PURE-AIRE, INC.

OPERATORS MANUAL and PARTS LIST

PAR

air reactivated desiccant dryer

PURE-AIRE, INC.
(A SUBSIDIARY OF SULLAIR CORP.)
301 W. 32nd ST.
CHARLOTTE, NORTH CAROLINA 28225

P/N 250041-225

PURE-AIRE WARRANTY

All Pure-Aire products (with the exception of PDC's and POV's) are warranted to be free from defective materials and workmanship for a period of twelve months from date of installation, not to exceed fifteen months from date of shipment from our factory. Any equipment, material or part proving so defective will be replaced free of charge, (F.O.B. our plant) provided that within the above stated time limits Pure-Aire is notified of the alleged defect and that should Pure-Aire authorize return of such parts they be returned to Pure-Aire, Charlotte, NC; freight prepaid within 30 days after such authorization.

Dryer components furnished to Pure-Aire by third parties, such as electric motors, refrigerant compressors, heat exchangers and controls are warranted only to the extent of the original manufacturer's warranty to Pure-Aire.

THIS STATEMENT OF WARRANTY IS EXPRESSLY IN LIEU OF AND DISCLAIMS ALL OTHER EXPRESS WARRANTIES, IMPLIED WARRANTIES OF MERCHANTABILITY AND ALL OTHER IMPLIED WARRANTIES. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. THIS WARRANTY DOES NOT INCLUDE LIABILITY FOR CONSEQUENTIAL DAMAGES. THIS WARRANTY DOES NOT APPLY TO ANY UNIT DAMAGED BY ACCIDENT, MISUSE OR NEGLIGENCE. DAMAGE TO FREON EVAPORATOR BY AMMONIA OR OTHER CORROSIVES WILL DEFINITELY BE CONSIDERED MISUSE.

All claims under this warranty should be made by contacting the Sullair distributor who sold the machine (or the factory) describing the malfunction. A service technician will then be provided by Pure-Aire or our distributor or Pure-Aire may authorize procurement of the services of a competent local refrigeration service company. Unauthorized claims will be disallowed.

PDC's are warranted as above, except that a service technician will only be provided by Pure-Aire within a 60 day period from date of shipment. Defective materials will be warranted for twelve months from date of shipment. POV drain valves are warranted to be free from defects in materials or workmanship for a period of 6 months from date of shipment. No Service technician will be provided.

Outside the continental United States, Puerto Rico, or Canada, Pure-Aire products are warranted as above except that a service technician will not be provided at our expense.

EFFECTIVE 1 SEPT. 81

PURE-AIRE AIR REACTIVATED DESICCANT DRYER
OPERATORS MANUAL & PARTS LIST

TABLE OF CONTENTS

Model No.: _____

Serial No.: _____

Voltage _____ NEMA _____

Design: _____ Inlet SCFM at _____ psig

Purge Orifice: _____

PURE-AIRE, INC.
P.O. BOX 5584, CHARLOTTE, NORTH CAROLINA 28225
General Offices and Plant: 301 W. 32nd STREET, CHARLOTTE, NC 28225
Phone: 704/377-4815
Telex: 57-2498

Effective: 4/18/80
Supersedes: 12/20/77

PURE-AIRE AIR REACTIVATED DESICCANT DRYER

INTRODUCTION

A) Acquaint yourself with the PURE-AIRE desiccant dryer by reviewing this manual. Installation of this dryer with optional accessory PURE-AIRE filters will provide you with minus 40 as standard or minus 100 as optional pressure dewpoint of instrument quality compressed air.

B) You can expect many years of trouble free service from your PURE-AIRE desiccant dryer. Superior dew point depression will be obtained and operating problems will be avoided by careful installation and by proper maintenance procedures. By familiarizing yourself with the dryer operation, you can readily locate and solve any problem, should a malfunction occur.

C) The compressed air drying system is easily followed by reference to the suggested piping arrangement (Drawing 8076) and the dryer flow schematic (Drawing 8196).

D) Indication of proper dryer operation can be made by visual inspection of the pressure gauges and valve positions.

INSTALLATION - LOCATION

A) The dryer should be located on a level floor free from vibrations.

B) The ambient temperature range should fall within the plus 35° F. to plus 120° F. range. Dryer operation outside this temperature range should be avoided.

C) Allow three (3) feet on all sides of the dryer to permit making connections and to service components.

INSTALLATION - GENERAL

A) Make sure undue stress is not placed on the dryer fittings when connecting all piping.

B) Check to see that all pipe and tubing connections are tight as they may have loosened during transit.

C) Make control electric connections.

INSTALLATION - PREFILTRATION

A) It is important to install a good coalescing prefilter upstream of any regenerative desiccant dryer. Good prefiltration of the inlet air will enhance the dew point depression capability and prolong the life of the desiccant. The prefilter should remove all entrained liquids (both water and compressor lubricant) **before** they can enter the dryer and foul the desiccant.

B) Connect the aftercooler-separator outlet (on rotary screw compressors) or the outlet from the air receiver (on piston type compressors) to the prefilter inlet. The prefilter outlet should be connected to the dryer inlet.

C) The prefilter sump should be piped to a suitable drain using an automatic trap to ensure adequate separated liquid disposal.

INSTALLATION - AFTERFILTRATION

A) All regenerative desiccant dryers gradually produce abrasive desiccant fines. These particulates can readily be removed by a suitable afterfilter.

B) Connect the dryer outlet to the afterfilter inlet and the afterfilter outlet to the compressed air distribution system.

INSTALLATION - BLOCK & BYPASS

A) Suitable manual block and bypass valving should be installed to facilitate servicing the dryer and filters without interruption of compressed air flow. Bypass valving should be bubble-tight to assure shut-off and prevent migration of water vapor. (See Drawing 8076)

CAUTION: DO NOT SERVICE DRYER OR FILTERS WITHOUT FIRST REDUCING INTERNAL PRESSURE TO ZERO PSIG.

INSTALLATION - SUGGESTED PIPING ARRANGEMENTS

A) A suggested piping arrangements drawing (Drawing 8057) depicts the proper arrangement for both rotary and piston compressor applications.

INSTALLATION - PURGE EXHAUST PIPING

A) To eliminate either nuisance caused by tower depressurization, purge exhaust noise and/or indoor moisture condensation, the purge exhaust may be piped outdoors.

B) The extended purge exhaust piping must be kept as short as possible to prevent harmful tower back-pressure build-up during desiccant regeneration.

C) If the equivalent length of pipe does not exceed 10 feet, the extended purge exhaust piping may be the same size as the purge exhaust valve. If the equivalent length of pipe does not exceed 20 feet, the extended purge exhaust piping should be one pipe size larger than the purge exhaust valve.

D) For unusual installations consult your PURE-AIRE distributor or the factory.

START-UP

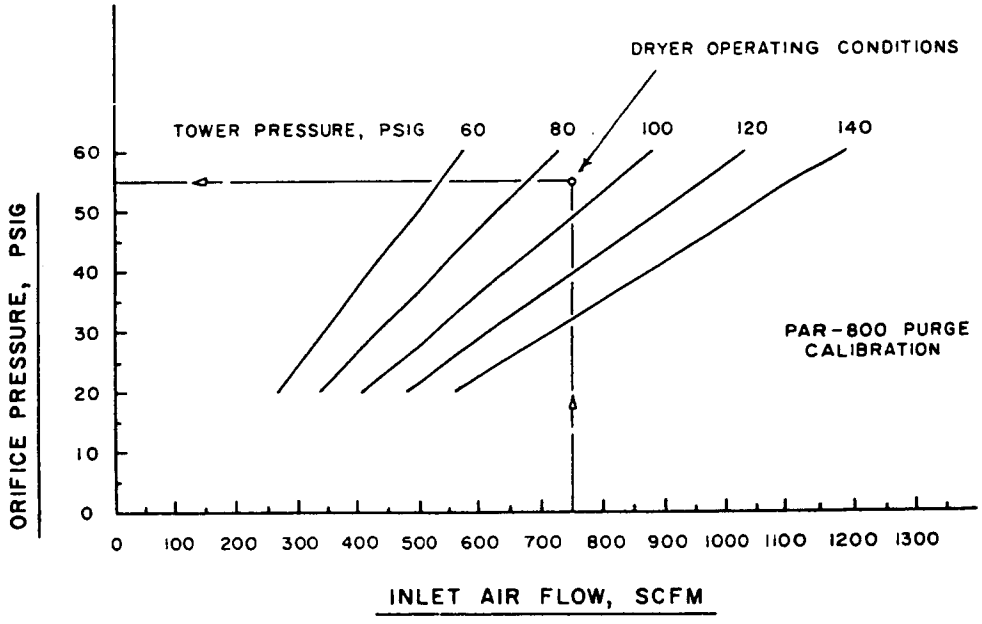
A) Before turning the dryer control power switch on, open the block valve upstream of the dryer to *gradually* pressurize the dryer towers. Open the manual purge control valve slightly to permit air flow into both desiccant towers. When the dryer pressure gauges indicate full compressed air line pressure, the dryer outlet block valve can be slowly opened. Then the dryer bypass valve should be closed. Compressed air flow is now through the drying system. (See Drawing 8076)

B) Dryer operation should never be initiated by *suddenly* pressurizing the dryer towers from the inlet end as the desiccant beads could be fluidized by the rapid in-rush of high velocity air. Desiccant fluidization will create excessive desiccant fines and hasten the need for desiccant bed replacement.

C) The dryer control power switch should now be turned on. Immediately, or at most, one minute after activating the dryer control circuit, one tower will depressurize to atmospheric pressure through the purge exhaust valve. Air reactivation purge will then flow through the depressurized tower.

D) Adjust the manual purge flow control valve so that the purge orifice pressure gauge indicates the proper pressure for actual dryer operating conditions. Check the *Purge Calibration Plot* (having the same size orifice as listed on this manual's Table of Contents Page) found within this manual. Locate the inlet wet air flow rate and proceed up to the dryer operating pressure, read the proper purge orifice set pressure from the left axis of the plot.

In the example below, where the wet inlet compressed air flow is 750 SCFM and the dryer tower pressure is 90 psig, the proper purge orifice set pressure is 55 psig:



The purge orifice pressure can only be set when the purge exhaust valve is open.

E) The dryer should operate continuously for several days to condition the desiccant to its dry state. During this step, all residual adsorbed water vapor is stripped from the desiccant. Desiccant "conditioning" may be hastened by employing excess purge.

OPERATION

The operation of the PURE-AIRE air reactivated desiccant dryer can be easily followed by referring to the Dryer Flow Schematic (Drawing 8196) and the Wiring Diagram (Drawing 8058). The sequence of operations is fully automatic and is controlled by a non-adjustable cam type timer.

Wet and dirty compressed air leaving the compressor aftercooler and mechanical separator is freed of entrained liquids and aerosols, as well as solid contaminants, by the accessory coalescing prefilter. Liquid contaminants are discharged from the prefilter sump through an automatic drain trap.

The compressed air, still laden with water vapor, enters either the left or right tower of the desiccant dryer, depending upon the position of the inlet switching valve. Assume that the wet inlet compressed air is being dried by the left desiccant tower.

Within the left tower, the compressed air gives up its water vapor to the "thirsty," super dry desiccant. The dry compressed air leaving the left tower will have a pressure dew point of minus 40° F. as standard or minus 100° F. as an option.

A small portion of this dry compressed air is expanded to near atmospheric pressure by passage through the manual purge flow control valve and the purge orifice. Expansion of this already dry gas to near atmospheric pressure increases the ability of the purge stream to strip previously adsorbed water vapor from the partially saturated desiccant within the right tower. The water vapor removed from the desiccant is passed out of the dryer through the purge exhaust valve and muffler.

Prior to tower switchover or reversal, the purge exhaust valve is closed and the right chamber is gradually brought back up to line pressure by air flow through both the purge circuit and the separate repressurization circuit. This assures that both towers are at equal pressure before switchover and that no desiccant bed "bumping" can take place upon tower reversal.

The dryer inlet valve will then switch, diverting wet inlet compressed air flow to the right tower. The purge exhaust valve will then open, depressurizing the left desiccant tower and permitting air reactivation of the desiccant within the left tower.

This process will repeat as long as the control power switch is in the on position. Should the control power switch be turned "off," or should an electrical power failure occur, the dryer inlet switching valve will remain "as is" and the purge exhaust valve will automatically close. Compressed air flow can still be effectively dried for several hours before a substantial increase in outlet dry air dew point will occur.

The dry gas leaving the PURE-AIRE desiccant dryer passes through an accessory afterfilter where all desiccant fines are removed.

WARRANTY

The PURE-AIRE desiccant dryer is warranteed for one year against defects in material and workmanship. This warranty includes both parts and labor. This warranty does not cover damages caused by misuse or negligence. Notify the PURE-AIRE distributor from whom the dryer was purchased for warranty claims, or contact the factory.

PARTS

A) Parts can be ordered from the nearest PURE-AIRE distributor. If for any reason parts cannot be obtained in this manner, contact the factory.

B) When ordering parts, always indicate the dryer Serial Number. This can be obtained from the dryer serial number plate located on the dryer electrical enclosure or the Table of Contents page of this manual.

C) Standard fasteners (capscrews, nuts, washers, etc.) and standard pipe, tubing, plus other standard hardware have not been included in the parts list. These items can be obtained quicker and more economically from local sources.

MAINTENANCE

A) **Prefilter**

The filter elements should be replaced whenever the pressure drop over the prefilter becomes excessive. Filter life can be extended by placing a mechanical separator immediately upstream of the coalescing prefilter, if one has not been provided with the aftercooler.

It is important to check the operation of the automatic drain trap to assure that separated liquids are not accumulating within the prefilter housing sump to be eventually carried over to the dryer, for the dryer cannot remove water in the liquid form

B) **Purge Rate**

An adequate supply of purge gas is essential for proper desiccant reactivation and desired dew point depression. Ready adjustment of the purge rate can be made with the manual purge flow control valve.

If it is desired to operate the dryer at altered inlet conditions such as increased inlet air flow rate, or decreased inlet pressure, use the Purge Calibration Plot to determine the correct purge orifice set pressure.

C) **Afterfilter**

The filter elements should be replaced whenever the pressure drop over the afterfilter becomes excessive.

D) **Control Air Filter**

Frequent inspection and replacement of the control air filter element will protect the dryer solenoid valves and valve actuators from particulate matter.

E) **Solenoids**

Failure of a solenoid to function properly may be caused by:

1) A faulty control circuit. Check the electrical system including the timer micro switches to verify that the solenoid is receiving electrical input.
2) A burnt out coil. Replace solenoid coil.
3) Improper voltage. Input voltage should be within plus or minus 10% of solenoid nameplate voltage. Too low a voltage may cause solenoid chattering.
4) Leakage. Take apart valve and clean as required. Replace worn or damaged parts.

F) **Cycle Timer**

Cams have been accurately set in the factory and should not be adjusted in the field. Should the timer camshaft fail to rotate, check for a burnt out motor, and replace if need be.

G) **Valve Seats & Seals**

The inlet 4-way switching valve and the 2-way purge exhaust valve both contain reinforced Teflon seats and seals. It is recommended that valve rebuilding kits be kept on hand as spares.

H) **Desiccant Replacement**

The spent desiccant is drained from the towers through the desiccant drain ports. Fresh desiccant is charged to the towers through the desiccant fill ports.

Leave a space above the desiccant bed to permit some bed motion and expansion during dryer operation.

Be certain only to employ the special activated alumina desiccant PURE-AIRE can supply. It excels with respect to both dew point depression ability and attrition resistance.

I) **Suggested Preventive Maintenance**

1) **Monthly**
   a) Check operating conditions of inlet flow, pressure, temperature, and purge orifice pressure.
   b) Check the pressure loss over the pre- and after-filters. Replace filter elements if excessive.
   c) Watch dryer through a complete cycle to assure proper tower switching, depressurization, purging, and repressurization.

2) **Semi-Annually**

a) Blow down pressure relief valves.

b) Check dew point with a reliable dew point apparatus.

3) **Annually**

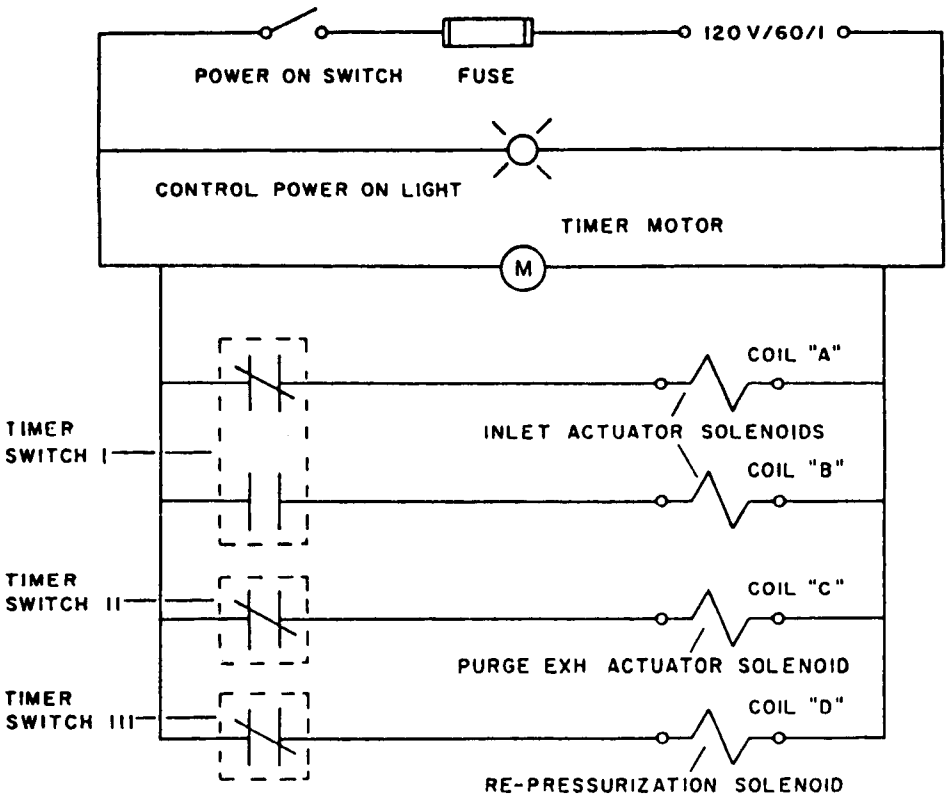
a) Inspect desiccant and replace if it is badly broken up, or fractured, or contaminated with compressor lubricant.

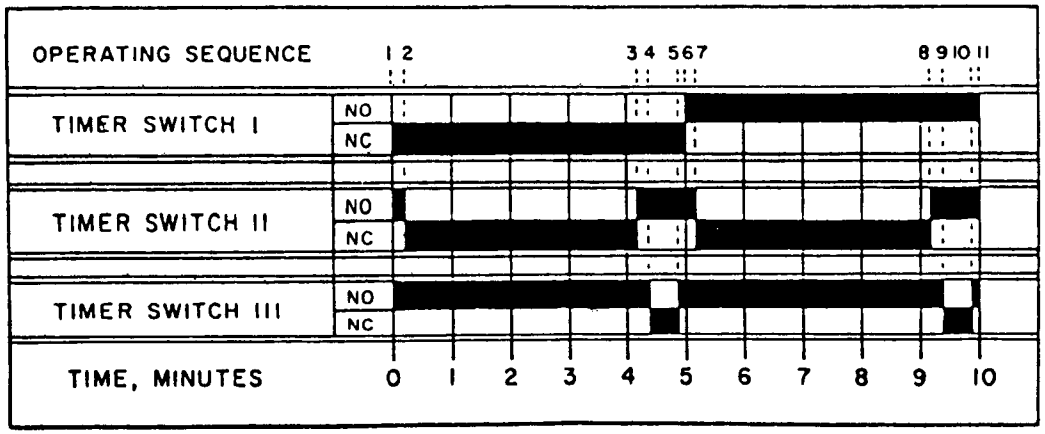
b) Inspect and clean solenoid valves.

c) Inspect seats and seals with a 4-way switching and 2-way purge exhaust valves and replace if badly worn or scored.

J) **Trouble Shooting**

Problem	Probable Cause	Remedy
Poor Dew Point Depression	1) Entrained water	1) Check mechanical separator, coalescing prefilter & drain traps
	2) Too little purge	2) Check purge flow control circuit for proper pressure setting
	3) Inlet pressure below design	3) Check pressure & reset purge pressure
	4) Inlet flow rate too high	4) Check flow rate and reset purge pressure
	5) Inlet temperature above 120°F.	5) Check compressor aftercooler operation
	6) Desiccant soaked with compressor lubricant	6) Replace desiccant and check filter elements
High Pressure Drop Over Dryer	1) Excessive inlet flow	1) Check flow rate
	2) Inlet pressure below design	2) Check pressure
Switching Failure	1) No input power	1) Check fuse, timer motor and micro-switches
	2) No pilot air	2) Check pilot air lines and control air filter
	3) Faulty switching valve	3) Check solenoid, actuator and 4-way valve
	4) "O" Ring defective	4) Check inlet solenoid valve for constant air loss and replace "O" Ring
Dryer Fails to Pressurize	1) Purge exhaust valve fails to close	1) Check timer microswitch, solenoid, actuator and purge exhaust valve
	2) Faulty re-pressurization valve	2) Check timer microswitch and re-pressurization solenoid
Failure to Purge	1) Purge flow control valve closed	1) Open and properly set purge orifice pressure
	2) Purge exhaust valve fails to open	2) Check timer microswitch, solenoid actuator and purge exhaust valve
Excessive Tower Back-Pressure	1) Clogged muffler	1) Clean or replace
	2) Purge exhaust piping of excessive length	2) Increase pipe and fitting size
Too Rapid Rate of De-pressurization	1) Too rapid purge exhaust valve opening	1) Adjust flow control valve
One Tower Has Low Pressure	1) Defective check valve or valves	1) Repair or replace defective tower purge check valve and/or opposite tower outlet check valve

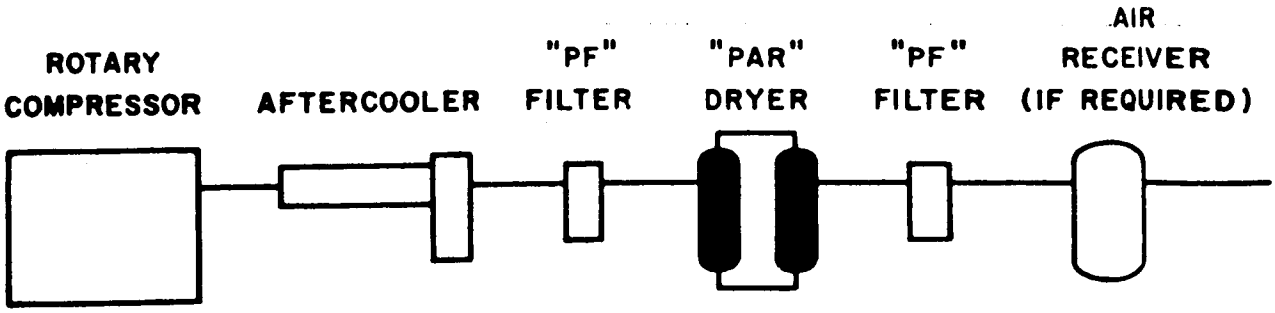


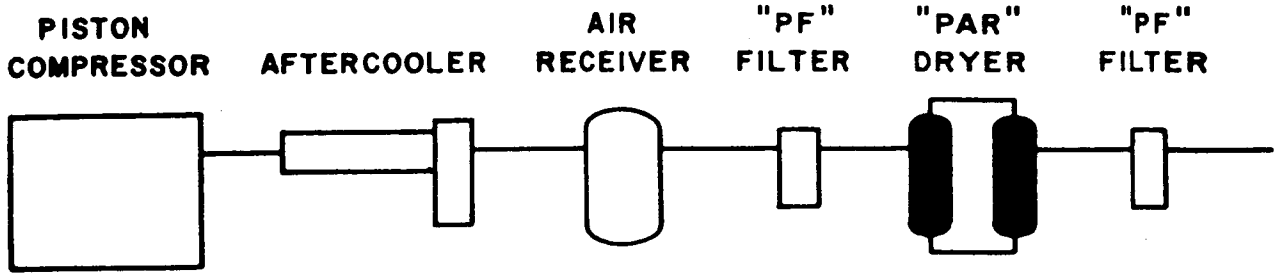


OPERATING SEQUENCE

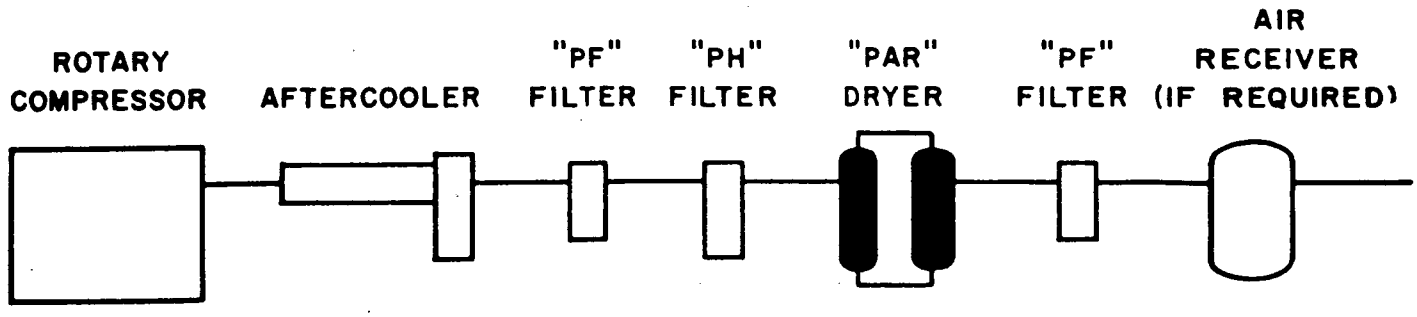
1. COIL "A" ENERGIZED & COIL "B" DE-ENERGIZED (WET COMPRESSED AIR TO LEFT TOWER FOR DRYING)
2. COIL "C" ENERGIZED (RIGHT TOWER DE-PRESSURIZES, DRY AIR PURGE INITIATED TO REACTIVATE RT TOWER DESICCANT)
3. COIL "C" DE-ENERGIZED (REACTIVATING PURGE TERMINATES, RIGHT TOWER BEGINS RE-PRESSURIZATION THRU PURGE CIRCUIT)
4. COIL "D" ENERGIZED (RIGHT TOWER RE-PRESSURIZES THRU SEPARATE RE-PRESSURIZATION CIRCUIT)
5. COIL "D" DE-ENERGIZED (RIGHT TOWER COMPLETES RE-PRESSURIZATION, AWAITS SWITCH-OVER)
6. COIL "B" ENERGIZED & COIL "A" DE-ENERGIZED (WET COMPRESSED AIR TO RIGHT TOWER FOR DRYING)
7. COIL "C" ENERGIZED (LEFT TOWER DE-PRESSURIZES, DRY AIR PURGE INITIATED TO REACTIVATE LT TOWER DESICCANT)
8. COIL "C" DE-ENERGIZED (REACTIVATING PURGE TERMINATES, LEFT TOWER BEGINS RE-PRESSURIZATION THRU PURGE CIRCUIT)
9. COIL "D" ENERGIZED (LEFT TOWER RE-PRESSURIZES THRU SEPARATE RE-PRESSURIZATION CIRCUIT)
10. COIL "D" DE-ENERGIZED (LEFT TOWER COMPLETES RE-PRESSURIZATION, AWAITS SWITCH-OVER)
11. CYCLE REPEATS

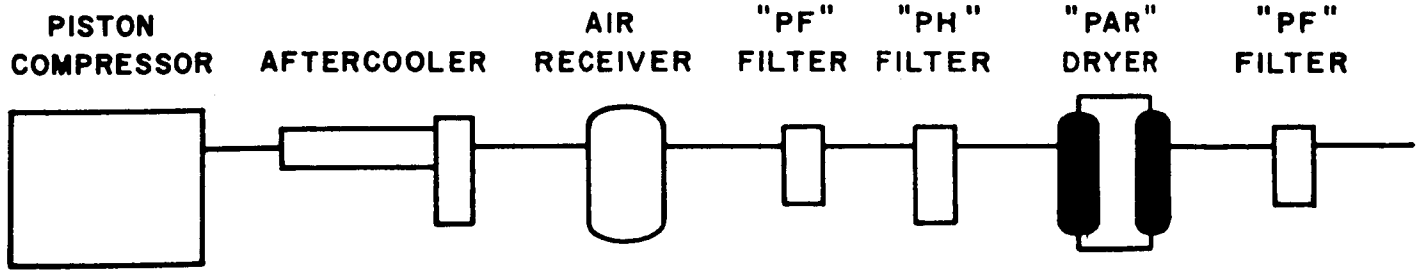
PURE-AIRE, INC.	SCALE —	DRAWN BY EMP	APPROVED BY
TITLE: PAR DRYER WIRING DIAGRAM			
DATE: 7-22-76	DRAWING NUMBER: 8058		





CLEAN COMPRESSED AIR APPLICATION



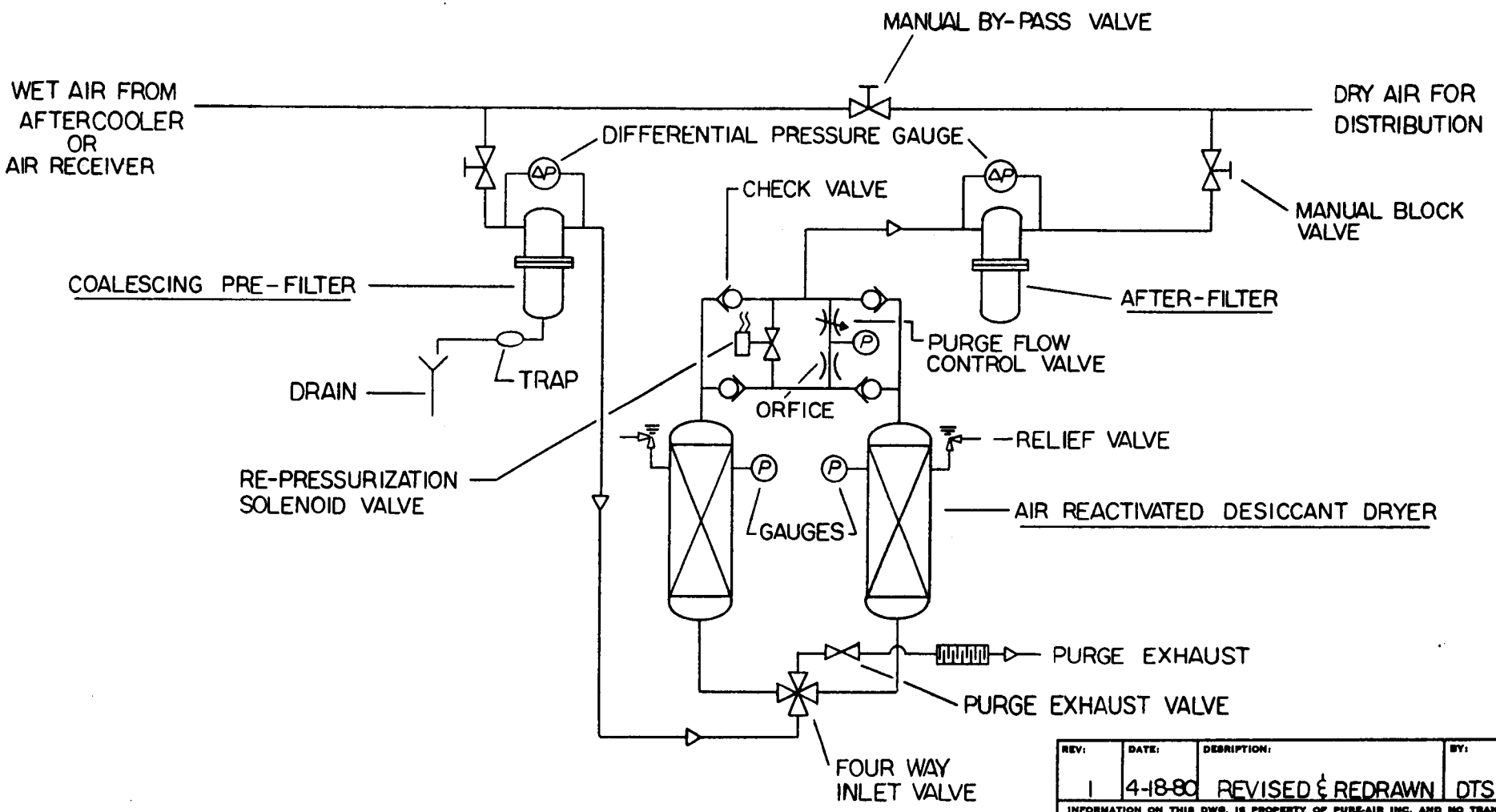


CONTAMINANT FREE COMPRESSED AIR APPLICATION

NOTE: IT IS SUGGESTED THAT BY-PASS PIPING BE PLACED AROUND DRYERS AND FILTERS FOR EASE OF SERVICING.

SUGGESTED PIPING ARRANGEMENTS FOR "PAR" INSTALLATION

8076



REV:	DATE:	DESCRIPTION:	BY:
1	4-18-80	REVISED & REDRAWN	DTS

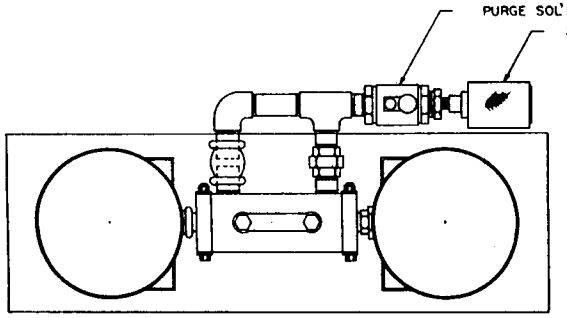
DATE: 9-5-76 | SCALE: —— | DRAWN BY: EMP

TITLE: RECOMMENDED INSTALLATION

PURE-AIRE INC.
CHARLOTTE, N. C.

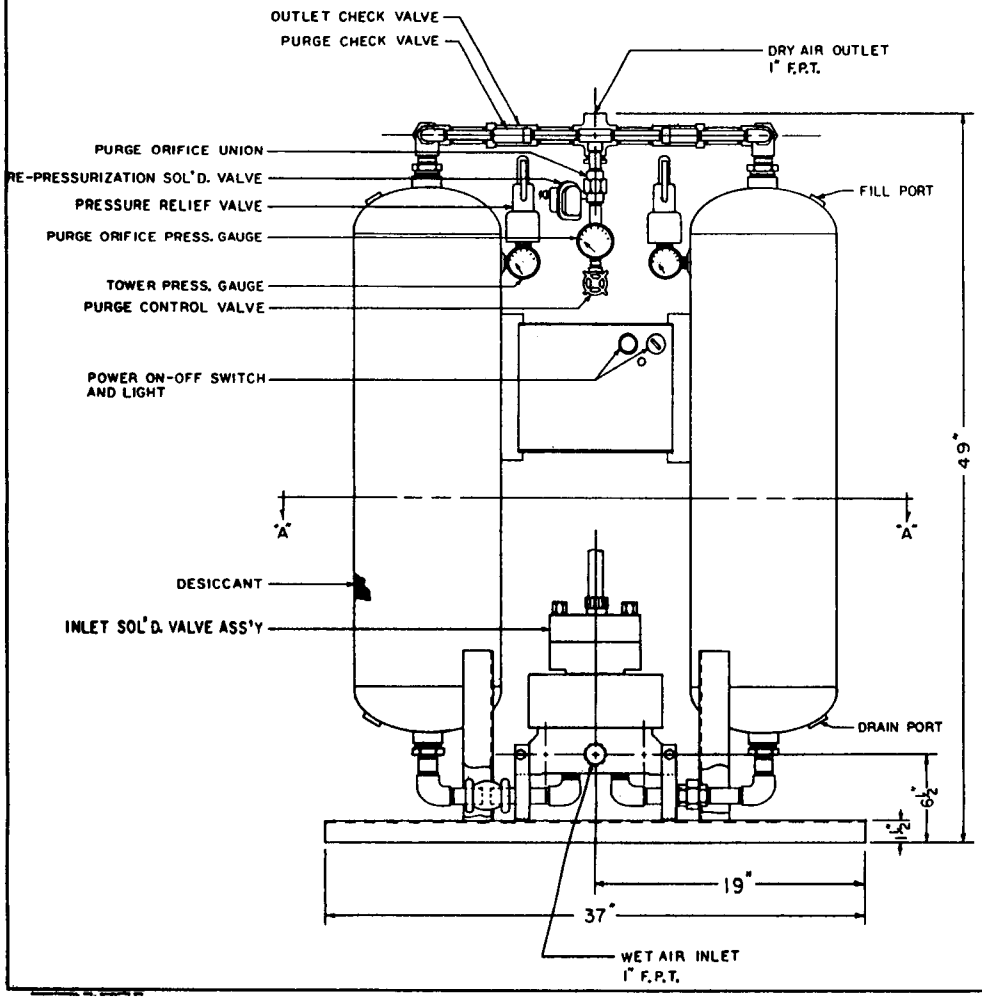
DRAWING NUMBER: 8076

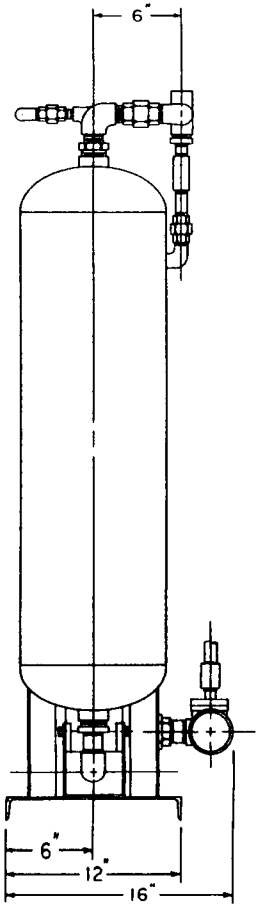
DUNCAN-PARNELL, INC., CHARLOTTE 978



WEIGHTS	LBS	KG
PAR 50	380	173
PAR 75	400	182
PAR 100	420	191

SECTION "A-A"





4176

REV.	DATE	DESCRIPTION	BY

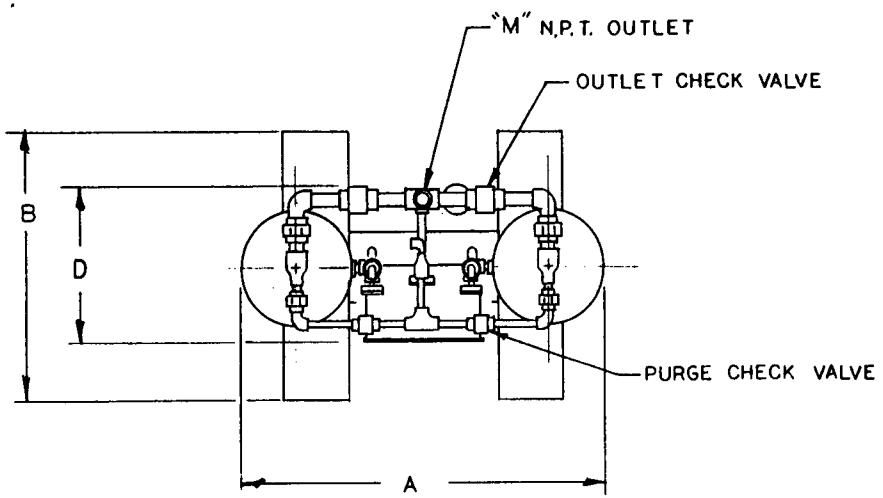
DATE 2-6-82 | SCALE 1/4" = 1" | DRAWN BY

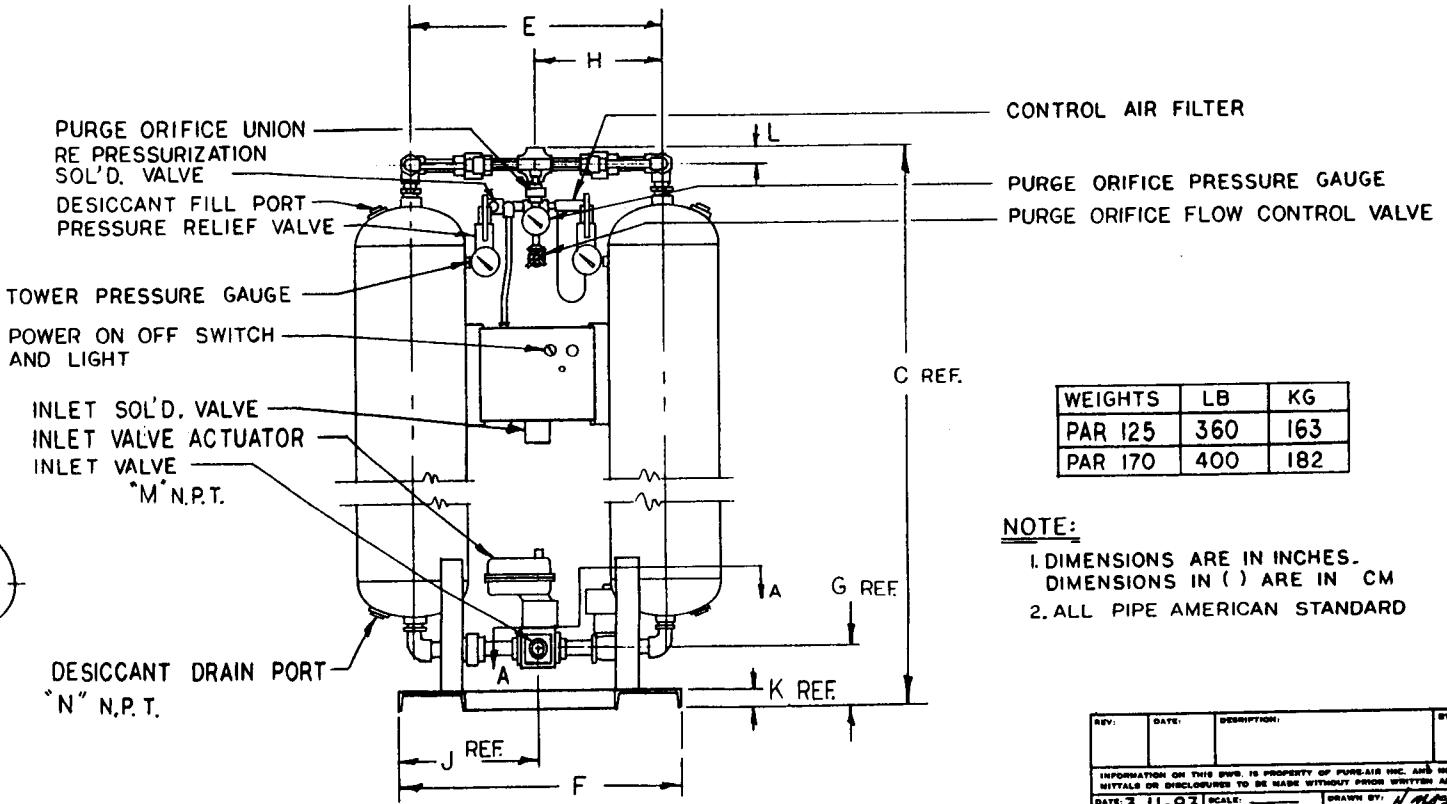
TITLE GENERAL ARRANGEMENT ASS'Y. PAR-50,75 & 100

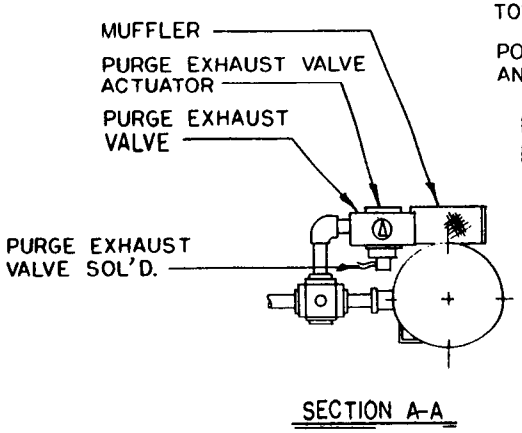
PURE-AIRE INC. CHARLOTTE, N. C.

DRAWING NUMBER 003261

PAR	125	170
A	33	(83.8)
B	24	(61)
C	60½	(153.7)
D	13¾	(35)
E	23	(58.4)
F	26	(66)
G	7	(17.8)
H	11½	(29.2)
J	12¾	(32.4)
K	1 15/16	(4.9)
L	1¾	(4.5)
M	1¼	(N/A)
N	1½	(N/A)







SECTION A-A

WEIGHTS	LB	KG
PAR 125	360	163
PAR 170	400	182

NOTE:

1. DIMENSIONS ARE IN INCHES. DIMENSIONS IN ( ) ARE IN CM
2. ALL PIPE AMERICAN STANDARD

REV:	DATE:	DESCRIPTION:	BY:

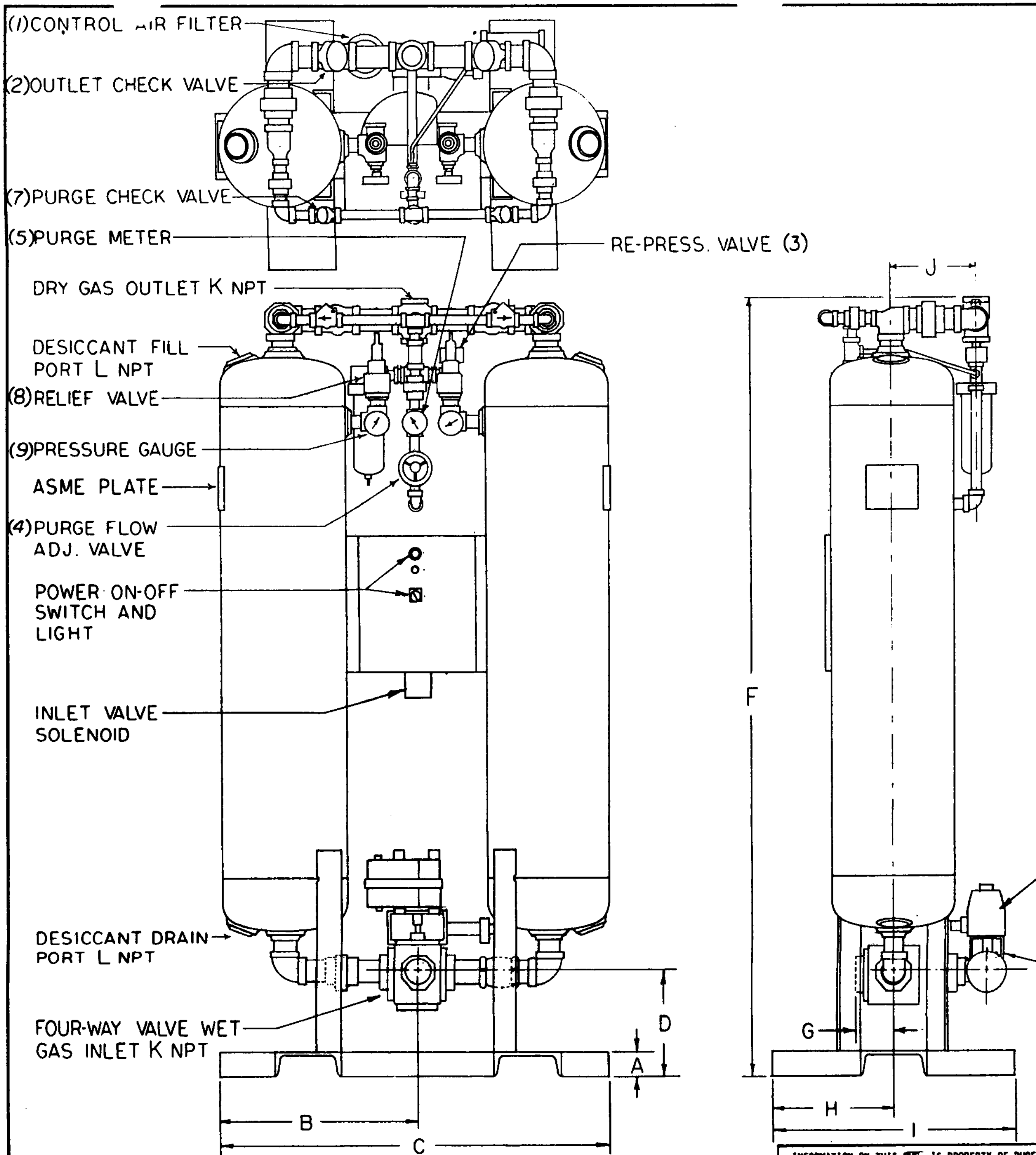
DATE: 3-11-83 SCALE: — DRAWN BY: N. Massey

TITLE: GENERAL ARRANGEMENT ASSY. PAR 125 170

4074

PURE-AIRE INC. CHARLOTTE, N. C.

DRAWING NUMBER: 003169



MODEL NO.		PAR-250	PAR-350	PAR-500	PAR-600
CFM@ 100 PSIG		240	350	520	600
A	IN.	2	2	2	2
	CM	5.1	5.1	5.1	5.1
B	IN.	19 1/2	19 1/2	25	25
	CM	49.5	49.5	63.5	63.5
C	IN.	39	39	50	50
	CM	99	99	127	127
D	IN.	7 1/2	7 1/2	7 1/2	7 1/2
	CM	19	19	19	19
F	IN.	71	71	70	70
	CM	180.3	180.3	177.8	177.8
G	IN.	3 5/16	3 5/16	3 7/8	3 7/8
	CM	8.4	8.4	9.8	9.8
H	IN.	12	12	14 1/2	14 1/2
	CM	30.5	30.5	36.8	36.8
I	IN.	24	24	29	29
	CM	61	61	73.7	73.7
J	IN.	7 3/4	7 3/4	8 3/4	8 3/4
	CM	19.7	19.7	22.2	22.2
K	AM. STD.	1 1/2	1 1/2	2	2
L	AM. STD.	1 1/2	1 1/2	2	2
WGT.	LBS.	575	670	960	1080
	KG	261	304	435	490

4038

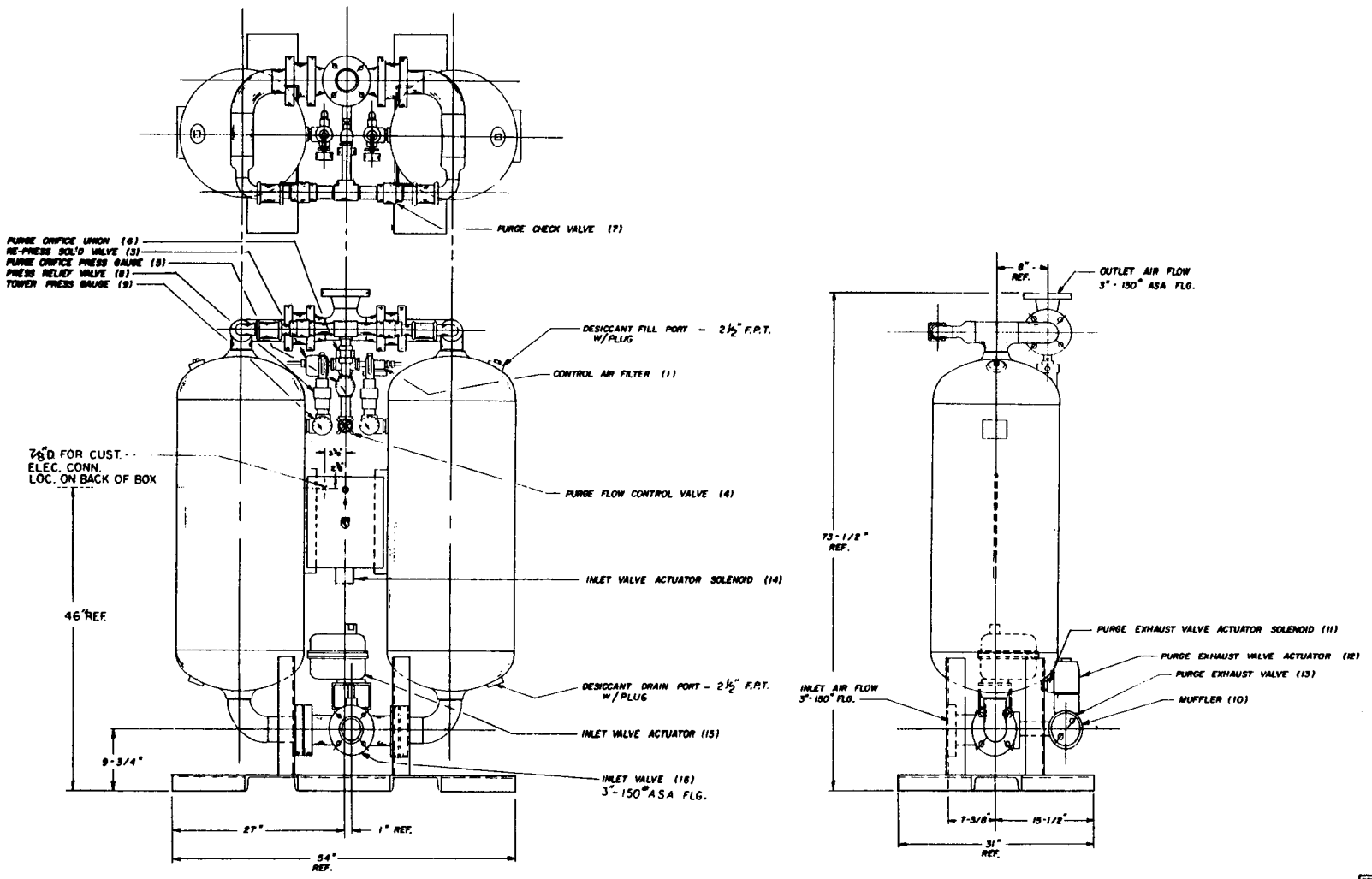
REV.	DATE	DESCRIPTION	BY
	8-9-80	Revised Dimensions & Weights	

SCALE: —
DATE: 4-6-76
APPROVED BY:
DRAWN BY EMP

PAR DESICCANT DRYER

PURE-AIRE INC.

DRAWING NUMBER 003133



4085

REV:	DATE:	DESCRIPTION:	BY:
C	3-19-85	[illegible]	[illegible]

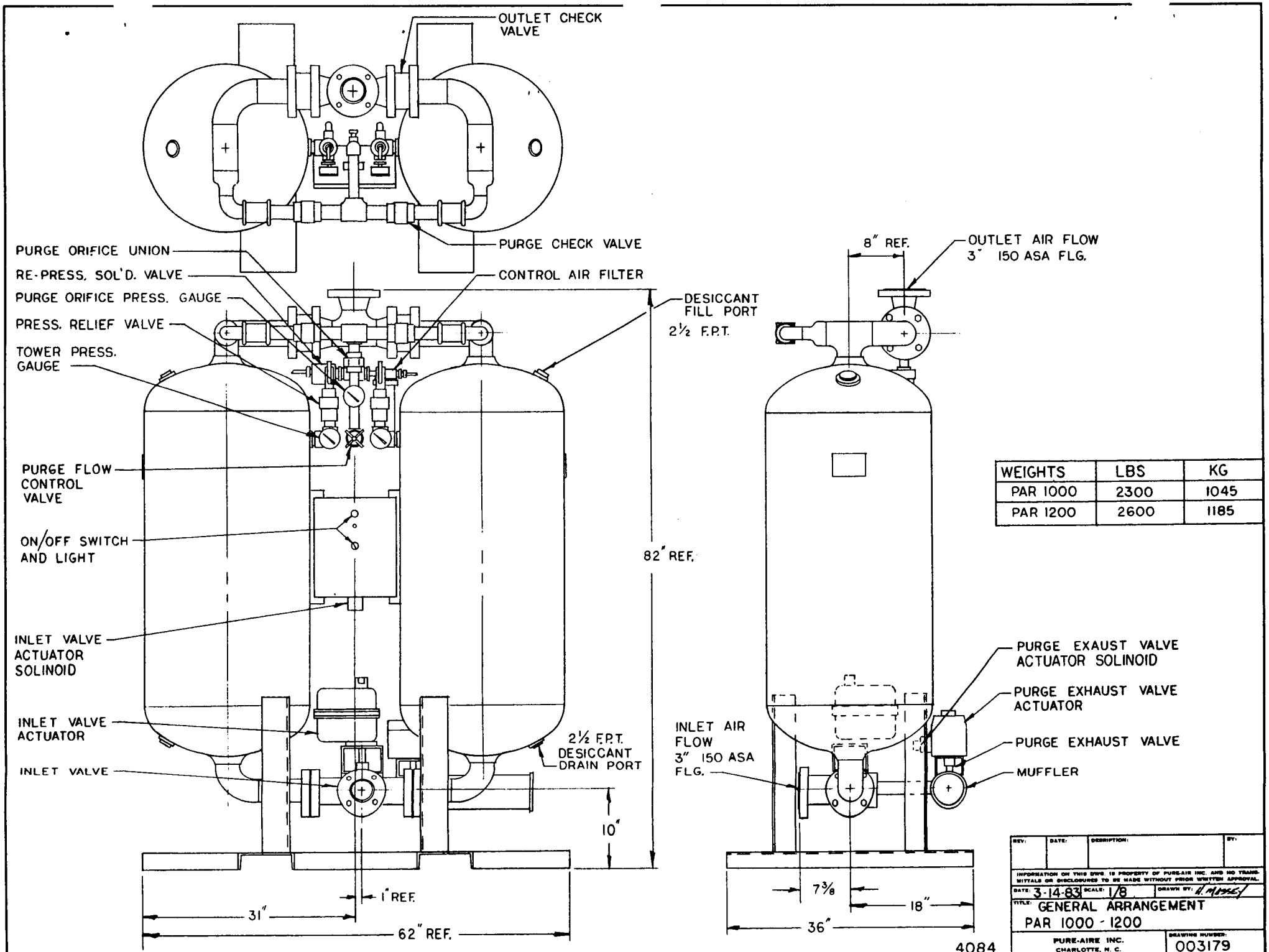
INFORMATION ON THIS DWG. IS PROPERTY OF PURE-AIRE INC. AND NO TRANS. MITTALS OR DISCLOSURES TO BE MADE WITHOUT THEIR WRITTEN APPROVAL.

DATE: 9.28.79 | SCALE: 3/4"=1' | DRAWN BY: [illegible]

TITLE: GENERAL ARRANGEMENT FOR PAR-800

PURE-AIRE INC. CHARLOTTE, N. C.

DRAWING NUMBER: 003180



WEIGHTS	LBS	KG
PAR 1000	2300	1045
PAR 1200	2600	1185

REV:	DATE:	DESCRIPTION:	BY:

DATE: 3-14-83 SCALE: 1/8 DRAWN BY: H. MASSEY

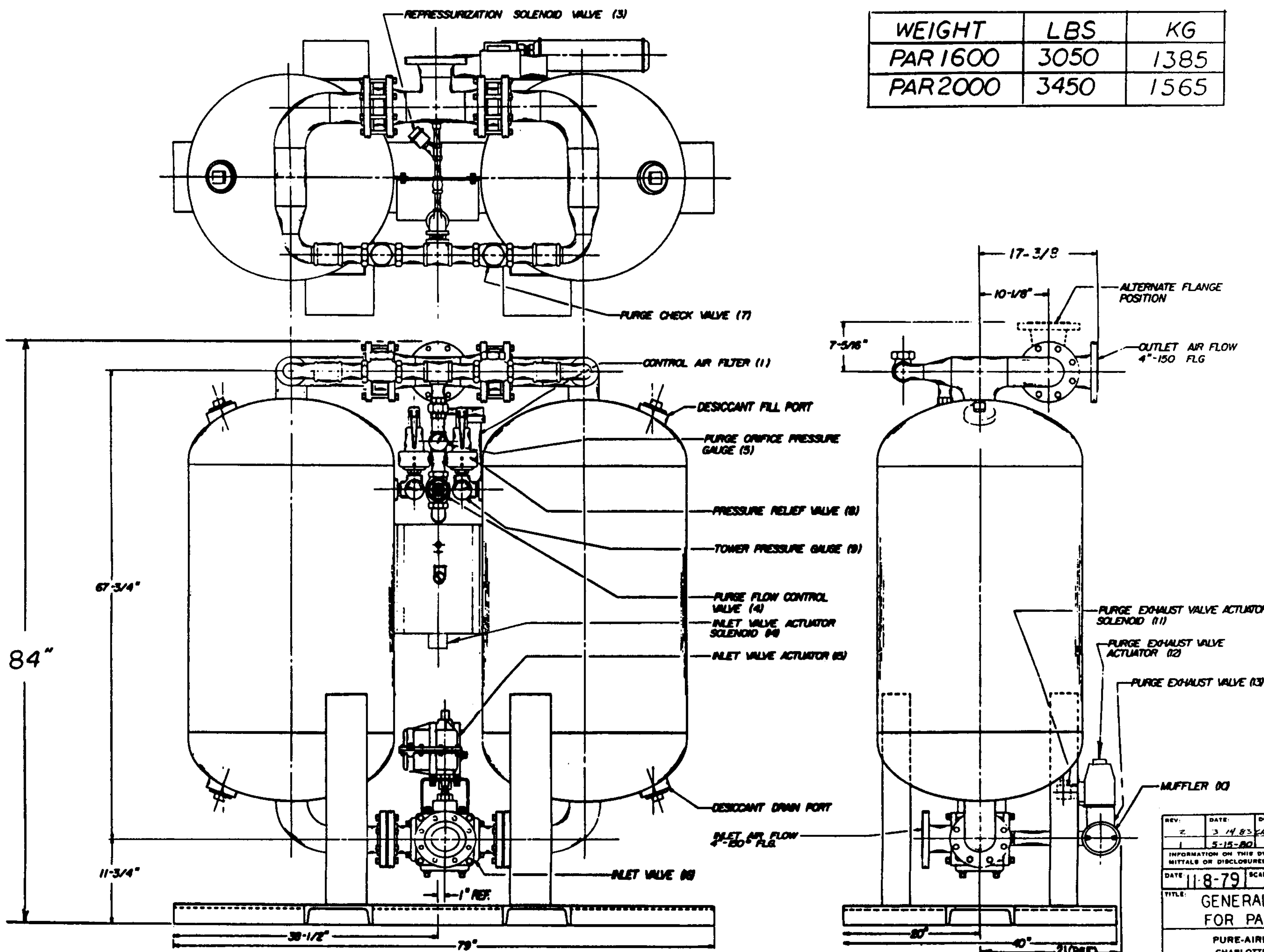
TITLE: GENERAL ARRANGEMENT PAR 1000 - 1200

PURE-AIRE INC. CHARLOTTE, N. C.

DRAWING NUMBER: 003179

4098

WEIGHT	LBS	KG
PAR 1600	3050	1385
PAR 2000	3450	1565



REV:	DATE:	DESCRIPTION:	BY:
2	3-14-83	Changed inlet valve sol'n + actuator	
1	5-15-80	REVISED	DTS

INFORMATION ON THIS DWG. IS PROPERTY OF PURE-AIR INC. AND NO TRANSMITTALS OR DISCLOSURES TO BE MADE WITHOUT PRIOR WRITTEN APPROVAL.

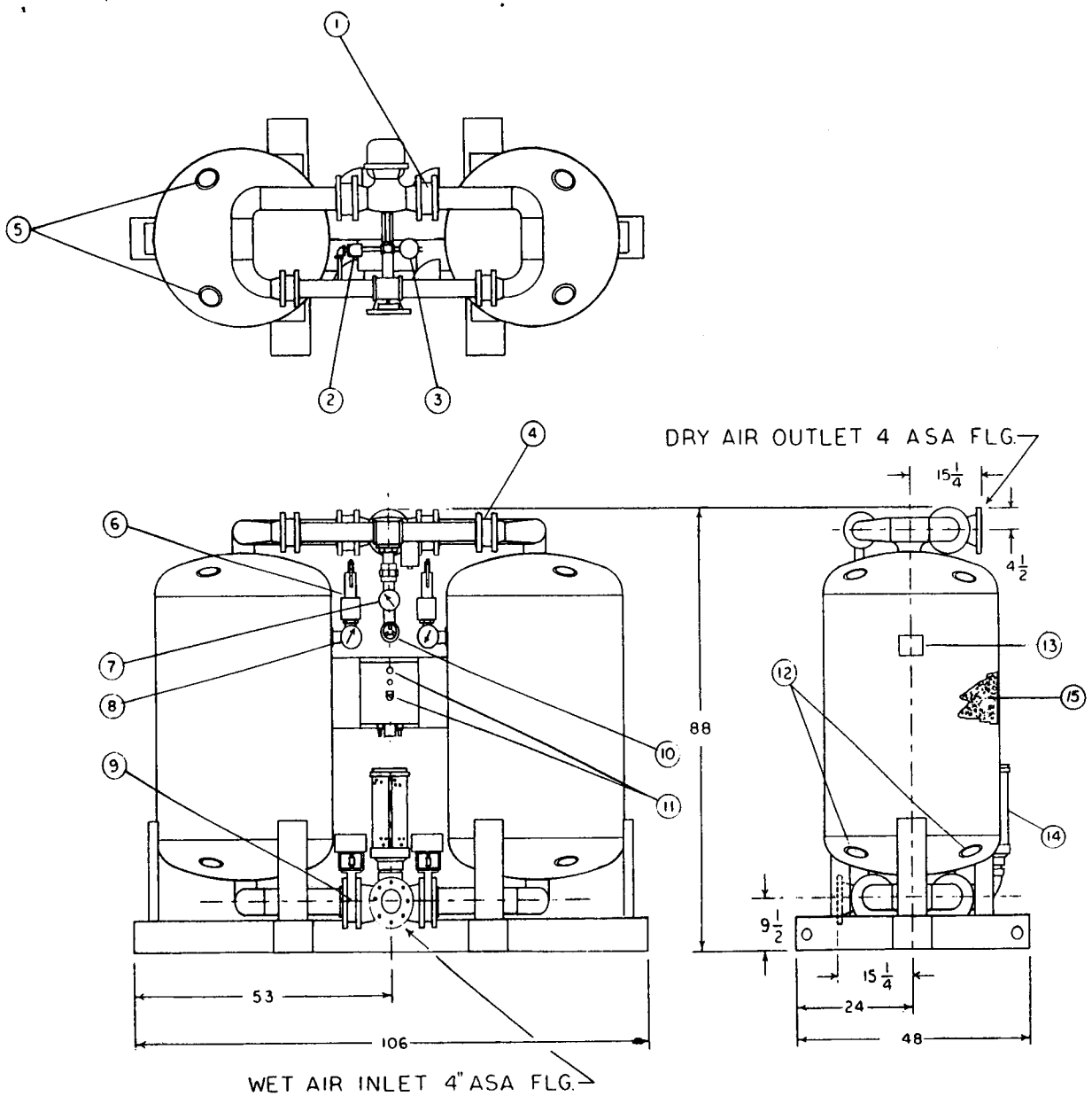
DATE: 11-8-79 SCALE: —— DRAWN BY: FER

TITLE: GENERAL ARRANGEMENT FOR PAR 1600 & 2000

PURE-AIRE INC. CHARLOTTE, N. C.

DRAWING NUMBER: 003189

4098



ITEM	DESCRIPTION
1	OUTLET CHECK VALVE
2	RE-PRESSURIZATION SOLENOID VALVE
3	CONTROL AIR FILTER
4	PURGE CHECK VALVE
5	DESICCANT FILL PORTS 3" NPT
6	PRESSURE RELIEF VALVE
7	PURGE PRESSURE GAUGE
8	TOWER PRESSURE GAUGE
9	WET AIR INLET SWITCHING VALVE
10	MANUAL PURGE FLOW RATE ADJUSTING VALVE
11	CONTROL POWER SWITCH AND LIGHT
12	DESICCANT DRAIN PORTS 3" NPT
13	ASME CODE STAMPED PLATE
14	PURGE EXHAUST MUFFLER
15	DESICCANT (PAR 2500 = 2180 LBS. & PAR 3000 = 2688 LBS)

WEIGHT	PAR-2500	PAR-3000
LBS/KG	4400/2000	5000 / 2270

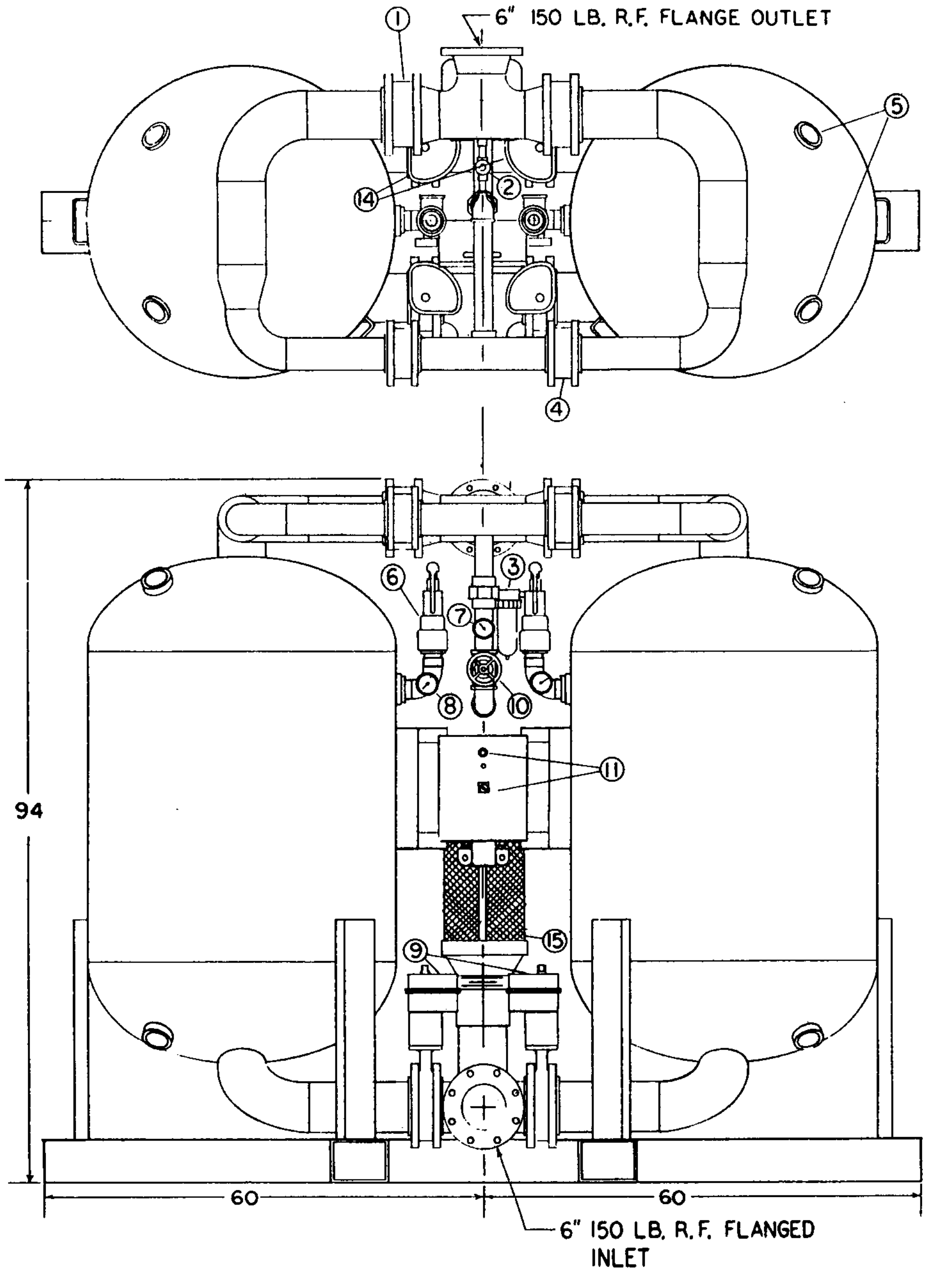
1	3-14-85	CHANGED INLET VALVE SIZE	NM
SCALE: ——	APPROVED BY: G. E. SCHULTZ		DRAWN BY EMP
DATE: 4-15-77			REVISED

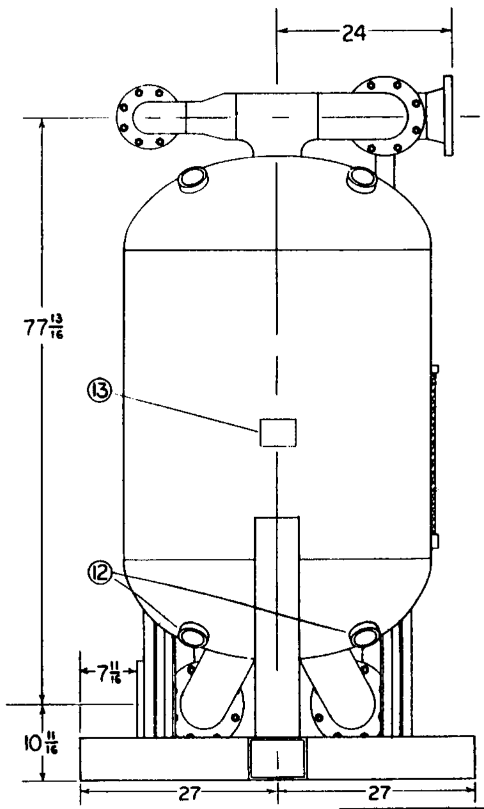
PAR-2500 & PAR-3000 DESICCANT DRYER

PURE-AIRE INC

DRAWING NUMBER 003143

4048





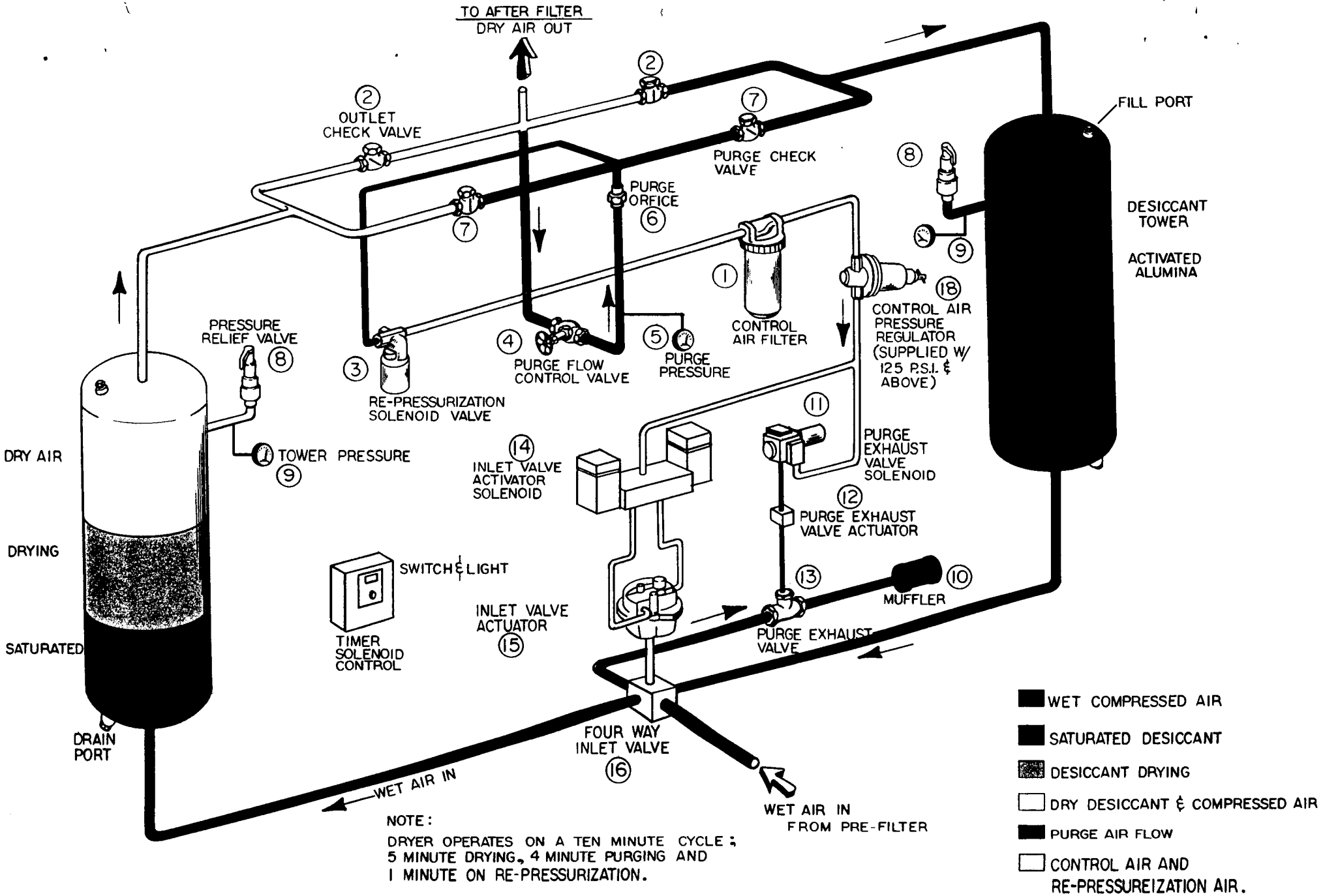
ITEM	DESCRIPTION
1	OUTLET CHECK VALVE
2	RE-PRESSURIZATION SOLENOID VALVE
3	CONTROL AIR FILTER
4	PURGE CHECK VALVE
5	DESICCANT FILL PORTS 3" NPT W/PLUG
6	PRESSURE RELIEF VALVE
7	PURGE PRESSURE GAUGE
8	TOWER PRESSURE GAUGE
9	WET AIR INLET SWITCHING VALVES
10	MANUAL PURGE FLOW RATE ADJUSTING VALVE
11	CONTROL POWER SWITCH AND LIGHT
12	DESICCANT DRAIN PORTS 3" NPT W/PLUG
13	ASME CODE STAMPED PLATE
14	PURGE EXHAUST VALVES
15	PURGE EXHAUST MUFFLER

DATE 8-30-79 SCALE 1/8 DRAWN BY JRL

TITLE PAR 3500 & 4000 DESICCANT DRYER

PURE-AIRE INC.
CHARLOTTE N.C.

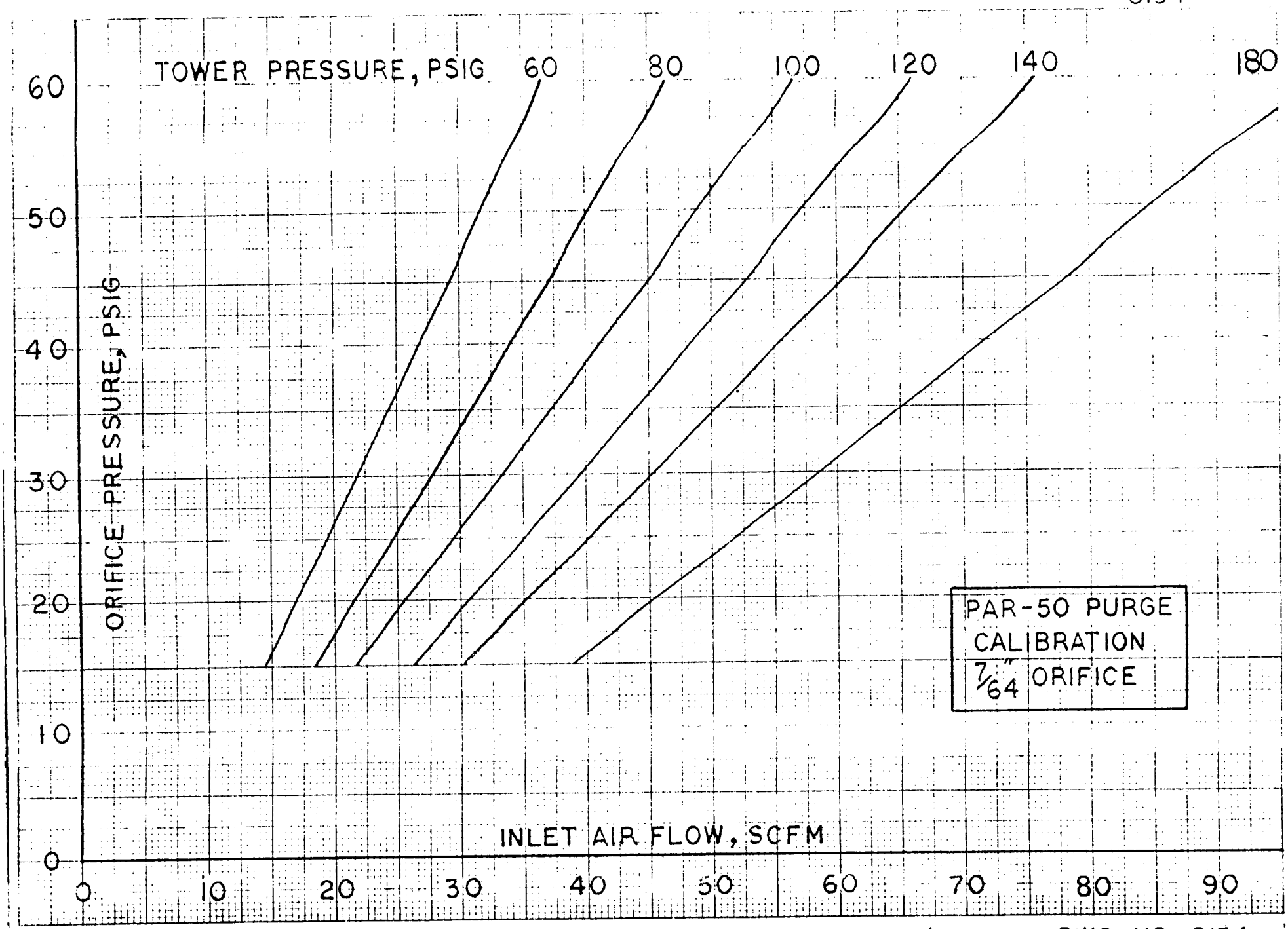
DRAWING NUMBER 003181



PURE-AIRE REGENERATIVE AIR DRYER — SCHEMATIC DIAGRAM MODEL PAR

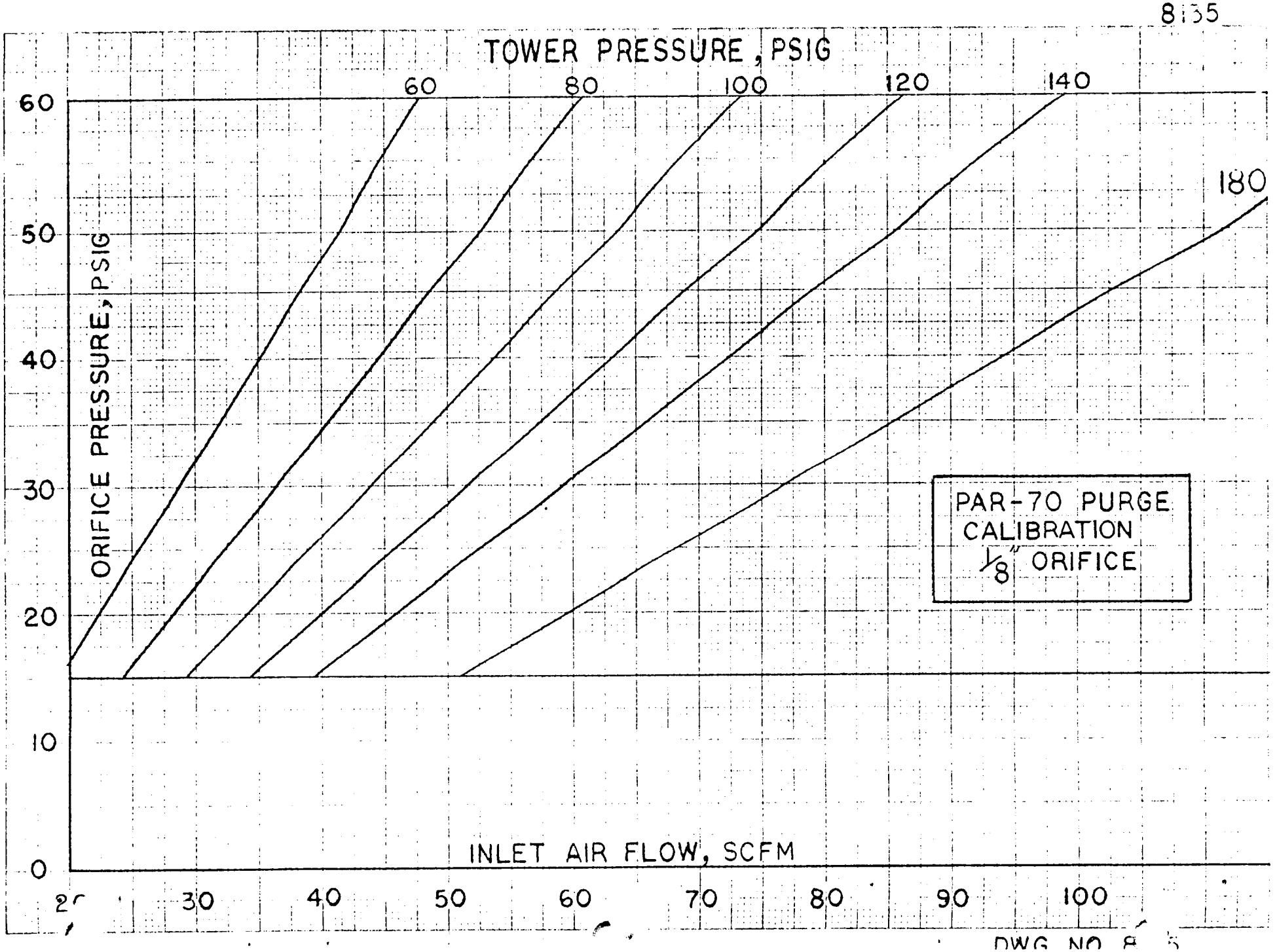
PART NO. 8196
EFFECTIVE : 4/22/80
SU EDES : 2/12/79

8134

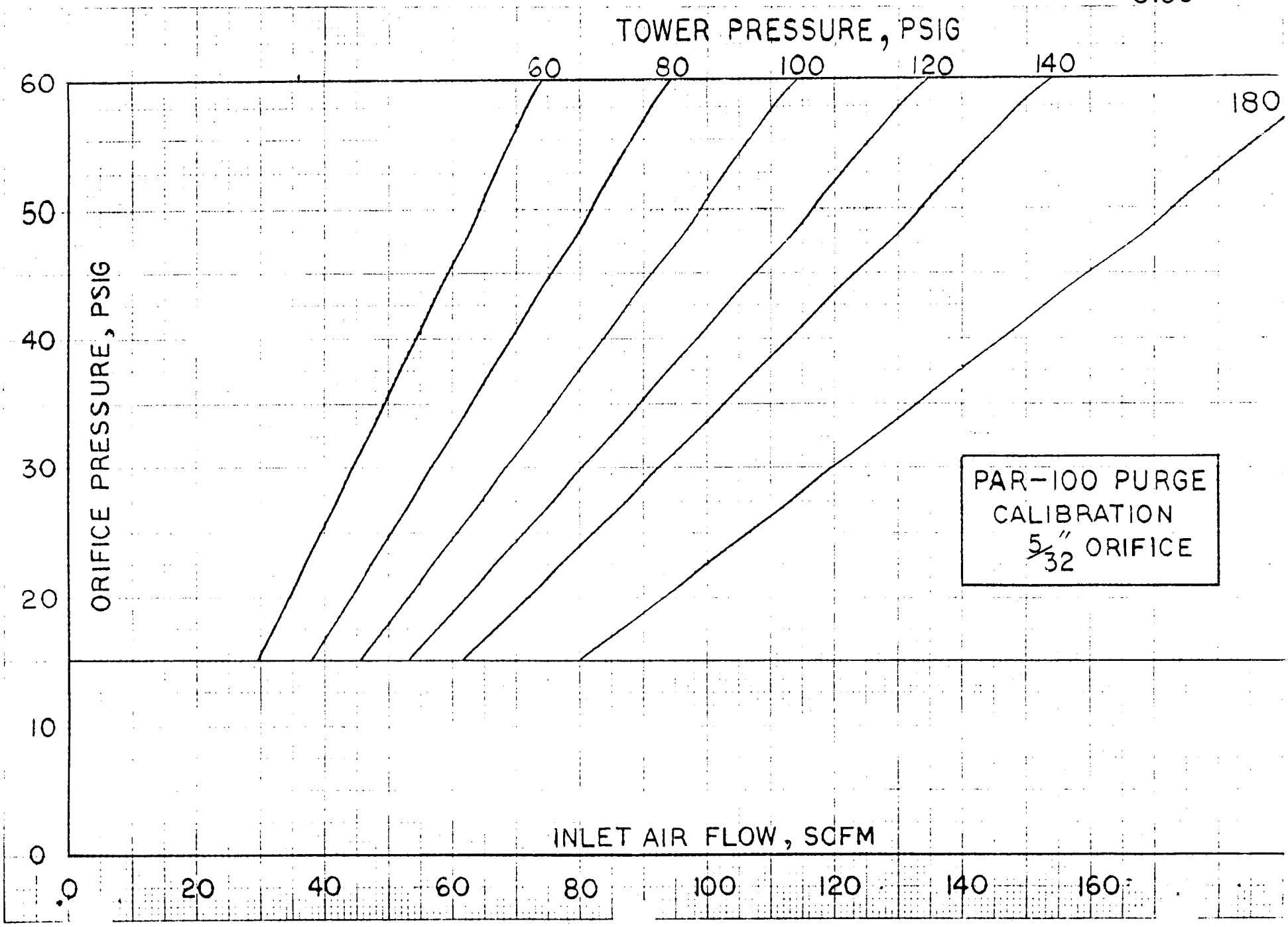


DWG. NO. 8134

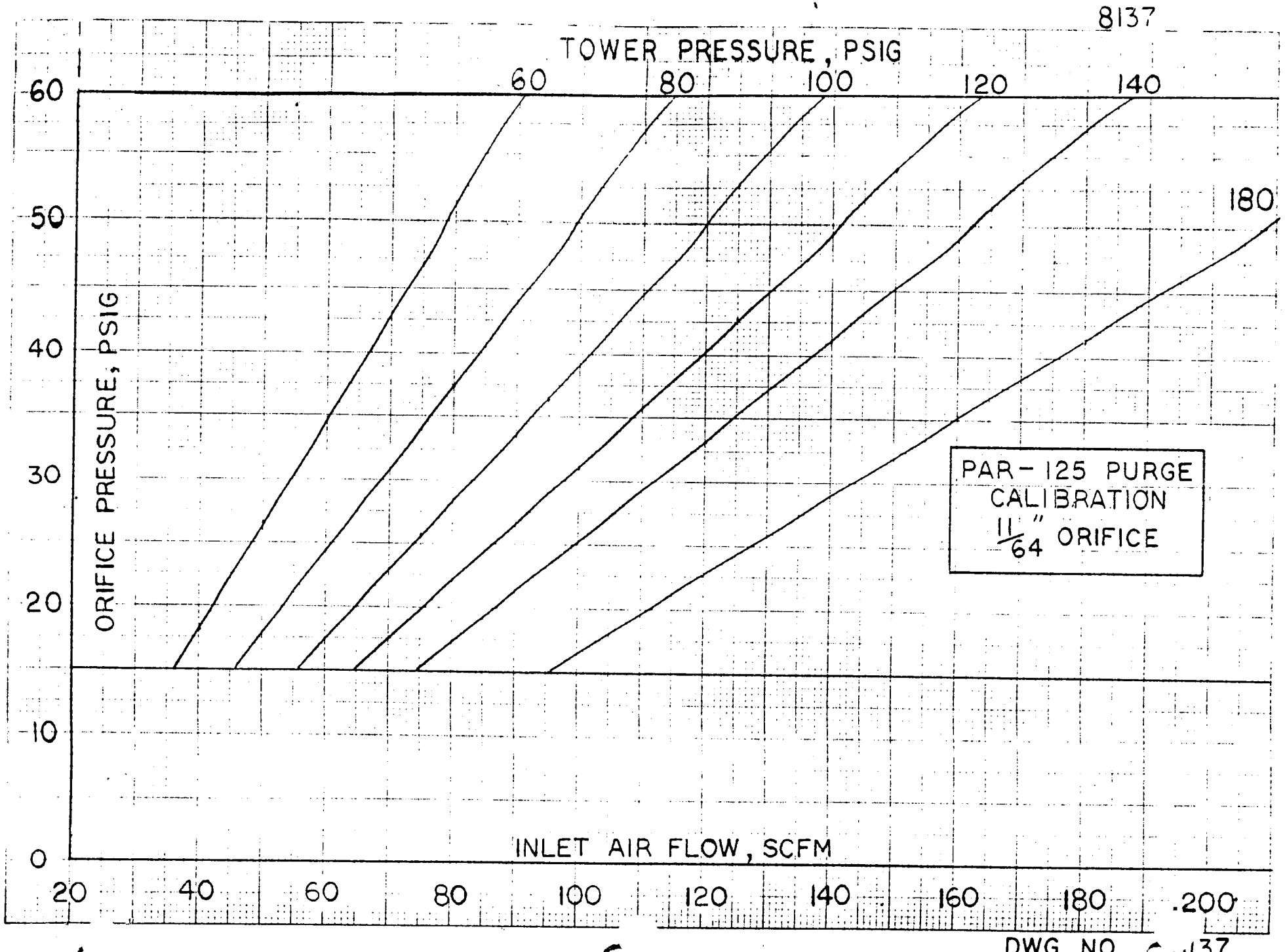
0044


8135
TOWER PRESSURE, PSIG
60
80
100
120
140
180
ORIFICE PRESSURE, PSIG
60
50
40
30
20
10
0
PAR-70 PURGE
CALIBRATION
1/8" ORIFICE
INLET AIR FLOW, SCFM
20
30
40
50
60
70
80
90
100
DWG NO

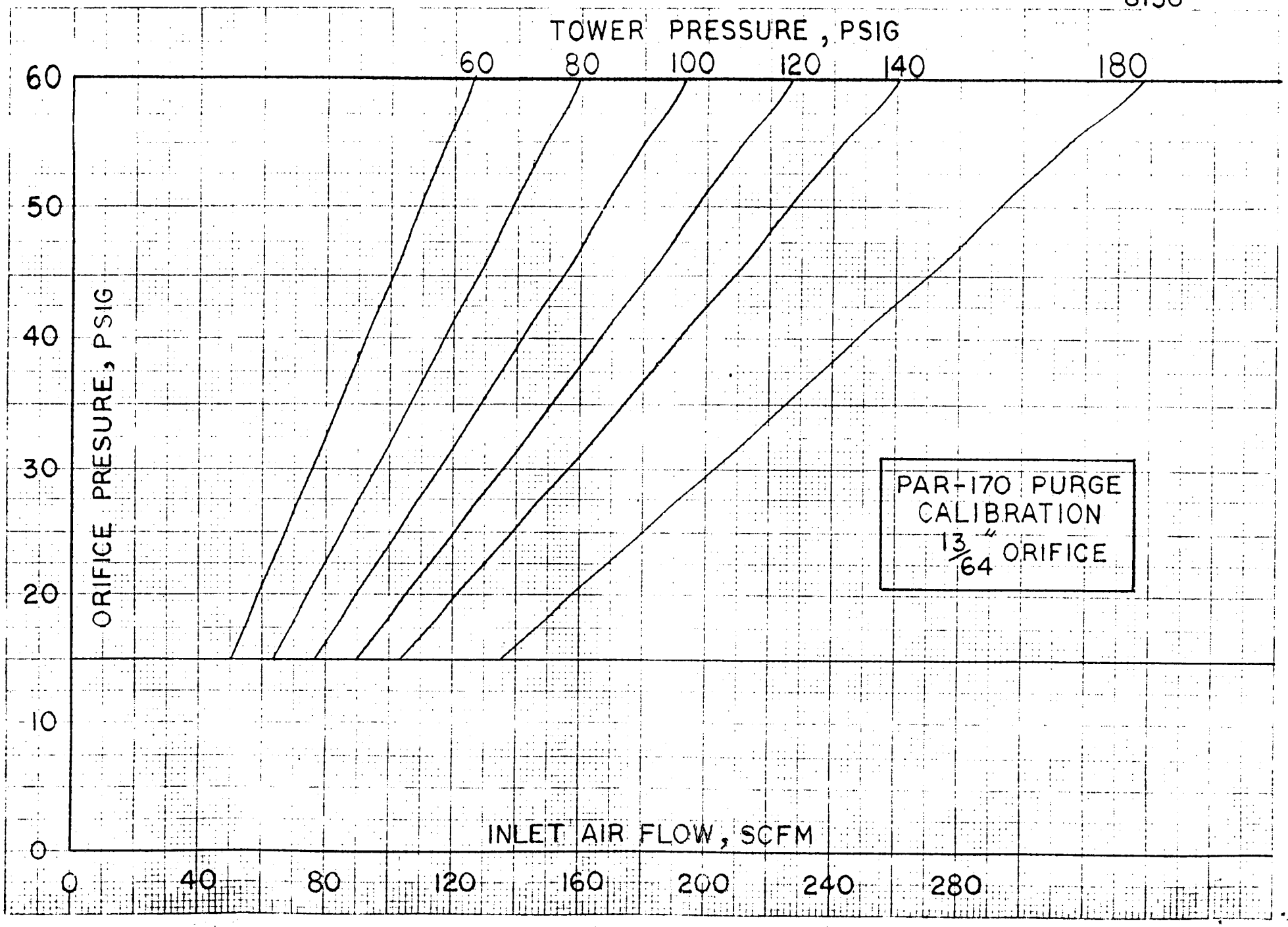
8136


TOWER PRESSURE, PSIG
60
80
100
120
140
180
ORIFICE PRESSURE, PSIG
60
50
40
30
20
10
0
PAR-100 PURGE
CALIBRATION
5/32" ORIFICE
INLET AIR FLOW, SCFM
0
20
40
60
80
100
120
140
160

DWG. NO. 8


8137
TOWER PRESSURE, PSIG
60
80
100
120
140
180
ORIFICE PRESSURE, PSIG
60
50
40
30
20
10
0
PAR-125 PURGE
CALIBRATION
11/64" ORIFICE
INLET AIR FLOW, SCFM
20
40
60
80
100
120
140
160
180
200
DWG. NO. 8137

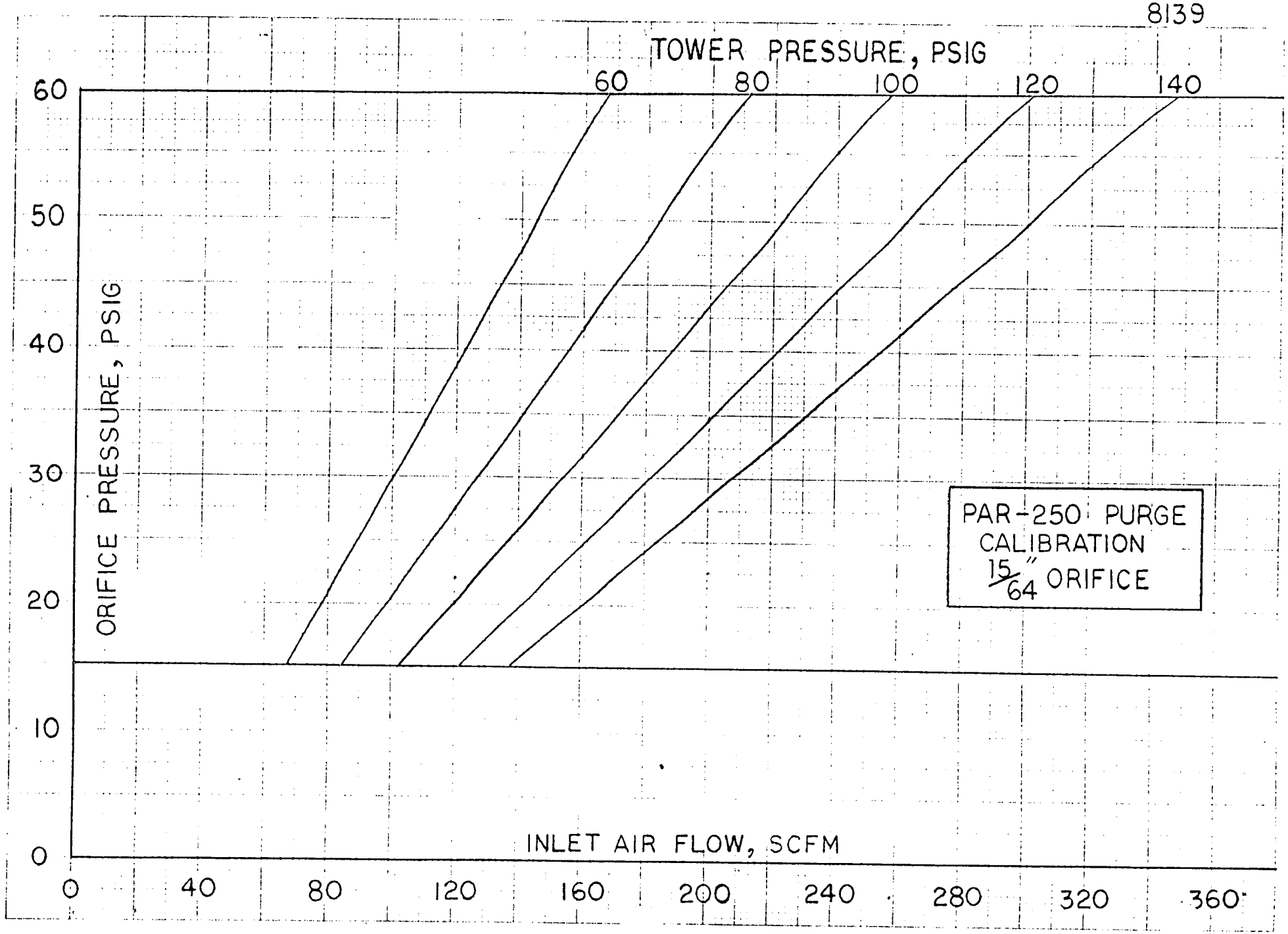
8138



DWG. NO. 8138

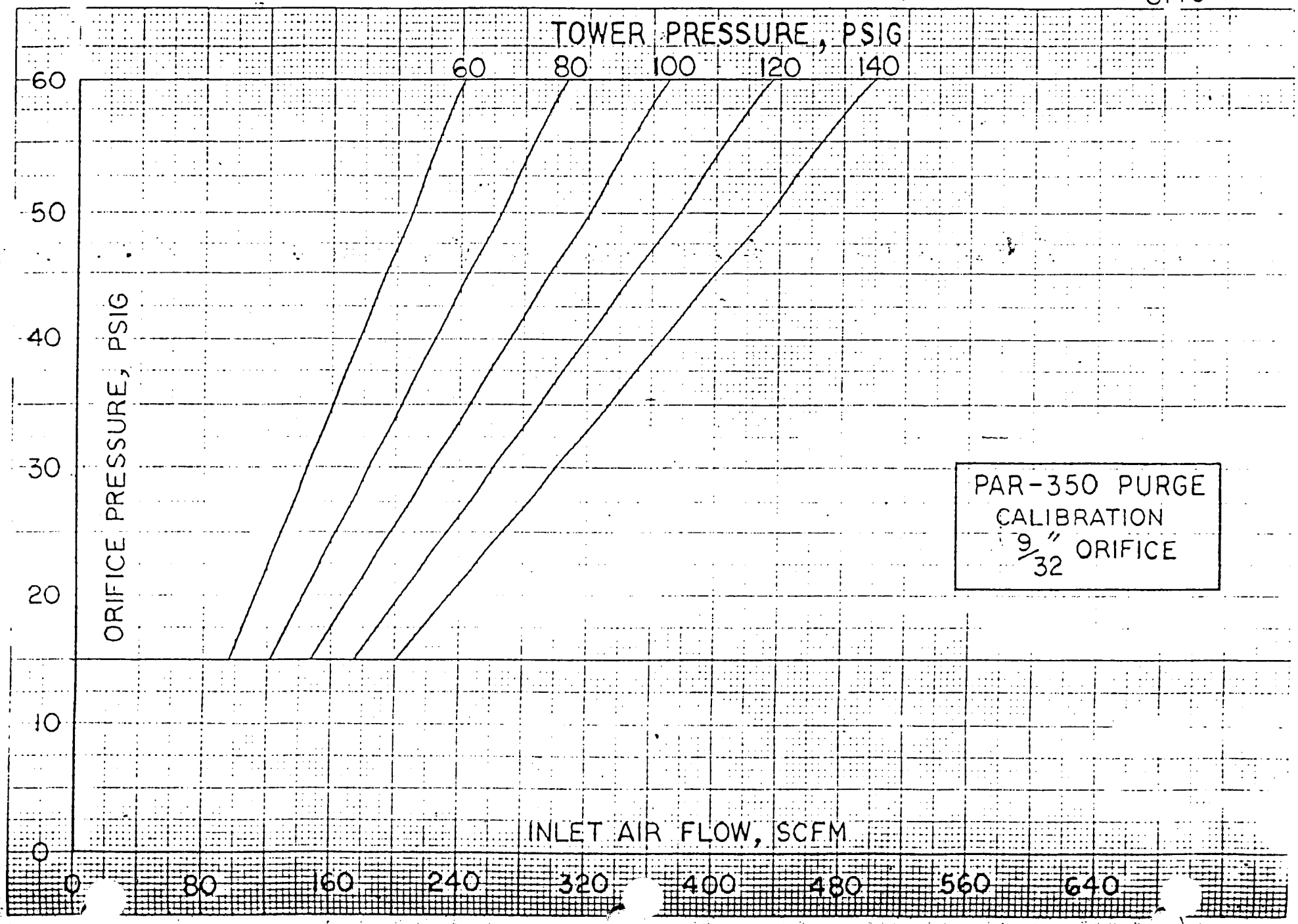
004441

8139



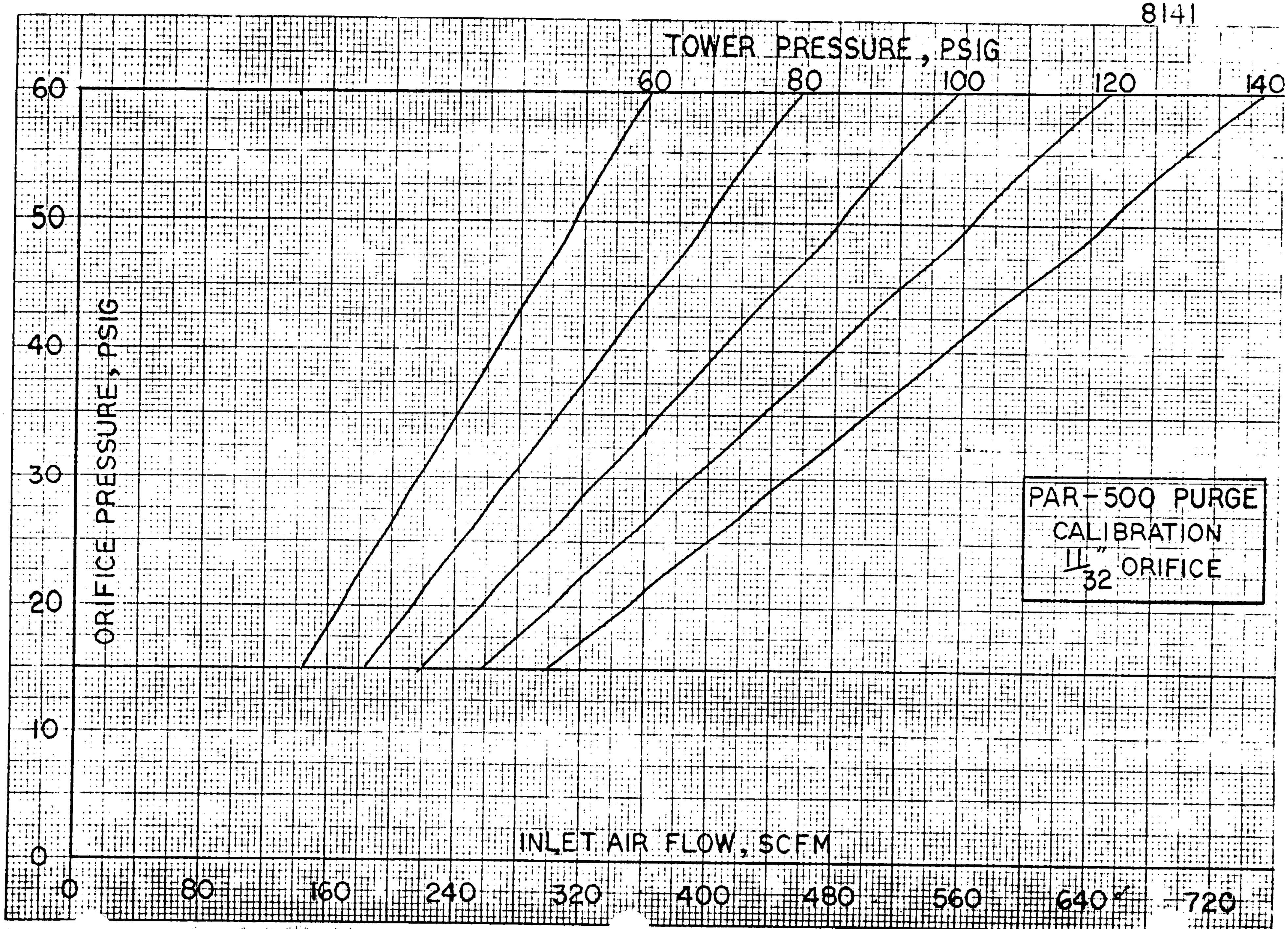
DWG. NO. 81[illegible]

8140



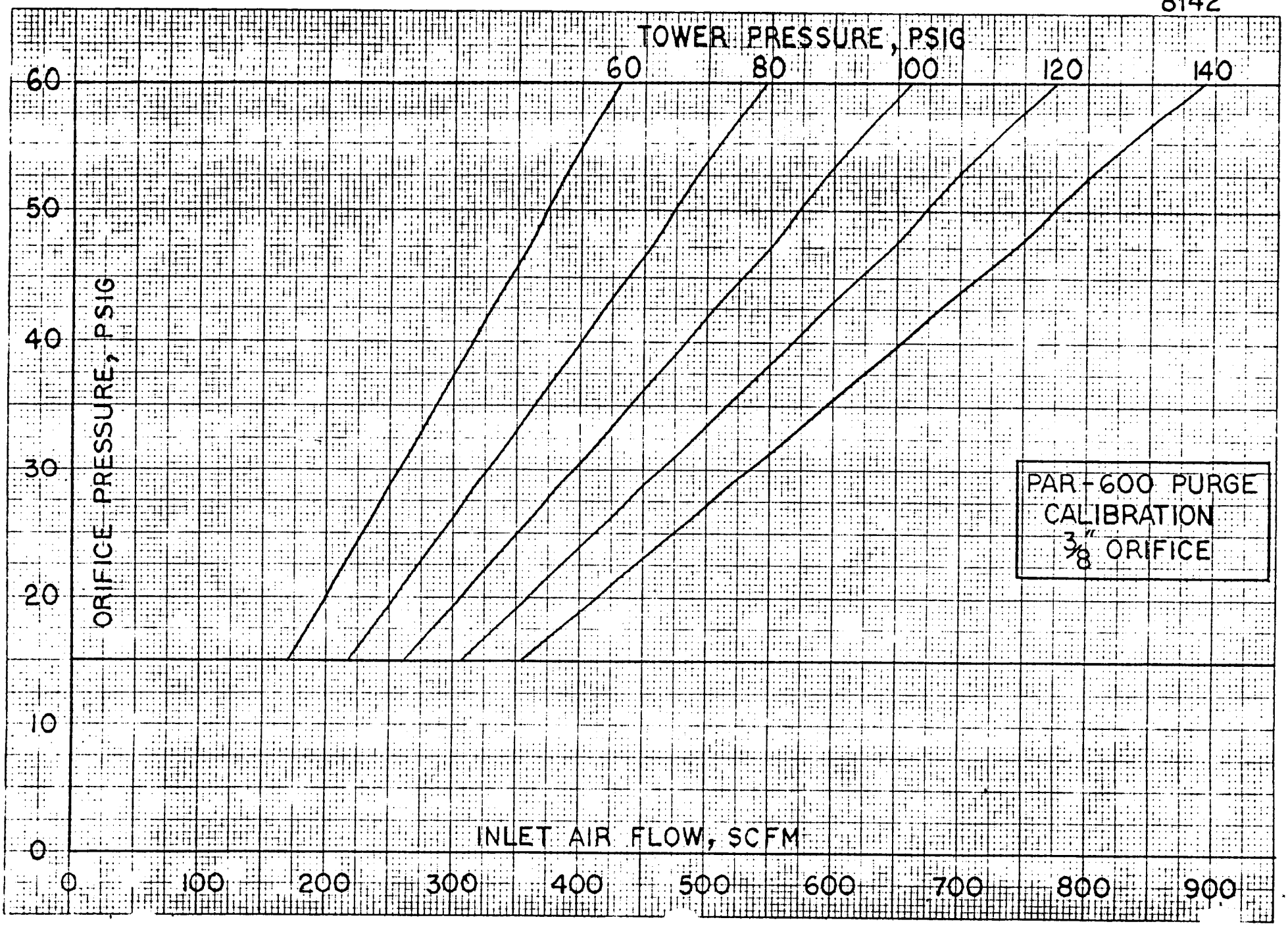
 46 1320

8141



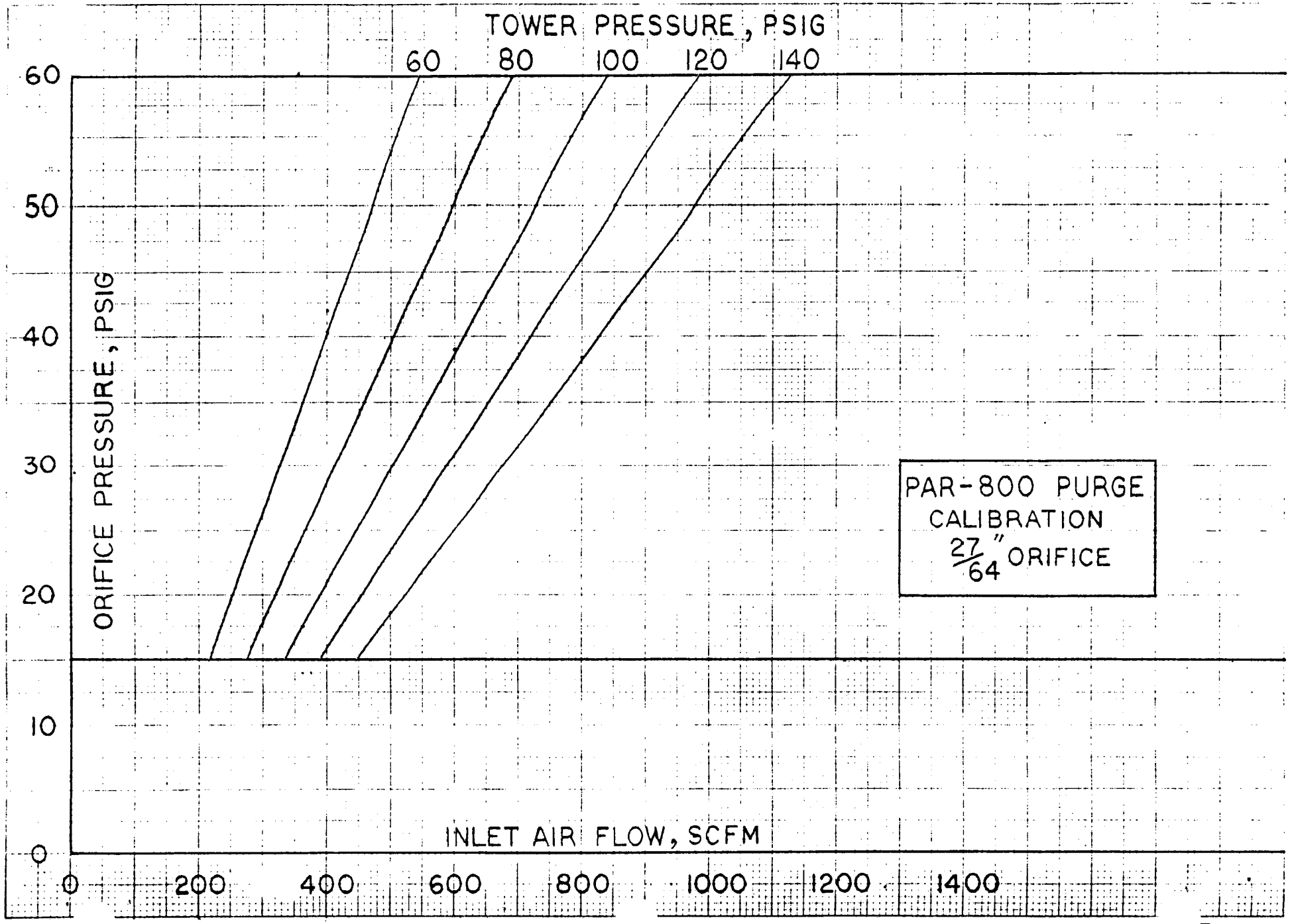
DWG. NO.

8142



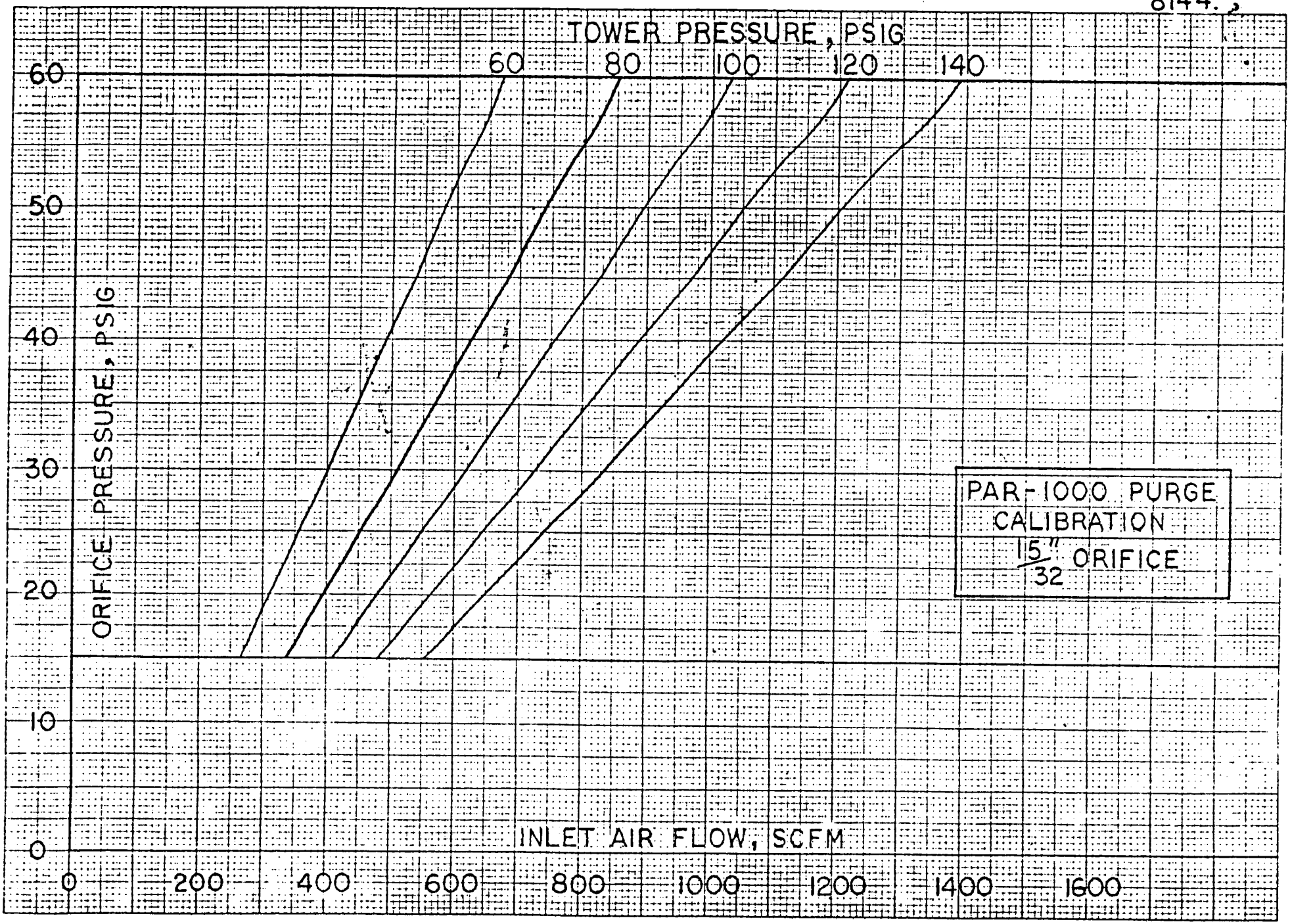
DWG. NO. 8142

8143


TOWER PRESSURE, PSIG
60
80
100
120
140
ORIFICE PRESSURE, PSIG
60
50
40
30
20
10
0
INLET AIR FLOW, SCFM
0
200
400
600
800
1000
1200
1400
PAR-800 PURGE
CALIBRATION
27/64" ORIFICE

DWG NO -3

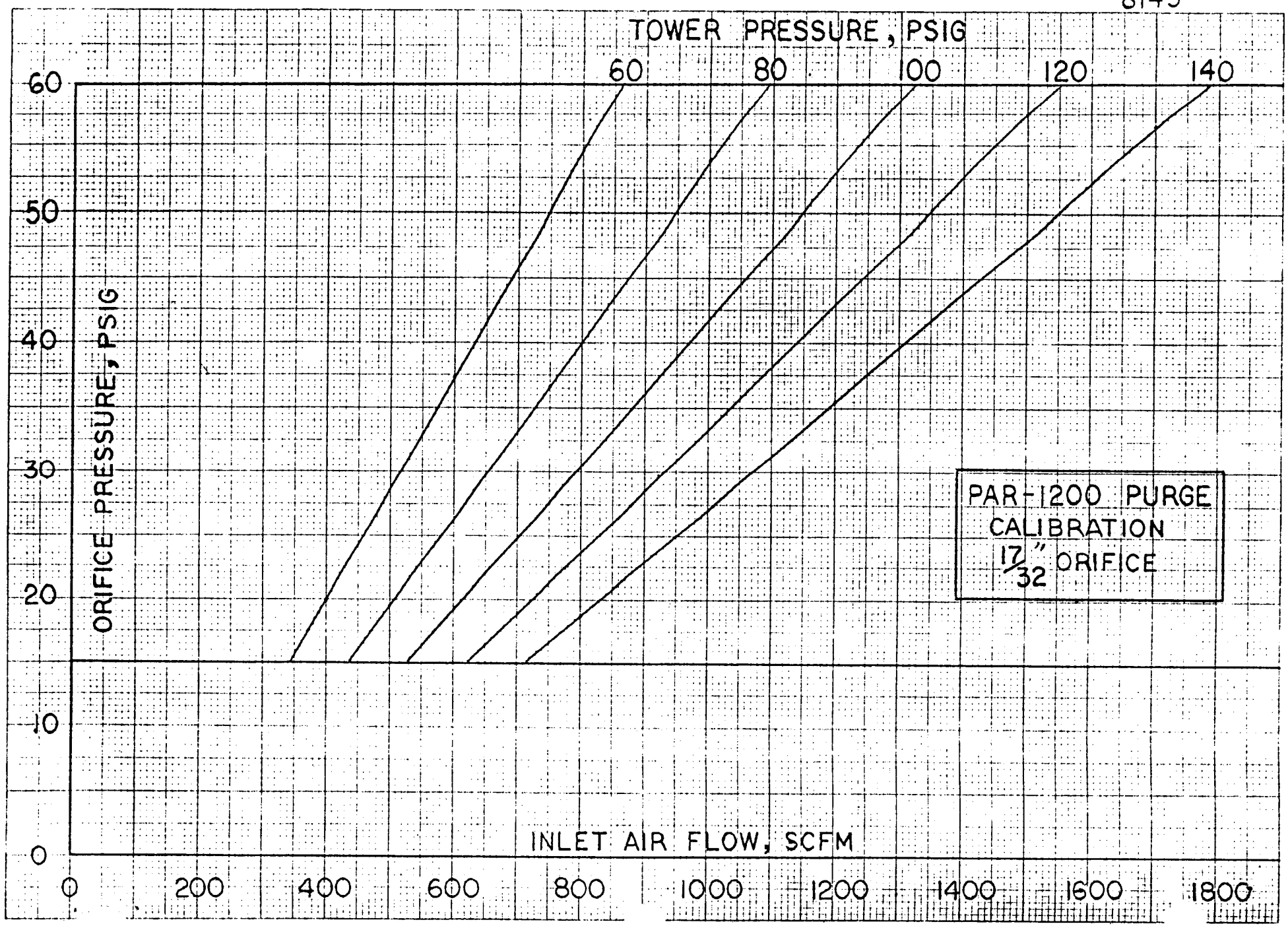
8144.



DWG. NO. 8144

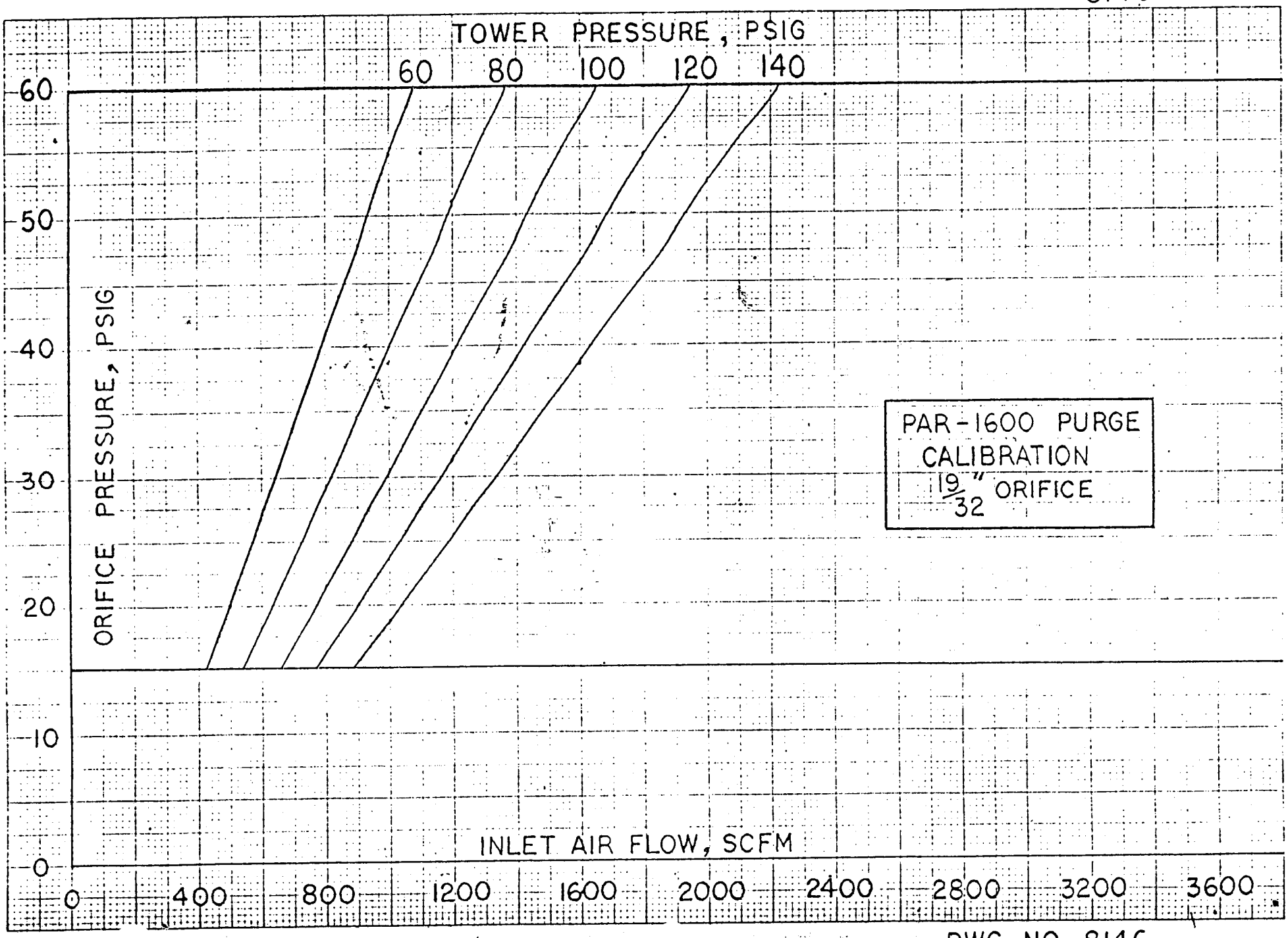
004447

8145


TOWER PRESSURE, PSIG
60
80
100
120
140
ORIFICE PRESSURE, PSIG
60
50
40
30
20
10
0
INLET AIR FLOW, SCFM
0
200
400
600
800
1000
1200
1400
1600
1800
PAR-1200 PURGE
CALIBRATION
17/32" ORIFICE

DWG. NO. 8

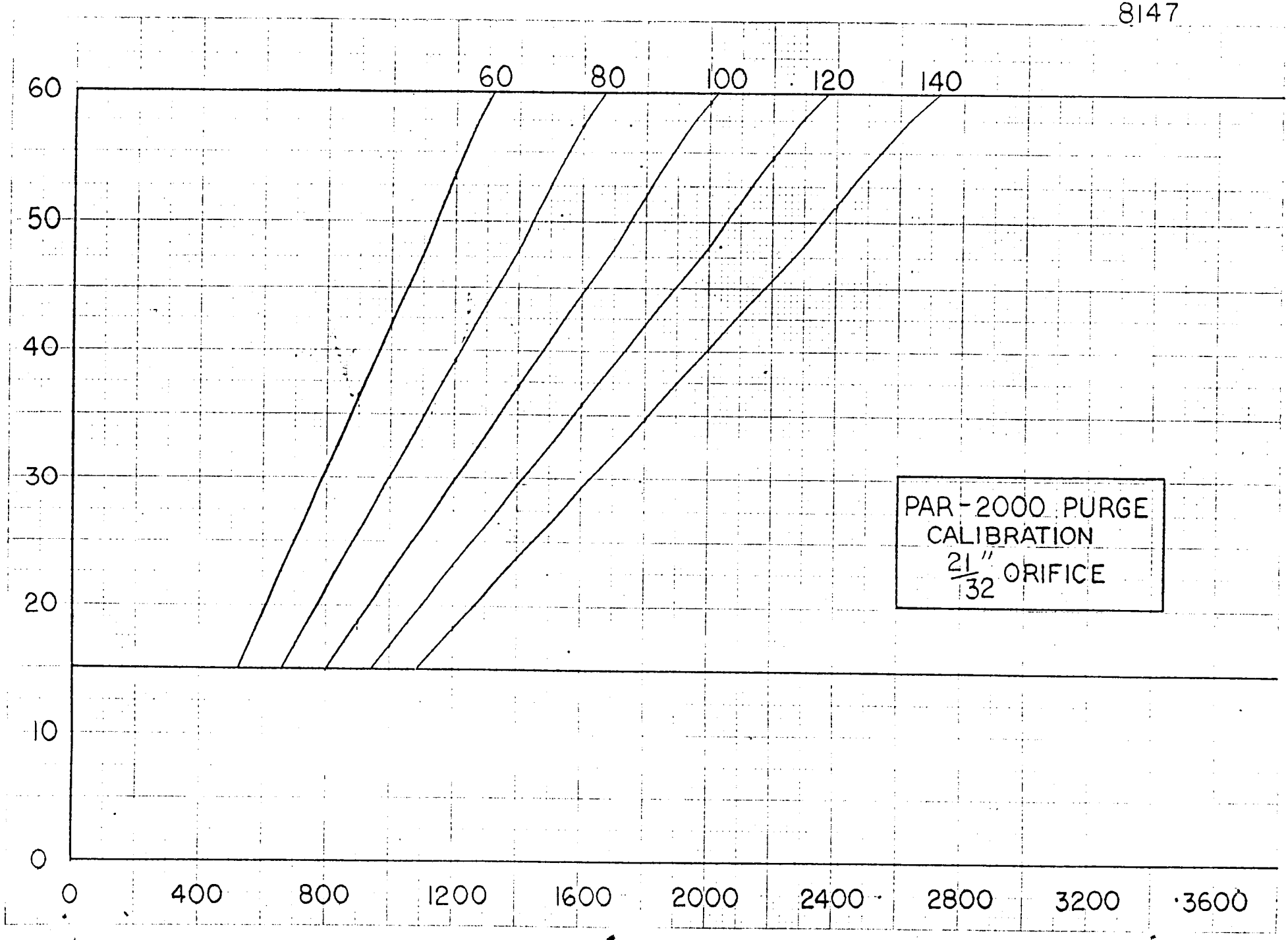
8146



DWG. NO. 8146

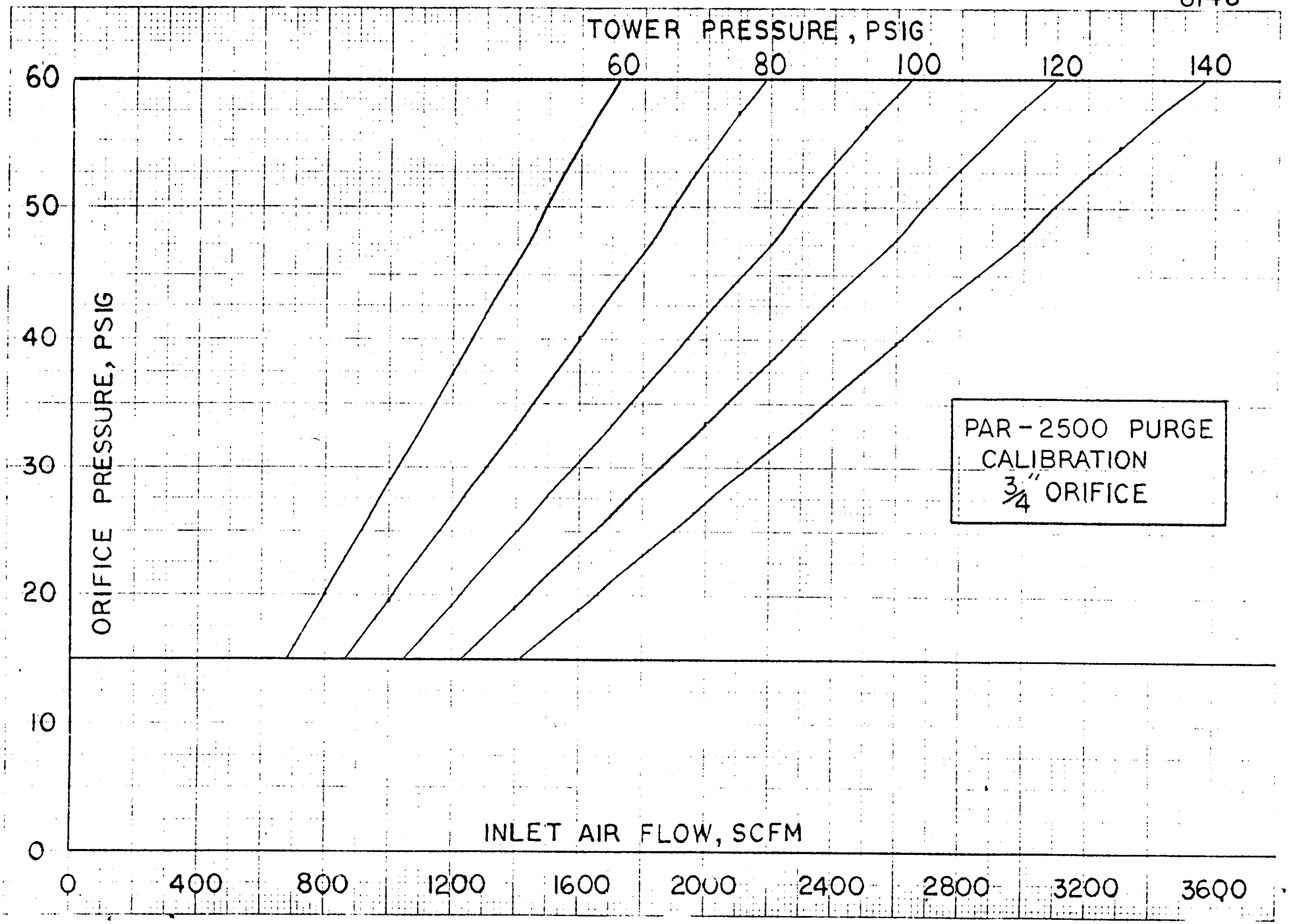
.004449

8147

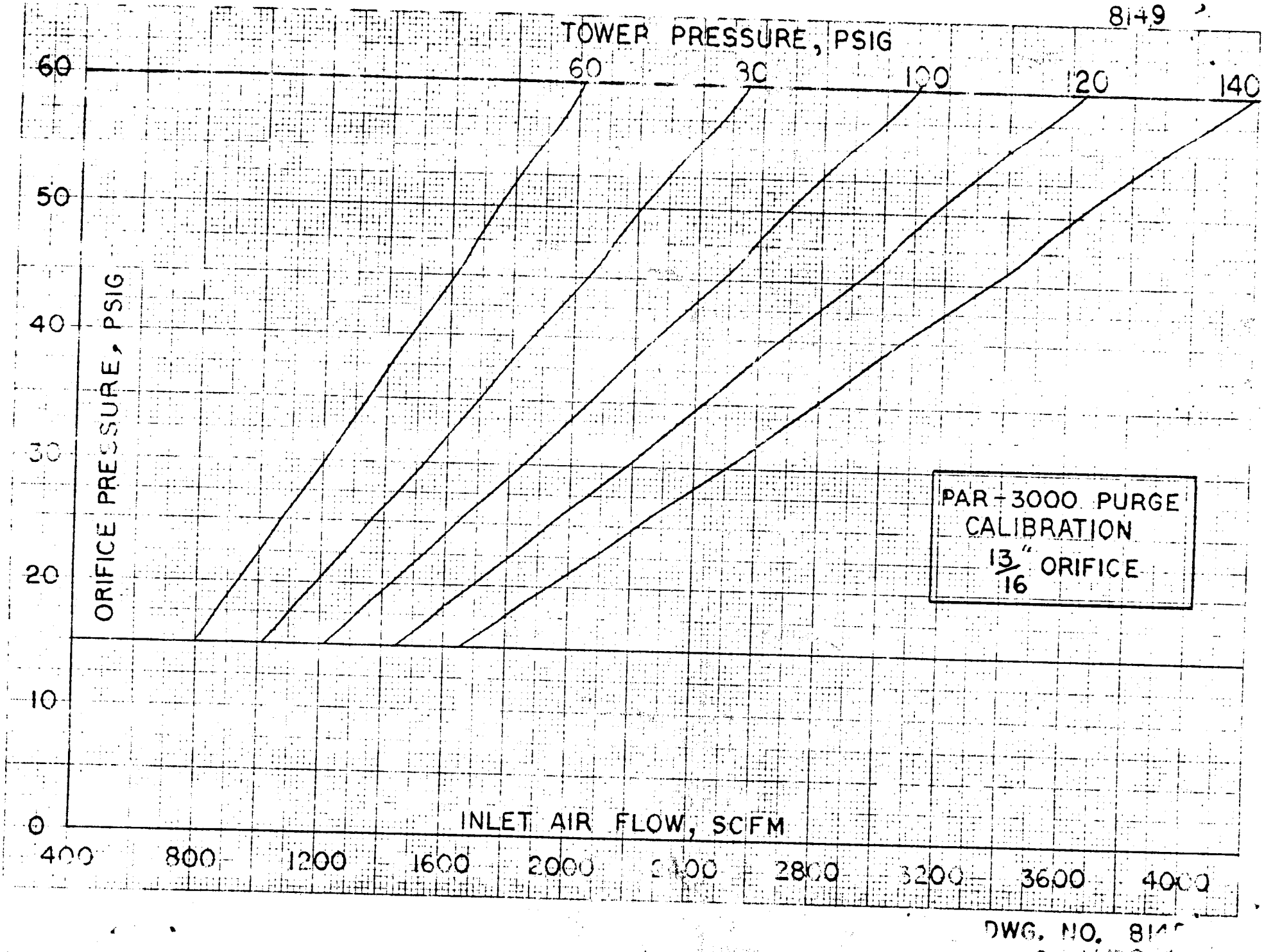


DWG. NO. 814

8148


TOWER PRESSURE, PSIG
60
80
100
120
140
ORIFICE PRESSURE, PSIG
60
50
40
30
20
10
0
PAR-2500 PURGE
CALIBRATION
3/4" ORIFICE
INLET AIR FLOW, SCFM
0
400
800
1200
1600
2000
2400
2800
3200
3600

DWG. NO. 8


8149
TOWER PRESSURE, PSIG
60
30
100
120
140
ORIFICE PRESSURE, PSIG
60
50
40
30
20
10
0
PAR-3000 PURGE
CALIBRATION
13/16" ORIFICE
INLET AIR FLOW, SCFM
400
800
1200
1600
2000
2400
2800
3200
3600
4000
DWG. NO. 814

8169