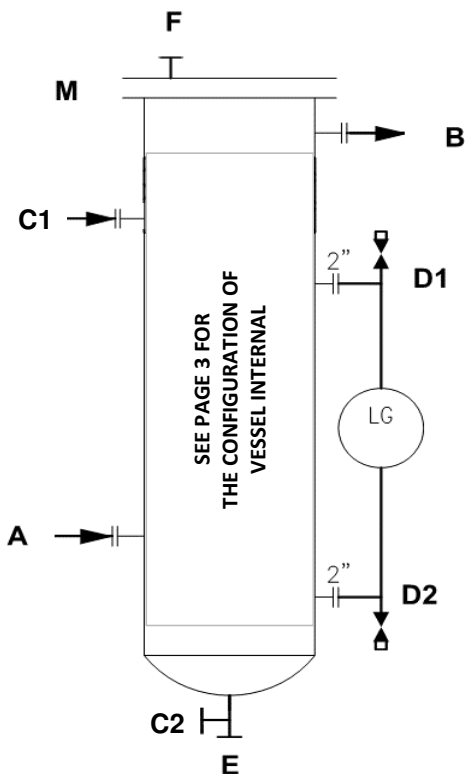
**ACID VAPOR TREATMENT
PACKAGE DATA SHEET**

Package Description: Vapor Treatment Packages			
Project No.: 02RT3160 / PTS 12948			
Requisition No.:	02RT3160-370001	Area/Unit:	082 Acid Gas Plant
Revision:	0	Date:	2019-06-27
Manufacturer:	S&S		
Package quantity:	2 (one for truck loading, one for rail loading)		

Rev

VESSEL

SKETCH - REFERENCE ONLY Note 2-2



VESSEL NAME	Scrubber	TAG NUMBER	V-25 & V-629
DIAMETER		LENGTH	
FLUID	Note 2-1	SUPPORT TYPE	
DESIGN DATA			
CODE	ASME SEC. VIII, Div 1	STAMP REQ.	NO
DESIGN PRES.	5 PSIG & Full Vacuum	DESIGN TEMP.	60 °C (140°F)
OPERATING PRES.	-6" WC	OPER. TEMP.	46.1°C (115°F)
CORROSION ALL'W.	Per specs		
WIND LOAD.	Regulation / client specs	SEISMIC FACTOR	Regulation / client specs
INTERNALS	Mist Eliminator Random Packing Make Up Water Distributor	Furn. By.	Vendor
STRESS RELIEVE	Per code		
HYDROTEST	Per ASME code, specs		
NDE			

CONSTRUCTION Note 2-3

ITEM	MATERIALS	COMMENTS
SHELL		
HEAD		
MIST ELIMINATOR		
SUPPORT		
NOZZLE NECK		
FLANGE		
GASKET		
NUTS & BOLTS		
LADDERS (CAGE)	NONE	
PLATFORMS	NONE	
PAINT	Per spec for carbon steel external surfaces	
INSULATION	NONE	
INSUL. SUP.	NONE	

NOZZLE SCHEDULE Note 2-2

MK	SERVICE	No.	SIZE	RATING	FACING	PROJECTION
A	Vapor Inlet	1	4"	CL150	RFWN	
B	Vapor Outlet	1	4"	CL150	RFWN	
C1	Make Up Water Inlet	1	2"	CL150	RFWN	
C2	Spare	1	2"	CL150	RFWN	
D1 / D2	Level Gauge	2	2"	CL300	RFLWN	
E	Drain	1	2"	CL150	RFWN	
F	Vent	1	2"	CL300	RFLWN	
M	Manway	1	24"	CL150	RFWN	Body flange c/w blind

NOTES

- 2-1. Fluids process conditions, properties and composition are on PFD attached.
- 2-2. The attached scrubber sketch is for reference ONLY, and Vendor shall either confirm or modify the dimensions, designs and other aspects of the scrubber and include the completed data sheet in the proposal.
- 2-3. Vendor shall use the proper material suitable for the service.

**ACID VAPOR TREATMENT
PACKAGE DATA SHEET**

Package Description: Vapor Treatment Packages

Project No.: 02RT3160 / PTS 12948

Requisition No.: 02RT3160-370001

Area/Unit: 082 Acid Gas Plant

Revision: 0

Date: 2019-06-27

Page

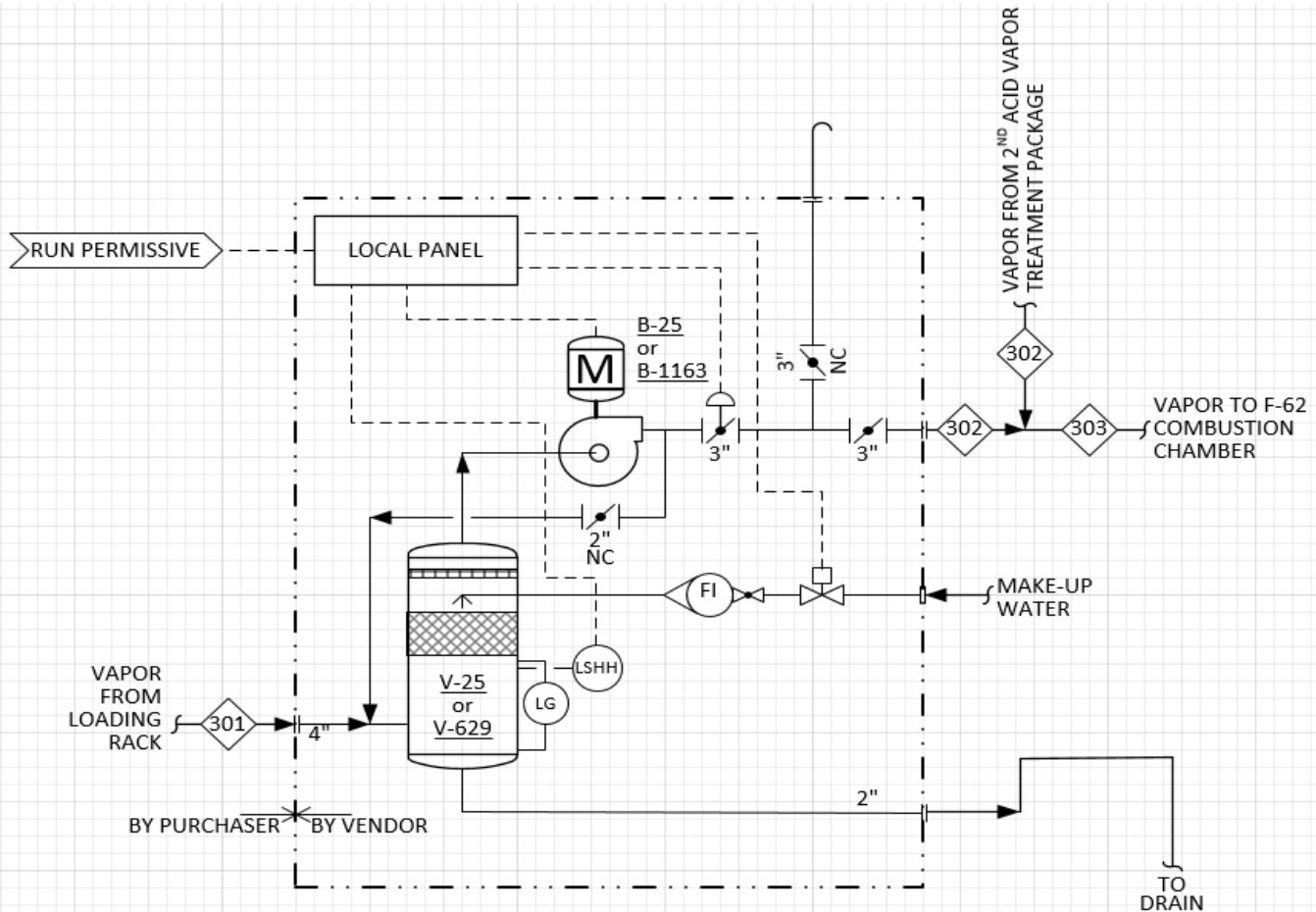
3 of 3

Manufacturer: S&S

Package quantity: 2 (one for truck loading, one for rail loading)

Rev

SYSTEM SKETCH & MATERIAL BALANCE



STREAM NUMBER		301		302		303		
		Case 1	Case 2	Case 1	Case 2	Case 1	Case 2	Case 3
Recovered Vapor from Truck or Railcar Loading Rack		Saturated Vapor from Truck / Railcar Loading Scrubber Package		Saturated Vapor from Truck / Railcar Loading Scrubber Package				
STREAM NAME	Units	V	V	V	V	V	V	V
PHASE		V	V	V	V	V	V	V
TEMPERATURE	°C	35.0	35.0	30.9	32.2	35.0	35.0	35.0
PRESSURE	PSIA	14.20	14.20	15.58	15.58	14.60	14.60	14.60
MOLAR FLOW	LBMOL/HR	15	15	15	15	15	15	31
MASS FLOW	LB/HR	434	434	440	440	440	440	879
STANDARD GAS FLOW	SCFM	95	95	97	97	97	97	194
ACTUAL GAS FLOW	ACFM	103	103	101	101	104	104	208
ACTUAL LIQUID FLOW	USGPM	--	--	--	--	--	--	--
MASS ENTHALPY	BTU/LB	2	-117	-81	-184	-81	-184	-131
MOLECULAR WEIGHT	LB/LBMOLE	28.9	28.9	28.9	28.7	28.9	28.7	28.7
COMPOSITIONS								
H2S	Mole%	0.0003	0.0000	0.0003	0.0000	0.0003	0.0000	0.0001
SO2	Mole%	0.0002	0.0074	0.0002	0.0071	0.0002	0.0071	0.0036
SO3	Mole%	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
H2O	Mole%	0.0002	0.0068	0.0227	0.0255	0.0227	0.0255	0.0241
H2SO4	Mole%	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000
O2	Mole%	0.2114	0.0000	0.2066	0.0000	0.2066	0.0000	0.1035
N2	Mole%	0.7879	0.9547	0.7702	0.9369	0.7702	0.9369	0.8534
CO2	Mole%	0.0000	0.0026	0.0000	0.0025	0.0000	0.0025	0.0013
CO	Mole%	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
H2	Mole%	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
C3Hx	Mole%	0.0000	0.0145	0.0000	0.0142	0.0000	0.0142	0.0071
n-Butane	Mole%	0.0000	0.0127	0.0000	0.0125	0.0000	0.0125	0.0062
n-Pentane	Mole%	0.0000	0.0013	0.0000	0.0012	0.0000	0.0012	0.0006
Remarks		Note 1	Note 2	Note 3	Note 4	Note 5	Note 6	Note 7

Notes: 1) 93% or 98% acid loading case. Estimated pressure at scrubber package inlet.
 2) Spent acid loading case. Estimated pressure at scrubber package inlet.
 3) 93% or 98% acid loading case. Estimated pressure at scrubber package outlet.
 4) Spent acid loading case. Estimated pressure at scrubber package outlet.
 5) 93% or 98% acid is loaded at only one of the loading racks. Estimated pressure near destination.

6) Spent acid is loaded at only one of the loading racks. Estimated pressure near destination.
 7) Spent acid is loaded at one of the loading racks while 93% or 98% acid is loaded at other loading rack. Estimated pressure near destination.