

1155

WRIGHT-AUSTIN

Steam Separators

Oil Separators

Air Separators

Exhaust Heads



BULLETIN-NO. 10

DUSENBERY & STRACHAN, INC.

Representatives

75 West Street - Phone-Bowling Green 9-9097

NEW YORK, N. Y.

Wright-Austin Company

Main Office
315 West Woodbridge Street, Detroit, Mich.

EASTERN DIVISION OFFICE

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EXPORT OFFICE

75 West St., New York City

Representatives and Jobbers in Principal Centers

CABLE ADDRESS

RITEAUSTIN, DETROIT

WESTERN UNION CODE

MANUFACTURERS OF

Steam Separators
Oil Separators
Gas Separators
Air Separators
Air Coolers
Exhaust Heads

Steam Traps
Grease Traps
Gasoline Traps
Air Relief Traps
Air Vents
Strainers

Alarm Water Columns
Water Gauges
Try-Cocks
Safety Protector for Gauge Glasses
Automatic Feed Water Regulators
Gauge Glass Illuminators
Pump Governors
Boiler Feeders

Send for General Catalog

TELEGRAPHIC CODE WORDS

Letters, Telegrams and Replis:

- Oszot—Replying to telegram of
- Idowa—Replying to your letter of
- Ajayb—Answer immediately by telegraph
- Idpak—Send full particulars by letter

Quotation:

- Kysir—What is the lowest price and earliest delivery
- Kytoj—What reduction in price can you make by substituting.....
.....for
- Wocob—Price f.o.b. shipping point is

Shipping and Shipments:

- Ohaib—Ship by freight
- Wocix—Ship by parcel post insured
- Ohafu—Ship by cheapest route
- Ohadu—Ship as soon as possible
- Ohaaw—Ship as much as possible
- Oguso—How soon can you ship
- Ogoth—Can you ship at once from stock
- Oglar—Can ship at once from stock
- Ogmik—Can ship in.....days
- Ognur—Can ship within one week
- Ognut—Can ship within two weeks
- Ognuv—Can ship within three weeks
- Ognux—Can ship within four weeks

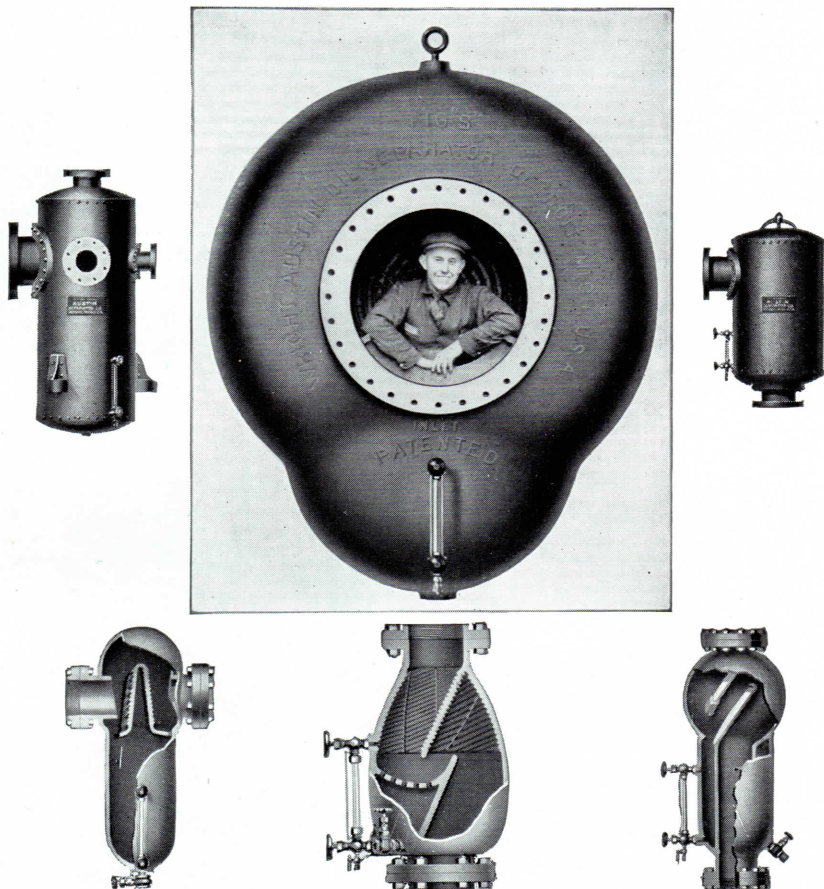
Separator Construction Details:

- Wocat—Welded steel receiver separator
- Wocar—Riveted steel receiver separator
- Wocax—Flanged forged steel nozzle
- Wocby—A.S.M.E. Standard Schedule 125 lbs. per sq. in.
- Wocca—A.S.M.E. Extra Heavy Schedule 250 lbs. per sq. in.
- Wocci—A.S.M.E. 400 lb. Schedule
- Wocde—Suitable for working pressure oflbs. per sq. in.
- Wocem—Width horizontally face to face of flanges.
- Wocep—Height vertically face to face of flanges
- Wocmo—Dimensions center of side nozzle to either top or bottom flange
- Wocni—Dimension center of separator to face of side nozzle

Code Words for Pressure:

Polka.....	5 lbs.	Prime.....	200 lbs.
Point.....	10 lbs.	Power.....	225 lbs.
Podge.....	15 lbs.	Punch.....	250 lbs.
Posey.....	20 lbs.	Plimp.....	275 lbs.
Poorl.....	50 lbs.	Plots.....	300 lbs.
Porch.....	75 lbs.	Phram.....	350 lbs.
Plumb.....	100 lbs.	Phlit.....	400 lbs.
Poker.....	125 lbs.	Phads.....	450 lbs.
Plane.....	150 lbs.	Photo.....	500 lbs.
Pivot.....	175 lbs.	Phirn.....	600 lbs.

Wright-Austin Separators



A Few Wright-Austin Types

**THE WRIGHT-AUSTIN LINE COMPRISES THE LARGEST
NUMBER OF TYPES AND SIZES OF SEPARATORS
MADE BY ONE MANUFACTURER IN THE WORLD**

The Wright-Austin Company now makes twenty regular types of Separators, besides special Separators of every description. Twelve of the regular types are Steam Separators, two types Steam Purifiers, three types are Oil Separators, three types are Air and Gas Separators. The average number of sizes per type is twelve and a majority of all sizes of all regular types are carried in Detroit Stock. Thirty of the many special styles are illustrated in this book, making a total of 50 types shown.

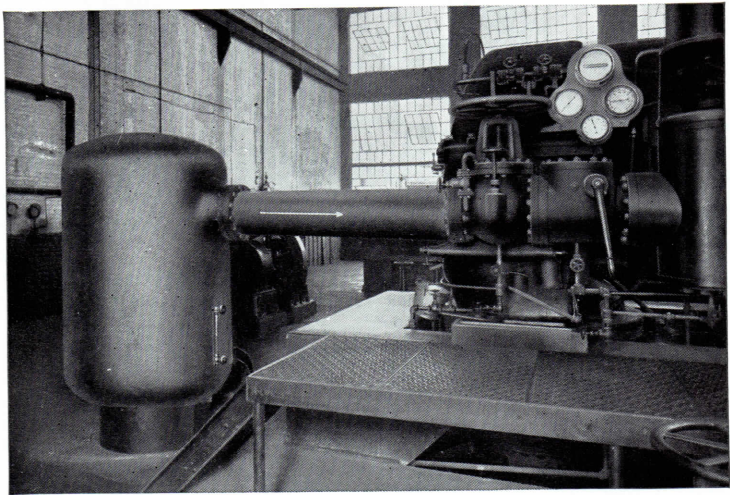
It is an immense advantage to an engineer or power plant operator to have such a large line from which to choose.

CHOOSE A SEPARATOR TO SUIT YOUR CONDITIONS

In making a selection from so wide a variety of vertical, horizontal, angle and special patterns and sizes, all the advantages of the finer features of efficient separation are more easily obtained by:

- 1—The correct Separator for your every-day operating conditions—thus insuring the highest efficiency obtainable.
- 2—The most suitable Separator for your piping arrangement—this often greatly reduces the cost of installation by avoiding added expense for pipe and fitting changes. In most cases the price of the Separator will be more than repaid by the saving in piping.

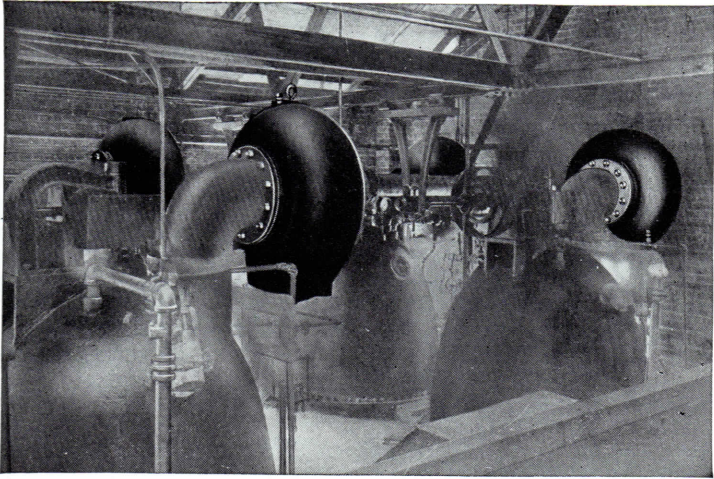
When there are only a small number of types to choose from, a customer frequently has to accept a type of Separator which does not meet the conditions perfectly. He is then obliged to adopt some makeshift in order to try to meet the situation. **THESE DIFFICULTIES DO NOT OCCUR WITH WRIGHT-AUSTIN SEPARATORS.**



Typical Installation of Riveted Steel Separator Ahead of a Steam Turbine

FORTY YEARS EXPERIENCE MANUFACTURING SEPARATORS AS A PRINCIPAL LINE

“Excellence is no accident” and for 40 years the Wright-Austin Company has manufactured Separators of recognized efficiency. There are very few principles of separation or types of Separators which this company has not experimented with in its long experience. Where its apparatus is different from that of other manufacturers, investigation has approved the Wright-Austin design.



Four of the Ten Horizontal Oil Separators on Evaporators at a Large Chemical Plant

QUALITY

Wright-Austin quality is the result of first-class workmanship, the best material obtainable and designs which have contributed to the development of modern high pressure power plant practice.

The splendid reputation which Wright-Austin equipment has had for many years throughout the world is due to this high quality.

THEORY AND PRACTICE OF SEPARATION

The general theory of separation of moisture, oil or other matter from flowing steam, air or gas, which is confirmed by practical experience, is the same for all gases or vapors, although apparatus for successfully applying the theory varies with the conditions.

If moving steam, air or other gas, carrying particles of condensed vapor, or foreign matter, is directed in a straight stream against a baffle, so that its flow is suddenly diverted, the moving steam or gas, being much lighter than the condensation, will flow around the baffle easily, but the heavier particles of moisture and foreign matter, striking the baffle forcibly, will be stopped and will fall by gravity out of the path of the steam or gas. **THERE IS NO OTHER WAY OF SEPARATING LIQUIDS OR SOLIDS FROM STEAM OR GAS WHICH IS AS COMPLETELY EFFECTIVE AS THIS**, notwithstanding hundreds of attempts which have been made to find other methods.

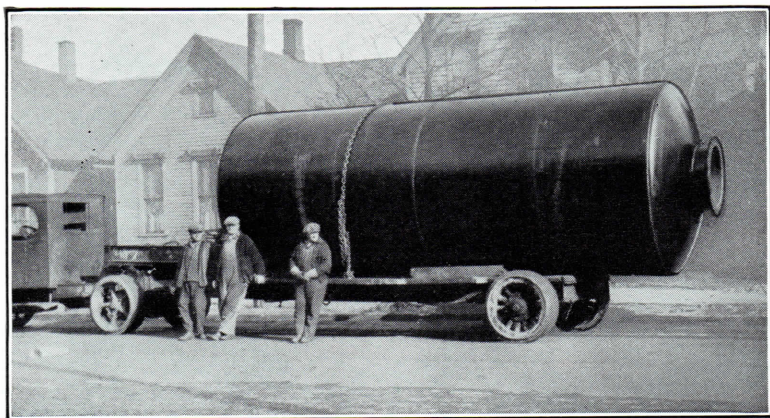
Of course, Separators must be properly proportioned to get completely satisfactory results, even when the right principle is used. Wright-Austin Sepa-

rators are correctly designed. Forty years of satisfactory service is the best proof of that fact.

The baffle must be of sufficient size and area to collect and carry away all the moisture, oil or solid matter, in such a manner that it cannot again be picked up by the moving steam or gas. The whole Separator must, therefore, be large enough to allow for proper baffle area and in addition must have room to accommodate the sudden change of direction of the steam or gas, without causing friction loss or back pressure. When the Separator is properly designed, this results in a very substantial area at right angles to the flow of the steam or gas.

A Separator is purchased but once in the lifetime of the unit which it serves. There is no upkeep. The first cost is the last cost, but all the time the Separator goes on paying for itself over and over again in the waste eliminated, plus the increased efficiency of the unit protected.

Wright-Austin Separators represent the most up-to-date ideas, practice and improvements. They are designed with ample material for a large factor of safety and before leaving the factory every Separator is carefully inspected and tested.



9000 Horsepower Exhaust Steam Oil Separator 8 ft. Diameter by 24 ft. Face to Face. Two of These Separators are in a New York State Plant.

WRIGHT-AUSTIN STANDARD TYPES

Steam Separators for Ordinary Conditions. See Page 108

For ordinary conditions and pressure of 125 to 250 lbs. saturated steam, Separators are available in the Vertical, Horizontal or Angle Types, made of cast semi-steel, welded, or riveted steel, with flange schedule to suit the pressure. Usually the cast types can be shipped from Detroit stock, and the welded or riveted steel types in from two to four weeks after receipt of order.

Steam Separators for Superheated Steam. See Page 108

These have the same dimensions as the "Steam Separators for Ordinary Conditions," but they are made either of cast steel or of flange steel, welded or riveted with seamless forged steel or cast steel nozzles. They are not carried in stock but can be furnished in from two to five weeks from receipt of order.

Oil Separators. See Page 130

These are Horizontal, Vertical or Angle Separators made of cast semi-steel, riveted or welded steel, built to A. S. M. E. Specifications, for pressures from 0 lbs. to 50 lbs. per square inch. The Type "V" is a Horizontal Separator intended for vacuum service, that is for pressures below atmosphere. Ordinarily the Type "S" Oil Separators can be shipped from Detroit stock and other types within two to five weeks from receipt of order.

Welded and Riveted Steel Receiver Separators. See Pages 122 and 138

These are all built and tested to the rigid requirements of the A. S. M. E. Boiler Code, whether they are for saturated steam, superheated steam, oil, gas or air; whether they are standard or special. They are not carried in stock but can be shipped within two to five weeks from receipt of order.

Catch-alls.

Catch-alls for sugar and chemical evaporators, whether condensing or non-condensing, usually require riveted or welded steel construction to meet the local conditions. However, the Type "S" and Type "V" Separators give excellent service where it is possible to install a cast-in-one-piece type of Separator.

Compressed Air Separators and Purifiers. See Page 141

Two Horizontal Types of Separators and one Purifier are available for eliminating oil and moisture from compressed air. The Separators are of the larger pipe sizes for the main compressed air supply lines, while the Purifier is intended for the smaller branch lines to tools, spray nozzles, etc. These can all be supplied from Detroit stock.

Gas Separators.

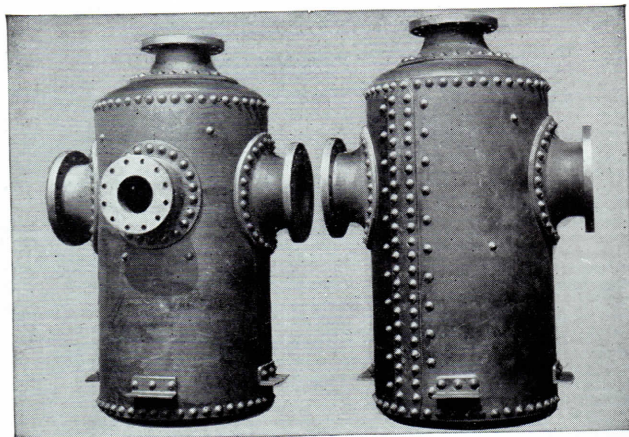
The Wright-Austin Company is constantly furnishing Separators for eliminating oil and moisture from gas or eliminating condensed gas from vaporized gas, but conditions for such service are so variable that these must be known before a type can be recommended.

WRIGHT-AUSTIN GUARANTEE

Every Wright-Austin product is guaranteed against defective material and workmanship for one year from date of shipment.

We also guarantee the efficiency of our Separators as stated by us at time of sale; when installed, drained and operated under the conditions represented to us.

However, the best guarantee we can make is 40 years of unremitting service and integrity to thousands of good customers here, and in many foreign lands.



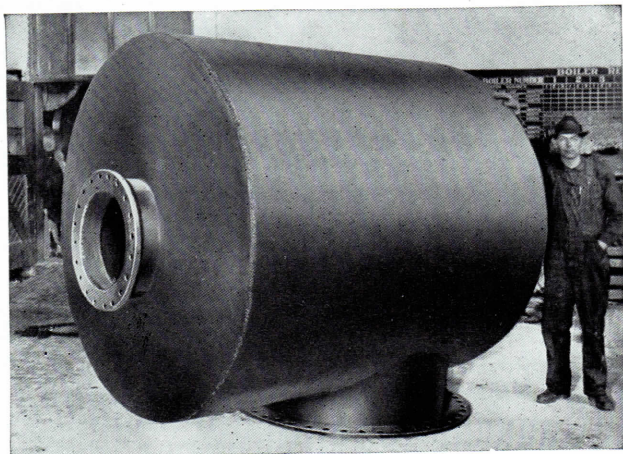
“Standard Special” Steam Separators for 200 Lbs. Pressure, 100° F. Superheat

“STANDARD SPECIAL” TYPES

The Wright-Austin Company is particularly well equipped to build Riveted or Welded Steel Receiver Separators of special design at MODERATE PRICES. The majority of such Separators may be called “Standard Specials” because the principles of their design are standard, although they are special as to dimensions and do not follow this catalogue. There is also much work in connection with them which has been standardized, so that it does not have to be repeated afresh for every Special Separator.

These “Standard Special” Separators can be furnished with semi-steel, forged steel or cast steel nozzles to fit every requirement and to suit any volume, pressure or degree of superheat.

For a complete discussion of this branch of Separator building, one in which the Wright-Austin Company stands pre-eminent, refer to page 122.



“Standard Special” Oil Separator for 28" Vacuum

INFORMATION NEEDED FOR QUOTATION

The Engineering Department of the Wright-Austin Company will advise the best equipment to use, with full information and prices, if it is informed of the conditions under which a Separator is intended to operate. THE IMPORTANCE OF THE FOLLOWING INFORMATION CANNOT BE OVER-EMPHASIZED, if prompt and effective service is to be rendered to persons ordering, requesting quotations, or asking information.

Steam Separators and Purifiers

In asking for prices, be sure to state:

- 1—Size of pipe connections.
- 2—Working steam pressure.
- 3—Direction of steam flow through Separator. See pages 128 and 129.
- 4—Degrees of superheat.
- 5—Standard or Extra Heavy Drilling.

Oil Separators

State:

- 1—Size of pipe connections.
- 2—Exhaust steam pressure.
- 3—Size 10" and larger, give maximum pounds of steam per hour passing through Separator.
- 4—Direction of flow through Separator, horizontal, upward or downward or angle.
- 5—Is exhaust steam from Uniflow Engines?

Vacuum Oil Separators

State:

- 1—Size of pipe connections.
- 2—Maximum and minimum vacuum.
- 3—Maximum pounds of steam per hour passing through Separator.
- 4—Direction of flow through Separator, horizontal, upward or downward or angle.
- 5—Is exhaust steam from Uniflow Engines?
- 6—Give temperature of steam if possible.

Compressed Air Separators

State:

- 1—Size of pipe connections.
- 2—Working air pressure.
- 3—Cubic feet of free air per minute.

Gas Separators

State:

- 1—Size of pipe connections.
- 2—Working pressure of gas.
- 3—Maximum volume of gas per hour.
- 4—Kind of gas and specific gravity.
- 5—Kind of oil to be eliminated and specific gravity.
- 6—Approximate amount of oil to be removed.

WRIGHT-AUSTIN ENGINEERING SERVICE

The Wright-Austin Company is always ready to answer questions, furnish information or give engineering advice on the selection and installation of its product.

This book contains information required for selecting apparatus to meet ordinary conditions and we believe that the data and suggestions contained will be found sufficient to cover most installations; but when extraordinary conditions arise, or when there is doubt about the selection of equipment, the Wright-Austin Engineering Service will be found invaluable.

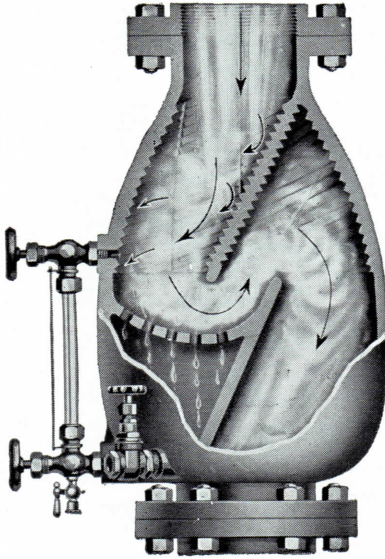
Wright-Austin Engineers are drainage experts and frequently plan entire drainage systems for prospective customers, or for manufacturers of heating and drying machinery.

Engineers and Managers should feel free to call upon this service at any time. It will be cheerfully rendered and there will thus be made available to them the accumulated experience of forty years of successful production.

Vertical Steam Separators

TYPE "A"

Wright-Austin Live Steam Vertical Separator



The Type "A" is designed for installation in vertical steam lines, usually just above the throttle of the engine. It is of the baffle type, having very large internal areas.

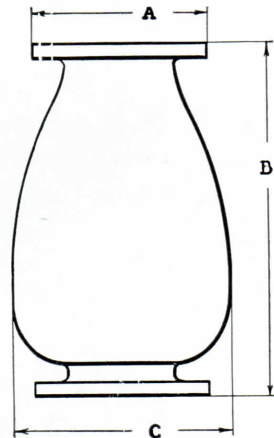
One feature contributing to the successful operation of this Separator is that the baffle plate is not set at right angles to the entering steam current, but is set so that when the incoming steam is impinged against it and rebounds to the opposite wall of the Separator, the particles of moisture are driven down the deep, slanting corrugations on walls and baffle, entirely out of the course of the steam, and into the well below where they are drained off. Passing around the lower edge of the baffle, the flow of the steam is completely reversed by a quick, sharp turn upward.

This sudden reversal whips out the final trace of moisture, which continues downward and is caught in the open baffle over the well below.

Every Separator should be automatically drained by an efficient steam trap. See page 151.

Prices and Dimensions

Pipe Size	Dimensions in Inches				Wgt. Lbs.	List Price Includes Water Gauge Only	Code Word
	A	B	C	Drain			
* 1½	S. E.	12	7	½	45	\$27.50	Abate
* 2	S. E.	12	7	½	45	32.50	About
2½	7½	13	8	¾	85	44.00	Above
3	8¼	15¼	9	¾	115	48.00	Actor
3½	9	16¾	10	¾	135	54.00	Alert
4	10	18	11	¾	170	65.00	Adrip
4½	10½	20	12	¾	215	78.00	Admit
5	11	22¼	13	1	240	92.00	Adult
6	12½	25¼	15	1	330	120.00	Acute
7	14	28½	17	1¼	440	162.00	Adept
8	15	31½	19	1¼	575	220.00	Adore
10	17½	37	23	1½	910	310.00	Affix
12	20½	40¼	25½	1½	1080	370.00	Alive



Regularly made with Extra Heavy flanges for working pressures up to 250 lbs. per square inch. Can also be supplied with flanges faced and drilled to 125 lb. Standard Drilling if especially ordered, at same price as the Extra Heavy.

Companion flanges, also drain valve and nipple, can be furnished at extra cost. For prices, also flange drilling, see pages 144-145.

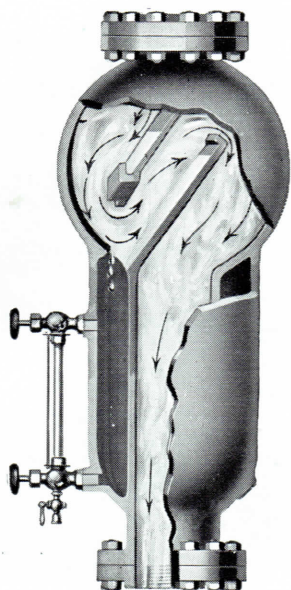
Stock sizes 1½" to 10", inclusive in Extra Heavy and Standard patterns.

Also made in cast steel for superheat. Prices quoted upon receipt of: 1—Pipe size. 2—Working steam pressure. 3—Degrees of superheat.

*Available with flanged ends including Water Gauge, List 1½"—\$32.00; 2"—\$37.00.

TYPE "M"

Wright-Austin Live Steam Vertical Receiver Separator



As a result of good receiver capacity, the Type "M" Vertical Steam Separator maintains a constant supply of dry steam at the throttle of the engine, with a reserve supply for emergencies such as sudden changes of load.

This Separator is intermediate in size and receiver capacity between the Type "A" and the Type "H" or "C" Separators shown on pages 110 and 111.

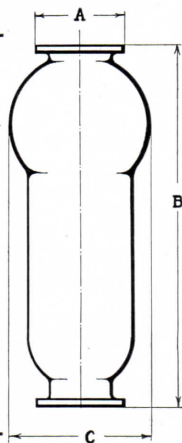
The action of the steam against the baffle plates is the same as in the other Wright-Austin Separators, the principle of which is described on page 103. Separation is positive and the condensate, being thrown into the receiver of the Separator, is absolutely prevented from being picked up again by the flowing steam current.

There is a Wright-Austin Separator for every requirement and condition.

It is essential that every separator shall be drained automatically. Refer to page 151.

Prices and Dimensions

Pipe Size	Dimensions in Inches				Weight Pounds	List Price Includes Water Gauge Only	Code Word
	A	B	C	Drain			
*1 1/2	S. E.	17	5 5/8	1/2	60	\$31.00	Major
*2	S. E.	17	5 5/8	1/2	60	36.00	Mango
2 1/2	7 1/2	18	7 5/8	3/4	95	45.00	March
3	8 1/4	19 3/4	8	3/4	140	50.00	Medal
3 1/2	9	22 1/2	8 3/4	3/4	175	62.00	Meter
4	10	26 1/4	10 1/2	3/4	230	80.00	Might
4 1/2	10 1/2	30 1/2	12	3/4	305	100.00	Minor
5	11	34	13 1/4	1	360	118.00	Model
6	12 1/2	37 1/4	16	1	475	150.00	Motor
7	14	42 1/4	18 3/4	1 1/4	665	232.00	Murra
8	15	48 1/4	20	1 1/4	950	306.00	Monte
10	17 1/2	58	27	1 1/2	1550	493.00	Middy
12	20 1/2	64	31	1 1/2	2670	712.00	Merge
14	23	70	35	2	3155	950.00	Music



Regularly made with Extra Heavy flanges for working pressures up to 250 lbs. per square inch. Can also be supplied with flanges faced and drilled to 125 lb. Standard Drilling if especially ordered, at same price as the Extra Heavy.

Companion flanges, also drain valve and nipple, can be furnished at extra cost. For prices, also flange drilling, see pages 144-145.

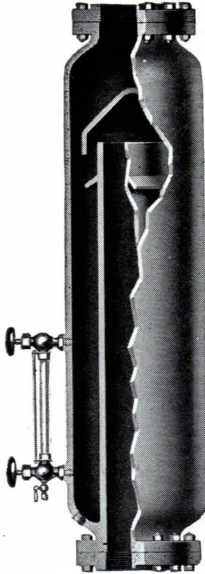
Stock sizes 1 1/2" to 10", inclusive in Extra Heavy patterns.

Also made in cast steel for superheat. Prices quoted upon receipt of: 1—Pipe size. 2—Working steam pressure. 3—Degrees of superheat.

*Available with flanged ends including Water Gauge, List 1 1/2"—\$36.00; 2"—\$41.00.

TYPE "H"

Wright-Austin Live Steam Vertical Receiver Separator



The Type "H" Separator is designed to give the greatest possible volume of receiver capacity obtainable in a cast-in-one-piece Separator for modern high pressure service.

This Separator is especially valuable where steam is wet, due to priming of boilers, forcing of boilers, or long steam lines. Slugs of water can be removed and accommodated until the drainage system has a chance to operate.

It combines the basic principles necessary for thorough elimination of moisture from live steam, and is the first choice of many engineers.

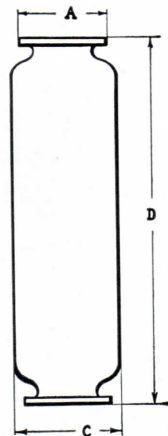
Mounted over the throttle of engine or turbine, its cylindrical lines blend gracefully with the piping, adding an artistic touch to the plant, not obtainable by any other Separator.

Also its shape is such that it is more easily covered by magnesia or asbestos lagging than is the case with many other Separators.

Every Separator should be automatically drained by an efficient steam trap. See page 151.

Prices and Dimensions

Pipe Size	Dimensions in Inches				Weight Pounds	List Price Includes Water Gauge Only	Code Word
	A	C	D	Drain			
3	8 $\frac{1}{4}$	9 $\frac{1}{2}$	44 $\frac{1}{4}$	$\frac{3}{4}$	260	\$100.00	Habit
3 $\frac{1}{2}$	9	10 $\frac{1}{2}$	48 $\frac{1}{4}$	$\frac{3}{4}$	320	130.00	Harpy
4	10	11 $\frac{7}{8}$	52 $\frac{1}{4}$	$\frac{3}{4}$	450	170.00	Heave
4 $\frac{1}{2}$	10 $\frac{1}{2}$	11 $\frac{7}{8}$	56 $\frac{1}{4}$	$\frac{3}{4}$	500	185.00	Heath
5	11	14 $\frac{1}{4}$	60 $\frac{1}{4}$	1	730	245.00	Hepar
6	12 $\frac{1}{2}$	16 $\frac{1}{4}$	64	1	880	310.00	Hocus
7	14	18 $\frac{3}{8}$	68 $\frac{1}{4}$	1 $\frac{1}{4}$	1080	377.00	Honor
8	15	20 $\frac{1}{2}$	72 $\frac{1}{4}$	1 $\frac{1}{4}$	1300	445.00	House
10	17 $\frac{1}{2}$	22 $\frac{1}{2}$	76	1 $\frac{1}{2}$	1840	625.00	Human



Regularly made with Extra Heavy flanges for working pressures up to 250 lbs. per square inch.

Can also be supplied with flanges faced and drilled to 125 lb. Standard Drilling, if especially ordered, at same price as the Extra Heavy.

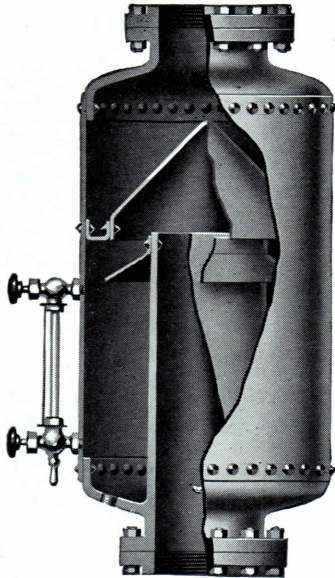
Companion flanges, also drain valve and nipple, can be furnished at extra cost. For prices, also flange drilling, see pages 144-145.

Made to order, shipment three weeks.

Also made in cast steel for superheat. Prices quoted upon receipt of: 1—Pipe size. 2—Working steam pressure. 3—Degrees of superheat.

TYPE "C"

Wright-Austin Live Steam Vertical Steel Receiver Separator



The Type "C" Separator can be built for any pressure or superheat. Steam enters at the top and strikes a cone, which throws the condensation downward against the sides of the Separator, past the guard attached to the outlet pipe. From this point, the steam must then make two sharp turns, forcing thorough separation by throwing the small particles of moisture completely out of the steam down to the drain below. The guard around the vertical outlet stops any moisture from being drawn up into the out-flowing steam current.

Standard sizes are given below, but the diameter and length of Type "C" may be changed to suit any conditions or cubical capacity desired. The general practice is three times the cubical capacity of the engine cylinder.

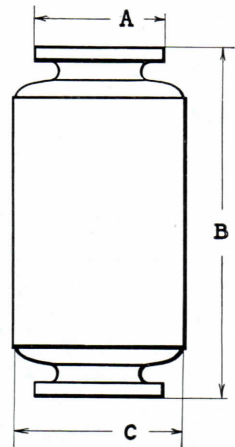
The Type "C" Separator is built for working steam pressures up to 450 lbs. and highest super-heat. It may be furnished in Riveted A. S. M. E. Code construction, or Welded Class I or Class II, depending upon requirements and pressure.

There is a Wright-Austin Separator for every requirement or condition.

For any Steam Separator to give efficient results, it must be automatically drained by a good steam trap. See page 151.

Weights and Dimensions

Pipe Size	Dimensions in Inches				Weight Lbs.	Code Word
	A	B	C	Drain		
3	8 1/4	42	18	3/4	650	Cedar
3 1/2	9	42	18	3/4	650	Celts
4	10	46	22	1	800	Cable
5	11	46	22	1	800	Corne
6	12 1/2	46	22	1	800	Cameo
8	15	48	24	1 1/4	900	Carol
10	17 1/2	50	26	1 1/2	1000	Carry
12	20 1/2	56	30	2	1100	Cieon
14	23	62	34	2	2080	Copse
16	25 1/2	68	38	2	2500	Costa
18	28	74	42	2 1/2	2900	Count
20	30 1/2	80	46	2 1/2	3500	Crown



Prices on application.

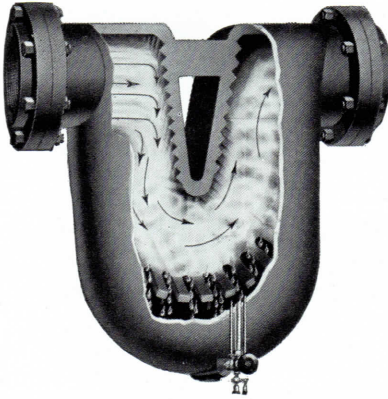
When ordering or obtaining prices, be sure to give: 1—Size of pipe connections. 2—Working steam pressure. 3—Degrees of superheat—if any. 4—Direction of steam flow through Separator.

Size of receiver may be varied from the above to suit special requirements or conditions. State dimensions, or cubic volume desired.

Horizontal Steam Separators

TYPE "B"

Wright-Austin Live Steam Horizontal Separator



The Type "B" is an ideal Separator for limited head or side room. No part of the Separator projects beyond the outside diameter of the pipe flange, except the body which hangs directly underneath. It can be installed in a horizontal pipe line that is tight up against the ceiling, or close up to parallel pipes or wall on either side.

The flow of steam may be passed through the Type "B" Separator in either direction with equal efficiency.

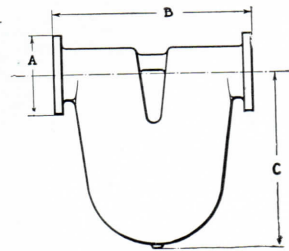
Upon striking the inclined baffle, the condensation is driven down the deep, slanting corrugations out of the path of the steam current. Any moisture not caught by the upper baffle and by the inner wall grooves, is finally separated by additional baffles located just over the well or receiver of the Separator.

This corrugated construction is a distinctive Wright-Austin feature, being an important contribution toward the efficiency of the Type "B" Separator, making it one of the most popular of our entire line.

Automatic drainage of every Steam Separator by a good steam trap is necessary for efficient results. See page 151.

Prices and Dimensions

Pipe Size	Dimensions in Inches				Wgt. Lbs.	List Price Includes Water Gauge Only	Code Word
	A	B	C	Drain			
* 1½	S. E.	10½	9	½	45	\$23.00	Bacca
* 2	S. E.	10½	9	½	45	26.00	Bravo
2½	7½	13¼	12	¾	115	34.00	Baker
3	8¼	15¼	13	¾	125	41.00	Bandy
3½	9	16	14	¾	165	51.00	Barge
4	10	18¼	15	¾	215	63.00	Brier
4½	10½	19¼	17	¾	265	74.00	Baton
5	11	20¾	20¾	1	285	81.00	Batch
6	12½	24¼	22	1	435	122.00	Basis
7	14	27¼	25	1¼	600	160.00	Bison
8	15	30¼	29	1¼	835	216.00	Blade
10	17½	31	36	1½	1135	288.00	Bosky
12	20½	36	40	1½	1580	400.00	Borax
14	23	39	42	2	1625	470.00	Bruin



Regularly made with Extra Heavy flanges for working pressures up to 250 lbs. per square inch.

Can also be supplied with flanges faced and drilled to 125 lb. Standard Drilling if especially ordered, at same price as the Extra Heavy.

Companion flanges, also drain valve and nipple, can be furnished at extra cost. For prices, also flange drilling, see pages 144-145.

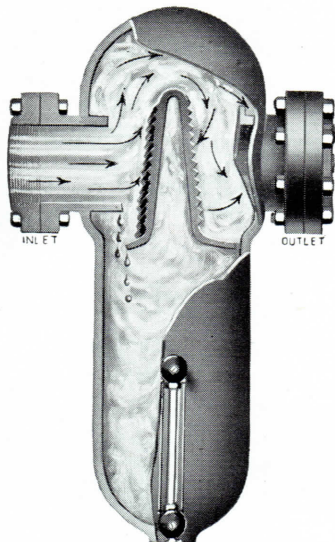
Stock sizes 1½" to 10", inclusive in Extra Heavy and Standard patterns.

Also made in cast steel for superheat. Prices quoted upon receipt of: 1—Pipe size. 2—Working steam pressure. 3—Degrees of superheat.

* Available with flanged ends including Water Gauge, List 1½"—\$23.00; 2"—\$31.00.

TYPE "E"

Wright-Austin Live Steam Horizontal Receiver Separator



The Type "E" Separator is one of the most effective types manufactured. There are thousands in use and the elimination of moisture is unusually efficient.

The extended inlet, overshot, corrugated angle baffle and specially protected outlet are developments in design which result in ideal separation. Moisture catches in the corrugations of the baffle and is carried to the sides, thus going into the receiver, while the steam for the most part goes over the top of the baffle.

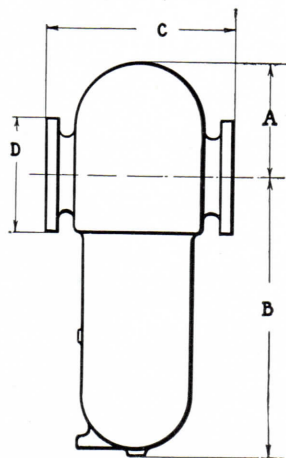
The Separator is cast in one piece without any joints or gaskets, thus preventing leaks and eliminating maintenance. The internal areas are very large, permitting complete separation of moisture, also, as a result, there is no back pressure. The receiver provides a reserve for sudden fluctuations of load or slugs of water and is midway in capacity between the Type "B" and Type "G" Separators.

There is a Wright-Austin Separator for every requirement or condition.

To be efficient, every Separator must be instantly relieved of all condensate, by a good automatic steam trap. See page 151.

Prices and Dimensions

Pipe Size	Dimensions in Inches					Wgt. Lbs.	List Price Includes Water Gauge Only	Code Word
	A	B	C	D	Drain			
*1½	5	10	10½	S. E.	½	60	\$26.00	Equip
*2	5	10	10½	S. E.	½	60	28.00	Eagle
2½	6	12	11	7½	¾	125	36.00	Eblis
3	6½	13	12¼	8¼	¾	155	43.00	Eclat
3½	7½	15	13⅝	9	¾	170	54.00	Edict
4	9	17	14¾	10	¾	230	66.00	Eider
4½	10	20	16¼	10½	¾	310	78.00	Eikon
5	11	23	19	11	1	470	108.00	Eland
6	12	26	21	12½	1	565	132.00	Elate
7	13¾	29	22¾	14	1¼	715	168.00	Elbow
8	16	32	24	15	1¼	880	224.00	Enjoy
10	20	38	30	17½	1½	1300	372.00	Ensue
12	23	41	34	20½	1½	1800	462.00	Enter
14	26	44	39¾	23	2	3055	800.00	Emery



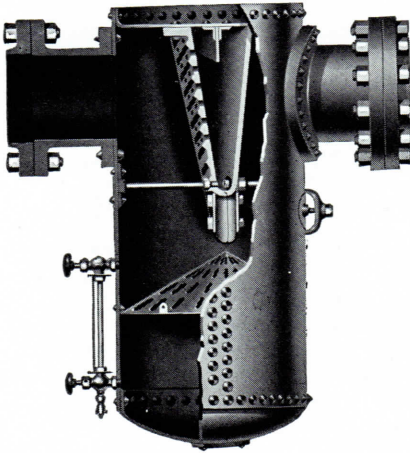
Regularly made with Extra Heavy flanges for working pressures to 250 lbs. per square inch. Can also be supplied with flanges faced and drilled to 125 lb., Standard Drilling if especially ordered, at same price as the Extra Heavy.

Companion flanges, also drain valve and nipple, can be furnished at extra cost. For prices, also flange drilling, see pages 144-145.

Stock sizes 1½" to 10" inclusive in Extra Heavy patterns.

Also made in cast steel for superheat. Prices quoted upon receipt of: 1—Pipe size. 2—Working steam pressure. 3—Degrees of superheat.

*Available with flanged ends including Water Gauge, List 1½"—\$30.00; 2"—\$33.00.

TYPE "D"
Wright-Austin Live Steam Horizontal Steel Receiver Separator


Designed with very low head, the Type "D" Separator can be installed to advantage where pipe lines run close to ceiling or overhead obstructions.

Incorporated in this apparatus will be found some of the special features already described in others of our patterns. The baffle is similar to that employed in the Type "G" except it is of the undershot type, the lower part of which forms a trough draining to the sides. The cone in the lower part prevents the steam from agitating whatever water may be in the bottom of the receiver.

The diameter of this separator can be made larger, length increased, and internal construction altered to meet almost any operating conditions, pressure and superheat.

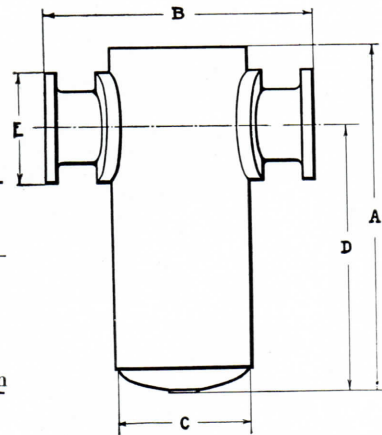
For certain conditions, this separator is designed with an internal curved pipe and cone. See illustration on page 129.

Built to A. S. M. E. Code specifications throughout, in welded or riveted construction.

Every Separator should be automatically drained by an efficient steam trap. See page 151.

Weights and Dimensions

Pipe Size	Dimensions in Inches						Wgt. Lbs. Approx.	Code Word
	A	B	C	D	E	Drain		
4	50	34	18	39½	15	1¼	700	Dedar
6	55	40½	22	44	17½	1½	1050	Doily
8	63½	44	24	50	20½	2	1300	Dingo
10	72½	47	26	56	23	2	2000	Drawl
12	74½	50	28	59	25½	2	2200	Drill
14	81	53	30	62	28	2½	2500	Dynam



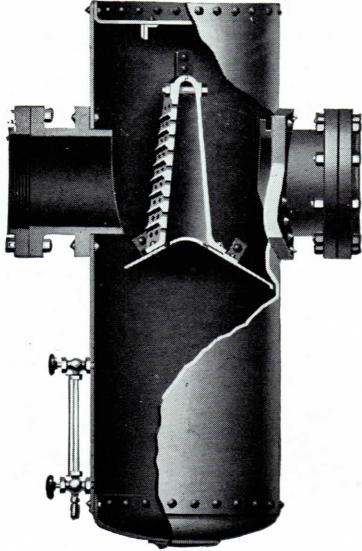
Prices on application.

When ordering or obtaining prices, be sure to give: 1—Size of pipe connections. 2—Working steam pressure. 3—Degrees of superheat—if any.

Size of receiver may be varied from the above to suit special requirements or conditions. State dimensions or cubic volume desired.

TYPE "G"

Wright-Austin Live Steam Horizontal Steel Receiver Separator



Extra large receiver capacity combined with the utmost efficiency are obtainable in the Type "G" Separator.

To stop vibration of steam line or slugs of water from priming boilers, this Separator is highly recommended. It is built for the highest working pressures, also with cast steel or forged steel nozzles for superheat, conforming in all respects to the A. S. M. E. Code.

A perfect system of drainage grooves in the baffle leads to the sides, and in addition, much of the condensation in the steam is driven through perforations also draining to the sides.

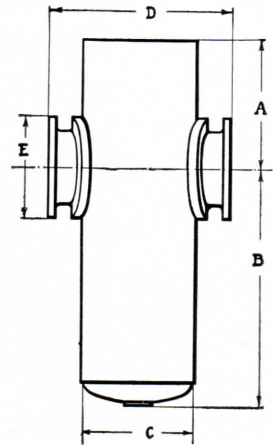
For certain conditions, this separator is designed with an internal curved pipe and cone. See illustration on page 129.

There is a Wright-Austin Separator for every requirement or condition.

To be efficient, every separator must be relieved of all condensate as quickly as it is separated from the steam. See page 151.

Weights and Dimensions

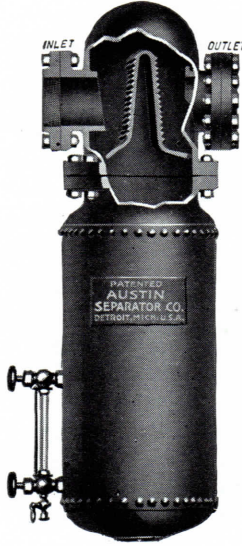
Pipe Size	Dimensions in Inches						Wgt. Lbs. Approx.	Code Word
	A	B	C	D	E	Drain		
6	21	40	22	40½	17½	1½	1350	Great
8	24	48	24	44	20½	2	1600	Ghaut
10	28	54	26	47	23	2	2250	Gager
12	32	60	28	50	25½	2	2850	Gaily
14	36	64	30	53	28	2½	3200	Girth



Prices on application.

When ordering or obtaining prices, be sure to give: 1—Size of pipe connections. 2—Working steam pressure. 3—Degrees of superheat—if any.

Size of receiver may be varied from the above to suit special requirements or conditions. State dimensions or cubic volume desired.

TYPE "L"**Wright-Austin Live Steam Horizontal Steel Receiver Separator**

The Type "L" Separator fills an important place between the Type "E" and the Types "D" and "G" just described. The Separator Head containing the baffle has all the excellent features of the Type "E," namely, overshot, corrugated, angle baffle, extended inlet and flanged ring outlet.

This Separator has much greater receiver capacity than the cast separators, without losing any of their advantages. There is only one joint, and that where the head joins the receiver. If desired, receivers of especially large cubic capacity can be furnished at small additional cost.

The entire head is cast in one piece. It may be semi-steel or electric furnace cast steel, depending upon the pressure requirements, etc.

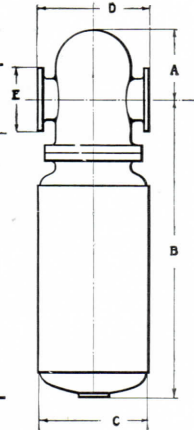
The receiver is constructed of flange steel boiler plate, either welded or riveted, as desired.

Built and tested to A. S. M. E. Code requirements.

For a Separator to give efficient results, it must be automatically drained. See page 151.

Weights and Dimensions

Pipe Size	Dimensions in Inches						Weight Lbs.	Code Word
	A	B	C	D	E	Drain		
3	6 $\frac{1}{2}$	36	12	12 $\frac{1}{4}$	8 $\frac{1}{4}$	$\frac{3}{4}$	350	Label
4	9	40	13 $\frac{1}{2}$	14 $\frac{3}{4}$	10	$\frac{3}{4}$	450	Latch
5	11	45	16	19	11	1	680	Latin
6	12	50	18	21	12 $\frac{1}{2}$	1	900	Layer
7	13 $\frac{3}{4}$	56	20	22 $\frac{3}{4}$	14	1 $\frac{1}{4}$	1150	Legal
8	16	64	22	24	15	1 $\frac{1}{4}$	1350	Livre
10	20	80	26	30	17 $\frac{1}{2}$	1 $\frac{1}{2}$	2190	Loach
12	23	90	30	34	20 $\frac{1}{2}$	2	2650	Logie
14	26	102	34	39 $\frac{3}{4}$	23	2	3750	Lotus
16	29	112	38	41 $\frac{1}{2}$	25 $\frac{1}{2}$	2	4600	Lunar
18	32	120	42	43	28	2 $\frac{1}{2}$	5765	Lyric
20	35	130	46	45	30 $\frac{1}{2}$	2 $\frac{1}{2}$	6700	Lusty



Prices on application.

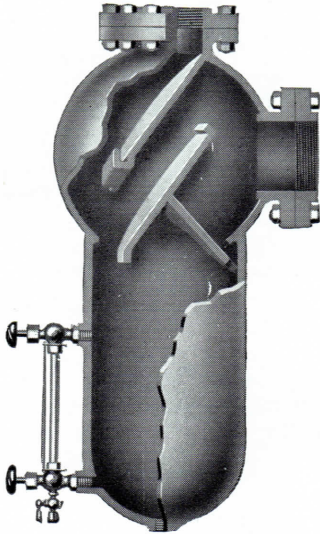
When ordering or obtaining prices, be sure to give: 1—Size of pipe connections. 2—Working steam pressure. 3—Degrees of superheat—if any.

Size of receiver may be varied from the above to suit special requirements or conditions. State dimensions or cubic volume desired.

Angle Steam Separators

TYPE "N"

Wright-Austin Live Steam Angle Receiver Separator



Angle Separators made of cast semi-steel have a distinct place in the Separator field. They save piping, as all Angle Separators do, and have the special advantage of being cast in one piece, thus eliminating joints and gaskets, also reducing first cost.

The Type "N" Separator is especially suitable for installation where piping, descending from the ceiling, enters the angle throttle valve of an engine horizontally.

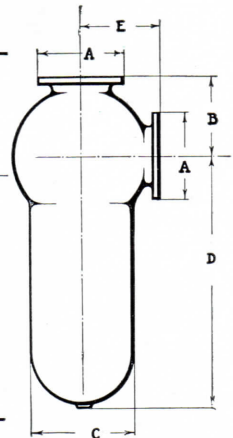
This Separator is designed for steam flow in either direction, and has a receiver of good capacity. It makes an attractive appearance when installed. Its design is the result of much careful experimenting. Baffle and steam areas are sufficient for complete elimination of moisture.

There is a Wright-Austin Separator for every requirement or condition.

Information about steamtraps to drain this Separator is given on page 151.

Prices and Dimensions

Pipe Size	Dimensions in Inches						Weight Lbs.	List Price Includes Water Gauge Only	Code Word
	A	B	C	D	E	Drain			
2½	7½	4¾	5¾	8¼	4¾	¾	95	\$36.00	Nappy
3	8¼	5	6¾	12	5	¾	140	42.00	Needy
3½	9	5½	7¾	12	5½	¾	175	53.00	Neuro
4	10	6½	8¾	16½	6½	¾	230	64.00	Naugo
4½	10½	7	10¾	20	7	¾	305	80.00	Nobby
5	11	8¼	11	23	8	1	360	96.00	Noble
6	12½	9	13	25	9	1	475	120.00	Noise
7	14	11	15	28	11	1¼	665	187.00	Notch
8	15	11½	17	33½	11½	1¼	950	246.00	Notus
10	17½	15	21	40	15	1½	1550	396.00	Novel
12	20½	17	25½	43	17	1½	2670	570.00	North



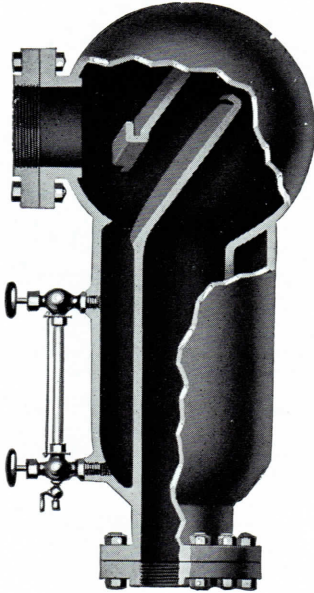
Regularly made with Extra Heavy flanges for working pressures up to 250 lbs. per square inch.

Can also be supplied with flanges faced and drilled to 125 lb. Standard Drilling, if especially ordered, at same price as the Extra Heavy.

Companion flanges, also drain valve and nipple, can be furnished at extra cost. For prices, also flange drilling, see pages 144-145.

Made to order—shipment three weeks.

Also made in cast steel for superheat. Prices quoted upon receipt of: 1—Pipe size. 2—Working steam pressure. 3—Degrees of superheat.

TYPE "O"**Wright-Austin Live Steam Angle Receiver Separator**

Where low head room or a short pipe connection from horizontal supply pipe down to throttle is desirable, the Type "O" Separator is the answer—it exactly fits such a condition.

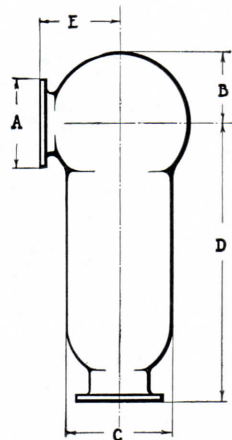
It provides the benefits of efficient separation in a minimum of pipe space, also taking the place of an elbow and short pipe, thus eliminating several joints.

This Separator is similar to the Type "N," described on the preceding page, except for the arrangement of connections. It has very good receiver capacity and is designed for complete elimination of moisture without back pressure or loss by friction.

Every Separator should be automatically drained by an efficient steam trap. See page 151.

Prices and Dimensions

Pipe Size	Dimensions in Inches						Weight Lbs.	List Price Includes Water Gauge Only	Code Word
	A	B	C	D	E	Drain			
2½	7½	3¾	5¾	13¼	4¾	¾	95	\$36.00	Obese
3	8¼	4	6¾	14¾	5	¾	140	42.00	Oasis
3½	9	4½	7¾	18	5½	¾	175	53.00	Obore
4	10	5½	8¾	19½	6½	¾	230	64.00	Ochre
4½	10½	6	10¾	23	7	¾	305	80.00	Offer
5	11	6¾	11	26	8	1	360	96.00	Orcin
6	12½	7¾	13	28	9	1	475	120.00	Ortho
7	14	9¾	15	31	11	1¼	665	187.00	Ovule
8	15	10¼	17	36½	11½	1¼	950	246.00	Overt
10	17½	13½	21	43	15	1½	1550	396.00	Ozone
12	20½	15	25½	47	17	1½	2670	570.00	Ozice



Regularly made with Extra Heavy flanges for working pressures up to 250 lbs. per square inch.

Can also be supplied with flanges faced and drilled to 125 lb. Standard Drilling, if especially ordered, at same price as the Extra Heavy.

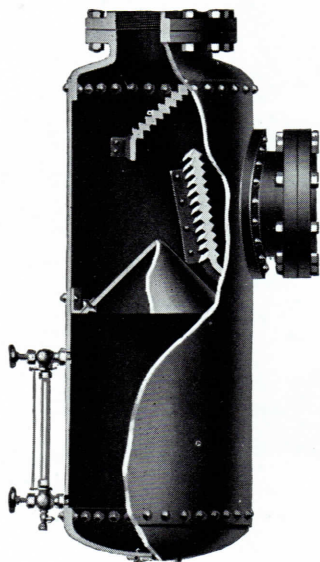
Companion flanges, also drain valve and nipple, can be furnished at extra cost. For prices, also flange drilling, see pages 144-145.

Made to order—shipment three weeks.

Also made in cast steel for superheat. Prices quoted upon receipt of: 1—Pipe size. 2—Working steam pressure. 3—Degrees of superheat.

TYPE "I"

Wright-Austin Live Steam Angle Steel Receiver Separator



The Type "I" Separator is designed to meet all requirements for an Angle Separator. It saves piping, elbows, etc. in many places where the use of horizontal or vertical Separators would be impracticable or awkward.

It can be made with connections arranged as shown in the illustration, to pass steam through in either direction, or it can be made with connections at side and bottom, to pass steam in either direction. It can also be made with several inlets or outlets if desired, becoming then a "Standard Special" as described on page 122.

Interior design will depend upon direction of steam flow through Separator.

This type of Separator is especially suitable for use with turbines and can be placed above or below the floor level of the turbine with good results. It has large receiver capacity, large steam storage capacity and eliminates moisture completely. See page 102 for a photograph of Separator of this general type installed with a turbine.

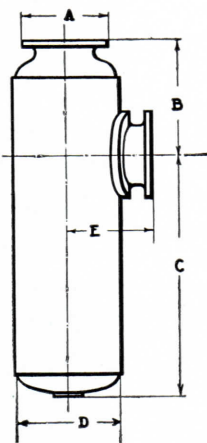
Type "I" Separators are built and tested to A.S.M.E. Code requirements for any working pressure or superheat.

There is a Wright-Austin Separator for every requirement or condition.

It is essential that every Steam Separator shall be drained automatically as fast as the condensate is accumulated. See page 151.

Prices and Dimensions

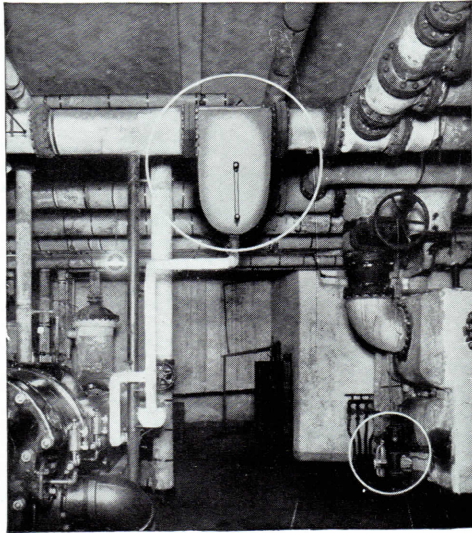
Pipe Size	Dimensions in Inches						Weight Lbs. Approx	Code Word
	A	B	C	D	E	Drain		
4	12½	18	25½	18	16	1	495	Icono
6	15	21	32	18	17	1¼	780	Ictus
8	17½	25	40	22	21	1½	1085	Inlay
10	20½	29	48	24	22	2	1585	Image
12	23	33	56	26	24	2	1610	Impel
14	25½	38	60	30	25	2	2275	Incur



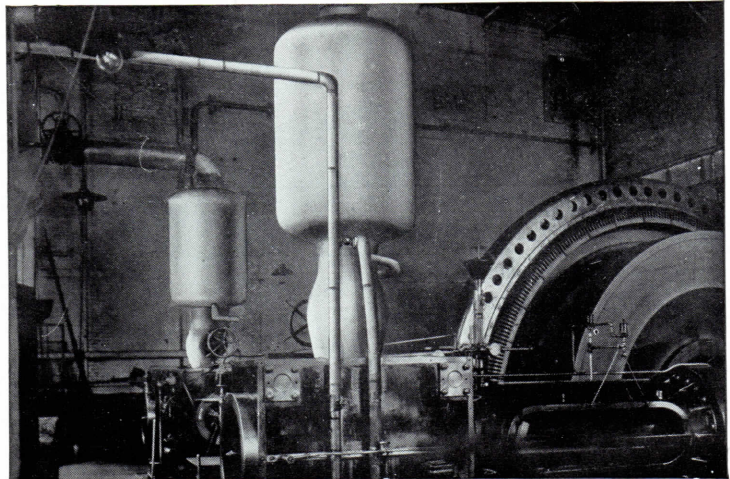
Prices on application.

When ordering or obtaining prices, be sure to give: 1—Size of pipe connections. 2—Working steam pressure. 3—Degree of superheat—if any. 4—Direction of steam flow through Separator.

Size of receiver may be varied from the above to suit special requirements or conditions. State dimensions or cubic volume desired.

**TYPICAL INSTALLATIONS OF WRIGHT-AUSTIN
STANDARD TYPE LIVE STEAM SEPARATORS**

**A 10" Type "B" Horizontal Steam Separator
Showing Installation Near Ceiling**



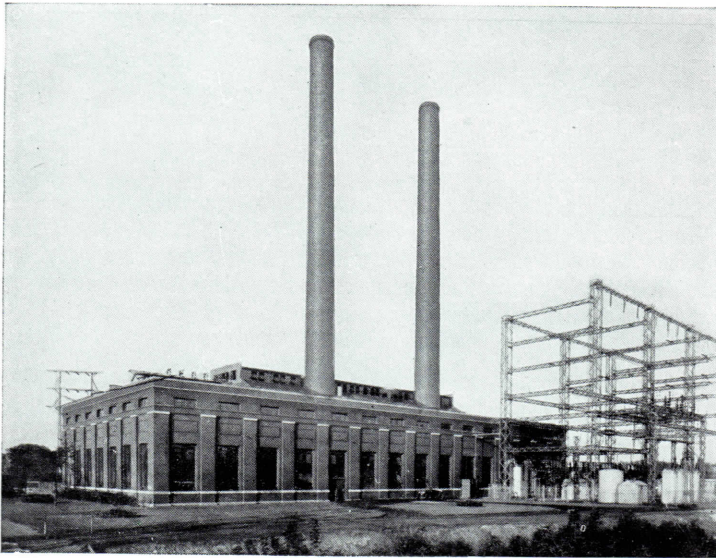
**Two 10" Type "C" Vertical Riveted Steel Receiver Steam Separators at
the Plant of The Corn Products Refining Co., Pekin, Ill.**

WHERE WRIGHT-AUSTIN SEPARATORS ARE USED



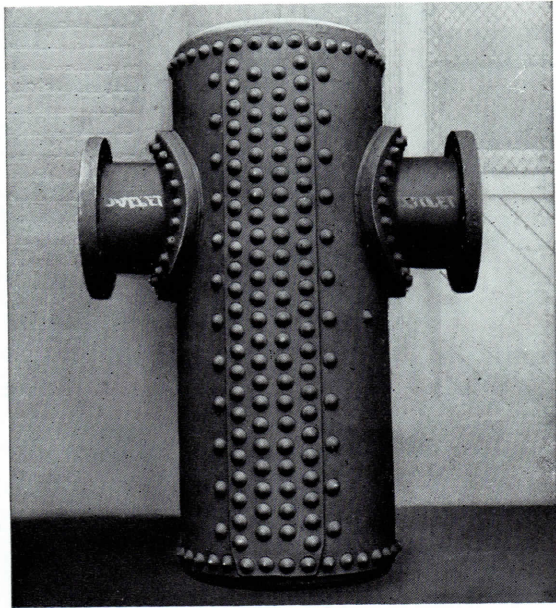
Courtesy American Architect

Roosevelt Hotel, New York City
Seven Wright-Austin Steam Separators



The Battle Creek Plant of Consumers Power Co.
Serving Central Part of State of Michigan

**“Standard Special”
Steel Receiver Steam Separators**
for
High Pressure—Superheat
are “tailor-made” to fit requirements.

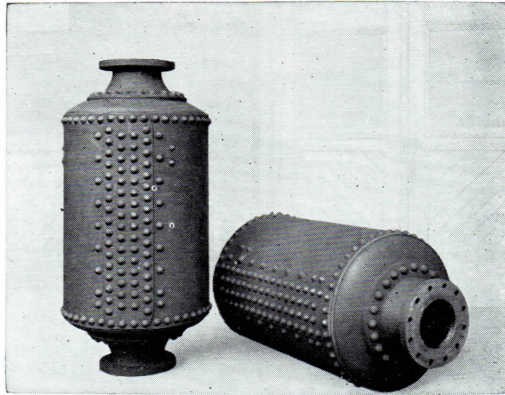


Horizontal “Standard Special” Separator with Cast Steel Nozzle for Superheat.

Certain Welded and Riveted Steel Receiver Separators have received the name “Standard Specials” because they are “Special” Separators, designed to meet customer’s conditions, but are made up from “Standard” parts and to a large extent, from “Standard” plans. The Wright-Austin Company is particularly well equipped for this work. Note the great variety of “Standard Special” Steam Separators illustrated on pages following.

“Standard Specials” cost less than special separators which are built to order in every part, because more than half the work on them has been done in the preparation of standard parts. A customer receives the benefit of this in the prices quoted.

“Standard Specials” are better designed than most special Separators because the plans from which they are built have been perfected in general arrangement, during forty years of successful manufacture, and only need to be modified as to size. Moreover, there are plans in the Wright-Austin files to suit every type of connection.



Designed for Superheated Steam with Forged Steel Nozzles.

“Standard Specials” are completely satisfactory because they are built TO SUIT CUSTOMER’S REQUIREMENTS as to size, connection and shape, although they retain at the same time all the advantages of correct design and moderate cost.

“Standard Specials” have behind them the Wright-Austin Guarantee and Wright-Austin Service. The Wright-Austin Company makes only equipment that wears well and does its work at all times with little or no attention. It stands back of all apparatus which it makes as long as that apparatus is in use.

On many orders there is a very great saving of time in purchasing “Standard Specials” since no time is required to perfect designs or make patterns. The time between receipt of order and date of shipment is the time actually used in the shop.

Sometimes Separators can be specially constructed by others for less money than Wright-Austin “Standard Specials,” notwithstanding the extra cost of special patterns and plans; but the reduction in cost is gained by sacrificing the life and effectiveness of the apparatus. When these Separators are built up to Wright-Austin quality, they cost more than Wright-Austin “Standard Specials.”

ADVANTAGES OF STEAM SEPARATORS BUILT TO ORDER

First—Complete elimination of moisture at high steam pipe velocities. Dangerous slugs of water carried over from priming or flooded boilers or from pockets in a pipe line will be completely removed, even at high steam velocities, by a Separator having baffle area and steam space especially proportioned to the velocity and volume of the steam.

Just as Standard Separators are built for average conditions and are satisfactory for all ordinary pressures, temperatures and steam velocities, so “Standard Special” Separators can be built and should be provided when average conditions are exceeded.

The Wright-Austin Company is always glad to submit plans to suit any and all conditions.

Second—Elimination of serious vibration in steam lines. A “Standard Special” Separator having large receiver capacity and designed for the particular location will furnish an extra large supply of steam as a reserve and a cushion, thus eliminating vibration and loss of efficiency.

Third—Convenient arrangement of connections to fit piping, thus avoiding pipe changes that frequently cost more than the price of the Separator.

For instance, a Separator may have inlets for two steam supply lines and an outlet to one engine, or it may have one inlet for steam supply and two or three outlets to as many engines. Inlets and outlets may occupy all sorts of peculiar positions with respect to one another. See illustrations on pages 128 and 129.

Fourth—Adaptability to any pressure and any temperature in commercial use. An examination of the illustrations on this page and on succeeding pages will give an idea of the construction possible.

Fifth—Arrangement of dimensions and volume to suit purchaser. Practically any requirement can be readily met.

Sixth—"Standard Special" Separators are especially valuable with steam turbines. They prevent slugs of water and pipe scale or other foreign matter from striking the blades of the turbine and perhaps seriously eroding or injuring them. "Steam Purifiers" such as are described on page 127 perform the same service.

Engineers thought formerly that Separators were not necessary with steam turbines, especially if superheated steam was used. Practical experience, however, has taught engineers and manufacturers that slugs of water and dirt get into the turbine, even with superheated steam, eroding and tearing the blades, unless a Separator or Purifier is installed on the steam line. It is especially true that superheaters will not evaporate water. A slug of water due to a priming boiler will frequently pass directly through a superheater into the steam piping and so into the turbine unless a Separator or Purifier is provided to catch it.

One slug of water, or a priming or flooded boiler occasioned by accident, neglect or oversight in the boiler room, can put any turbine out of commission, causing loss of time and repairs costing the price of several Separators. The only preventive is a good receive Separator or Purifier automatically drained by a large capacity steam trap.

Soon it will be standard practice to install a Separator or Purifier with every turbine. Because of high velocities, unusual conditions, high temperature and high pressures, these Separators must be "Standard Specials." See illustration on page 102.

Seventh—These Separators permit the progressive engineer to work out his own ideas as to piping arrangements and design of apparatus without losing that expert knowledge of Separator construction which the Wright-Austin Company possesses.

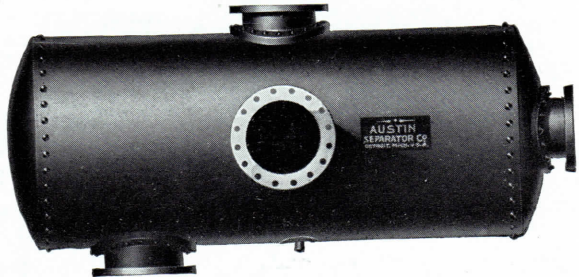
CONSTRUCTION

All Wright-Austin High Pressure Separators of steel plate construction, including the "Standard Specials," are built of flange steel, as defined by the A. S. M. E. Code, and having a tensile strength in excess of 55,000 lbs. per square inch.

The working stress is taken at 11,000 lbs. per square inch. Riveted joints are designed with a factor of safety of 5 to 1. Welded joints are carefully made by licensed welders, and have a tensile strength exceeding the parent metal.

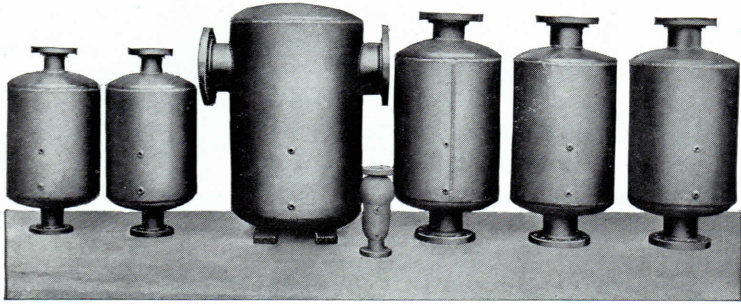
Every Separator is given a hydraulic test of $1\frac{1}{2}$ times the working steam pressure before shipment.

When so notified at time of placing order, either the welded or riveted Separators may be A. S. M. E. inspected and the Code Stamp placed on Separator.

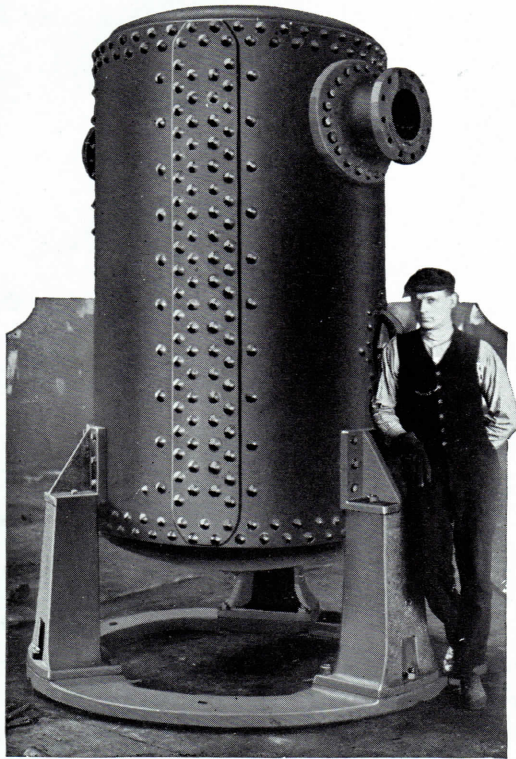


Some Possibilities in the Arrangement of Outlets

TYPICAL "STANDARD SPECIAL" STEAM SEPARATORS
Made to Order from Wright-Austin
Standard Parts and Plans

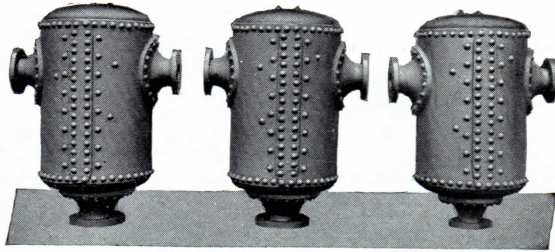


Group of Steam Separators made for a large New York Hotel



Large, High Pressure, Receiver Separator, Weighing 4½ Tons

TYPICAL "STANDARD SPECIAL" STEAM SEPARATORS



Each Separator Has Two Inlets at Sides and One Outlet at the Bottom
Fig. 1



Fig. 2

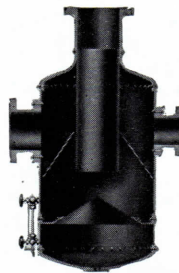


Fig. 3

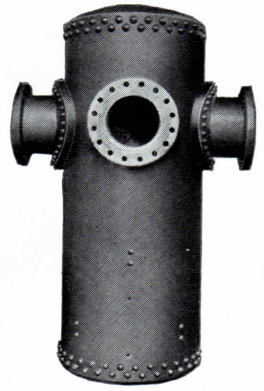


Fig. 4

Wright-Austin
"Standard Specials"
Are Moderate in Price
and "Hand-Tailored"
to Fit Conditions.



Fig. 5

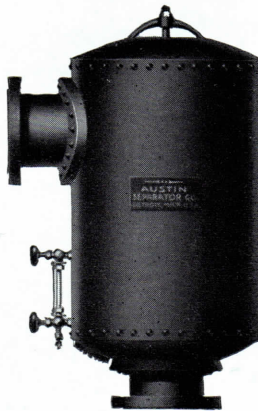


Fig. 6

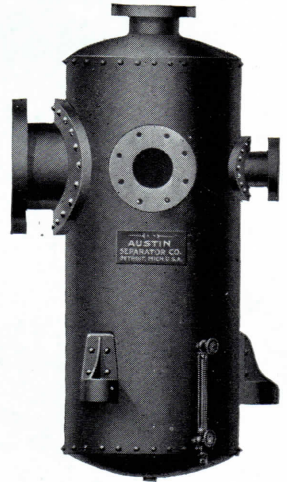


Fig. 7

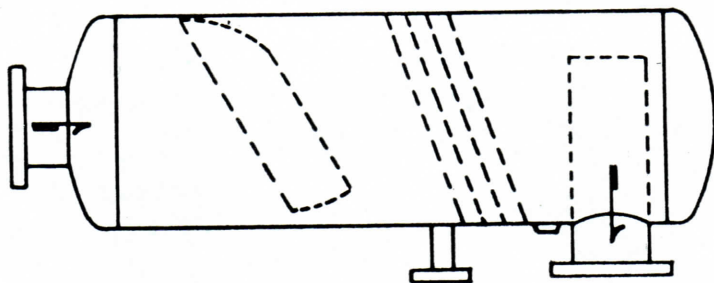


Fig. 8

STEAM PURIFIERS

Modern Steam Generators, operating at high ratings, produce varying qualities of steam. The quality of the steam, especially in respect to moisture, changes with the load, with the type of boiler, with the feed water, and particularly with the water treatment. The result of any one, or a combination of these conditions, is usually the formation of slugs of water, wet steam, foaming or fog steam. These conditions, especially the fog in the steam, demand the highest engineering skill and Separator experience to eliminate.

Wright-Austin Steam Purifiers are especially constructed to meet the severest conditions with ample reserve receiver capacity. To insure the highest efficiency, every Purifier is designed and proportioned and of suitable dimensions for the particular load and the particular steam condition to be handled. Pipe connections of any size can be supplied to suit requirements.

Wright-Austin Purifiers are self cleaning.

They give adequate protection from moisture and dirt to superheaters, and prevent erosion of turbine blades and engine valves, by furnishing completely clean, dry steam, thus reducing repair costs, and loss of power.

Each Purifier is constructed for the working steam pressure desired in accordance with the A. S. M. E. Code for Unfired Pressure Vessels. They are fabricated from flange steel boiler plate, having a tensile strength in excess of 55,000 lbs. per square inch. The working stress is taken at 11,000 lbs. per square inch on a factor of safety of 5 to 1. The Purifiers may be furnished in either electric welded or riveted construction. Forged steel nozzles are used. Each Purifier is officially inspected and stamped by an Authorized A. S. M. E. Inspector.

Back of these Purifiers there are 40 years of experience in the construction of pressure vessels for the separation of moisture from steam. Wright-Austin engineers will be glad to cooperate and advise with you on your wet steam and purifier problems without obligation.

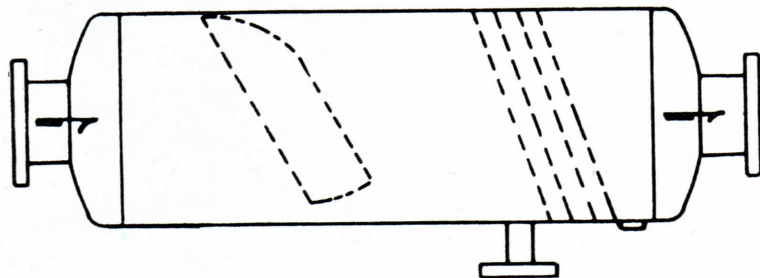


Fig. 9

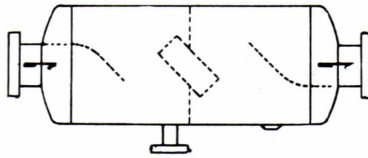


Fig. 10
End Inlet, End Outlet

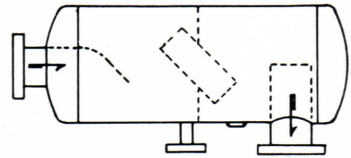


Fig. 11
End Inlet, Bottom Outlet

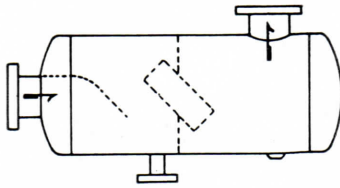


Fig. 12
End Inlet, Top Outlet

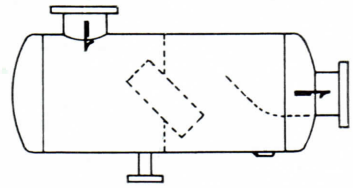


Fig. 13
Top Inlet, End Outlet

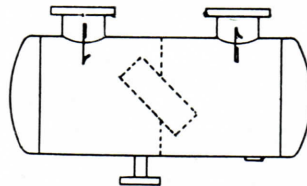


Fig. 14
Top Inlet, Top Outlet

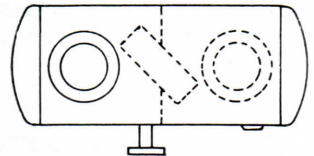


Fig. 15
Side Inlet, Side Outlet

WRIGHT-AUSTIN "STANDARD SPECIAL" SEPARATORS AND PURIFIERS

These pages represent but a few of the Wright-Austin "Standard Special" patterns and nozzle arrangements, which are "tailor-made" to fit the requirements of each plant. Hundreds of other combinations are also available to meet every condition and piping layout.

Separators of steel plate construction are built of flange steel boiler plate as defined in the A. S. M. E. Code, with a safety factor of 5 to 1 at a working stress of 11,000 lbs. per square inch in steel having a tensile strength over 55,000 lbs. per square inch. Separators are made with either riveted or electric welded construction. Riveted joints are designed with a high efficiency and made under supervision of men skilled in Separator manufacture. Welded joints are designed for a tensile strength exceeding the parent metal and are made by licensed welders.

Every Separator is given a hydraulic test of $1\frac{1}{2}$ times the working steam pressure before shipment.

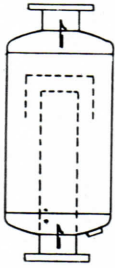


Fig. 16
Bottom Inlet,
Top Outlet

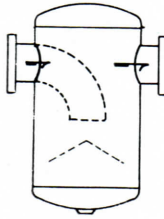


Fig. 17
Side Inlet, Side Outlet

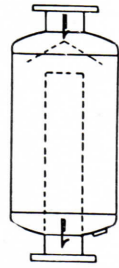


Fig. 18
Top Inlet,
Bottom Outlet

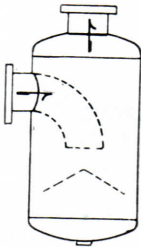


Fig. 19
Side Inlet, Top Outlet

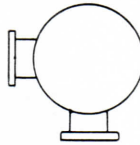


Fig. 20
Angle Inlet and Outlet

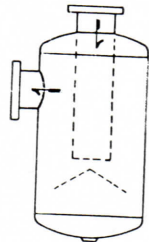


Fig. 21
Top Inlet, Side Outlet

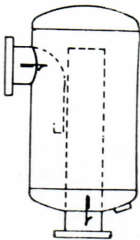


Fig. 22
Side Inlet,
Bottom Outlet

Wright-Austin
"Standard Specials"
are Moderate
in Price
and
"Tailor-Made" for
Your Plant.

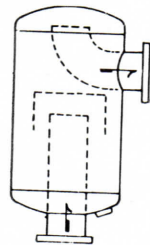


Fig. 23
Bottom Inlet,
Side Outlet

The very great experience of the Wright-Austin Company, over 40 years of manufacturing almost every known type of Separator, for all kinds of conditions, in all types of service, enables it to analyze a customer's needs with greatest accuracy. This insures their patrons receiving exactly the right Separator, no matter how peculiar the job may be.

Wright-Austin Oil Separators

MECHANICAL SEPARATION OF OIL FROM EXHAUST STEAM

In this method, advantage is taken of the natural law of gravity, and of the great difference in weight of the oil particles as compared with the weight of the steam in which they are contained.

The specific gravity of oil is about 0.70 as compared to water, while that of steam at 212° F. is about 0.0006, that is, the oil particles are about 1200 times heavier than the exhaust in which they are contained. Therefore, to separate the entrained oil from the steam, efficiently and completely, it is necessary to suddenly change the direction of the flow of the steam by an obstruction or baffle in the line.

The steam, being light, easily adjusts itself to the change of direction, but the heavier particles of oil and moisture, because of their great weight and the high velocity at which they are traveling, are not diverted with the steam around the baffle, but continue to shoot straight ahead, like the sand in a sand blast, into the collecting grooves provided for this purpose on the baffle. The baffle is continuously washed down clean of all oil by the impact of the condensate against it.

It is obvious that in multiple baffle Separators condensate cannot reach the rear baffles, in sufficient quantities to wash them down. They become gummed up in a short time, greatly decreasing the efficiency of a Separator and requiring frequent shut-downs for cleaning.

Furthermore, efficient separation by centrifugal action can be shown clearly to be impractical. According to the laws of inertia and momentum the small particles of oil and condensate, being heavier than steam, are not appreciably affected by variations in the course of the steam current, and will continue to move along in a practically straight line, unless stopped by actual contact with an obstruction in their course, such as a baffle. They only follow the course of the steam to a limited extent and cannot be successfully thrown out of the whirling mass.

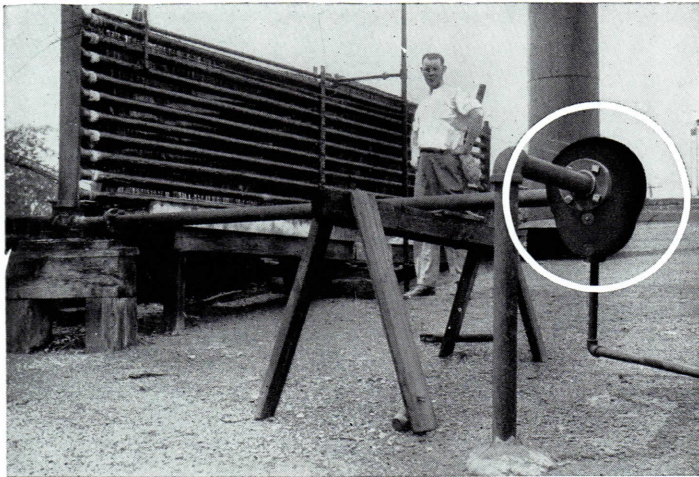
To secure the desired results under various conditions, it is, therefore, only necessary to provide, in the steam line, a Separator of correct design and ample area, having a suitable baffle, to properly eliminate the oil from the steam, and keep it out by preventing it from again coming in contact with the steam flow.

Of course, every Separator should be automatically drained by a good Trap, having extra large valve opening so that it cannot become choked up with oil. This is necessary for carrying off the oil and condensate continuously. See page 151.

Oil Separators are used on exhaust steam lines from engines, pumps, compressors, etc., to remove the oil and purify the exhaust steam so that the condensate may safely be used as distilled water for boiler feed, ice making, textile and chemical processes, laundries or any other purposes for which either exhaust steam or purified condensate may be employed.

Purified Exhaust Steam contains about 90% of its original heat and is well adapted for heating or drying purposes.

Removal of oil from steam prevents accumulation of oily film on the inside parts of radiators, heating systems, dryers, etc. Such oily film greatly de-



Type "S" Horizontal Oil Separator on the Roof of an Indiana Laundry

creases efficiency and production, offering even more heat resistance than an asbestos covering on the pipes.

Inside a steam boiler, a coating of oil 1/10 of an inch thick offers as much resistance to the transmission of heat from the fuel as a boiler plate 10 inches in thickness. Oil coated boilers are fuel wasters. They become leaky and pre-disposed to dangerous explosions. There is no escape for the oil, because it will not evaporate, and it continues to accumulate, frequently clotting in places and causing the plates to bulge and blister. Repair bills are the result, which are many times more costly than a Wright-Austin Oil Separator.

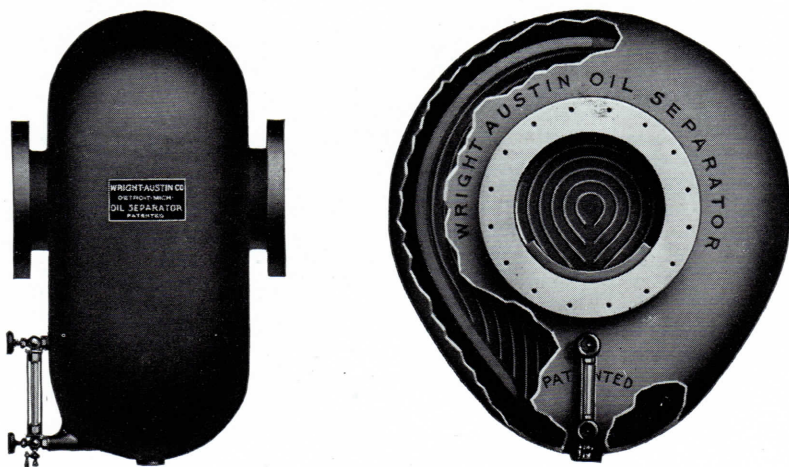
By separating oil from exhaust steam and using the purified condensate for boiler feed, rust and scale are reduced greatly. Condensate is distilled and deaerated water. It is free from the air and oxygen or other gases which cause rust and corrosion in steam pipes and heating systems. The life of a piping system is increased, expensive replacements are often avoided, and old piping, already pitted by corrosion, may have its life extended many years.

TYPE "S"

Wright-Austin Horizontal Oil Separator is Self-Cleaning.

The Wright-Austin Type "S" Oil Separator is designed so that the incoming steam, with oil in suspension, strikes a large circular baffle with deep corrugations. The small particles of oil and condensate are dashed into the grooves and flow down them into the bottom of the Separator.

Ample area is provided for the free passage of the steam all around the baffle, thus spreading out the steam into a comparatively thin volume or layer. The small particles of oil and condensate easily pass through the thin layer and are not picked up again by the steam. This is one of the very important and exclusive features of a Wright-Austin Oil Separator, found in no other make of Separators. Other Separators often wire draw the steam through ports, producing high steam velocity and frequently causing back pressure.



Type "S" Horizontal Oil Separator

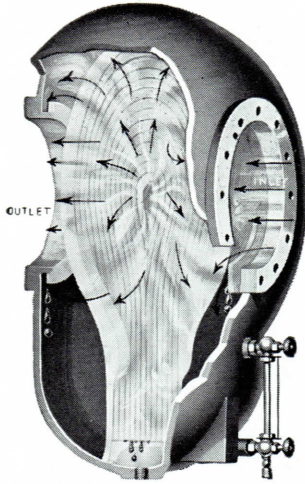
Just inside the inlet of the Type "S" Oil Separator a trough is provided to catch the oil carried along the bottom of the pipe. From this trough a drain leads to the bottom of the Separator. On the rim of the baffle is a large, deep shoulder to catch any oil that may possibly have been carried across the face of the baffle.

Further on, an inner flange or ring is cast just inside the outlet which will absolutely prevent the escape of any oil that might still adhere to the walls of the Separator. Once eliminated, there is no possible way for oil to again come in contact with the steam flow and be carried beyond the Separator. The oil is not only separated, but is also segregated from the steam.

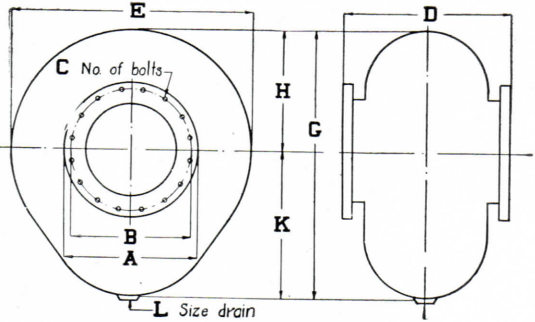
Because low pressure exhaust steam has a cubic volume several times greater than high pressure steam, larger internal areas are positively necessary. Pipe size for pipe size, the Type "S" Separator has several times greater baffle and steam passage area than other standard Oil Separators, which means it is manifestly more efficient. For this reason oversize Type "S" Separators are not required. **HAVING THE LARGE INTERNAL AREA, THEY WILL NOT PRODUCE BACK PRESSURE.**

The Type "S" Wright-Austin Separator and its baffle are made in one solid casting, the baffle being attached to the body of the Separator by several lugs. There are no parts to become loose or misplaced, and no joints or gaskets, so it will never leak.

No oil can accumulate on the baffle, as it is continuously flushed clean by force of the hot condensate dashed against it. The Type "S" Oil Separator is **POSITIVELY SELF-CLEANING.** It will never be necessary to shut down the plant for cleaning, and when the Separator is installed, the job is forever finished—not a dollar further expense for renewals or upkeep of any kind—and the Separator is always at maximum efficiency. The first cost is the last cost.



TYPE "S" Horizontal Oil Separator Self-Cleaning For Description See Pages 130, 131 and 132.



For Working Pressures Up to 50 Lbs.

Prices and Dimensions

Pipe Size	Dimensions in Inches										Wgt. Lbs.	List Price	Code Word
	A	B	C	D	E	G	H	K	L				
1½	Scrd.	.....	.....	9 7/8	12	15 1/2	6 1/8	9 3/8	3/4	60	\$24.00	Saxon
2	Scrd.	.....	.....	10	12 1/8	15 1/2	6 3/8	9 1/8	3/4	70	27.00	Saury
2½	7	5 1/2	4- 5/8	10 1/4	14 1/2	17 7/8	7 1/8	10 1/8	1	150	42.00	Skiny	
3	7 1/2	6	4- 5/8	10 1/2	15	18	7 1/2	10 1/2	1	165	48.00	Satin	
3½	8 1/2	7	4- 5/8	11	17	20	8 1/2	11 1/2	1	190	54.00	Saint	
4	9	7 1/2	8- 5/8	12	19	23	9 1/2	13 1/2	1	235	72.00	Sandy	
4½	9 1/4	7 3/4	8- 3/4	13	21	25	10 1/2	14 1/2	1 1/4	290	80.00	Scare	
5	10	8 1/2	8- 3/4	15	23	27	11 1/2	15 1/2	1 1/4	370	100.00	Scene	
6	11	9 1/2	8- 3/4	17	25	30	12 1/2	17 1/2	1 1/2	475	122.00	Scope	
7	12 1/2	10 3/4	8- 3/4	17 1/2	27	33	13 1/2	19 1/2	1 1/2	580	156.00	Screw	
8	13 1/2	11 3/4	8- 3/4	18	29	36	14 1/2	21 1/2	1 1/2	670	170.00	Stick	
10	16	14 1/4	12- 7/8	19	32	40	16 1/2	23 1/2	1 1/2	830	228.00	Scull	
12	19	17	12- 7/8	20	34	42	17 1/2	24 1/2	1 1/2	1040	300.00	Sight	
14	21	18 3/4	12-1	20	36	43	18 1/2	24 1/2	1 1/2	1160	348.00	Seize	
16	23 1/2	21 1/4	16-1	22	40	44	20 1/2	23 1/2	1 1/2	1350	400.00	Sense	
18	25	22 3/4	16-1 1/8	24	42	46	21 1/2	24 1/2	1 1/2	1530	456.00	Sepal	
20	27 1/2	25	20-1 1/8	26	44	49	22 1/2	26 1/2	1 1/2	1660	528.00	Serve	

Although we have a full line of patterns for cast semi-steel Separators in all sizes up to 48" pipe connections, the medium and larger sizes of these Separators are frequently made in welded all-steel construction.

Prices on the cast semi-steel, or welded Separators will be cheerfully supplied upon receipt of the needed information indicated below.

When cramped for room or where close fits are necessary, please write our Engineering Department for dimensions suitable to your space, and steam load. Be sure to give the information requested below; also your space limits. A rough pencil sketch will be helpful.

For other shapes of oil Separators, please refer to pages 106, 128 and 133.

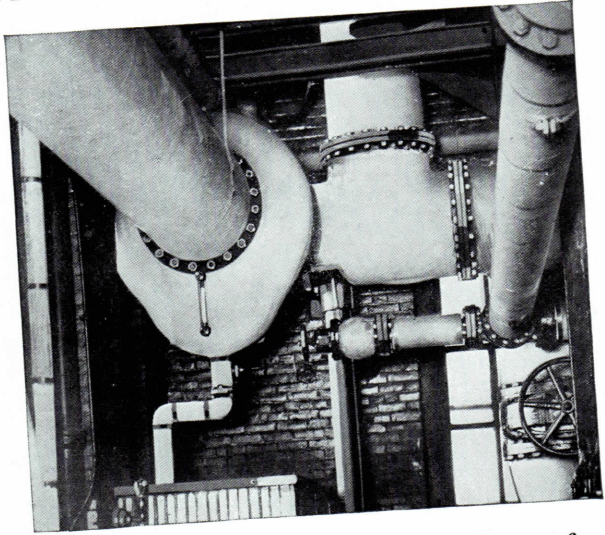
- 1—Size of pipe connection.
- 2—Lowest exhaust steam pressure.
- 3—On sizes 10" and larger, please give pounds of steam per hour to be passed through Separator.
- 4—Direction of flow through Separator, whether horizontal, vertical, or angle.
- 5—Is exhaust steam from Uniflow Engines?

Sizes 2½" to 10", inclusive in the cast semi-steel Separators, are made with nozzle flange inlet and outlet, as illustrated on page 132. Larger sizes are made with close flanges, as shown above, and are furnished with stud bolts and nuts. All Separator flanges are faced and drilled to the A. S. M. E. Flange Schedule for 125 lbs.

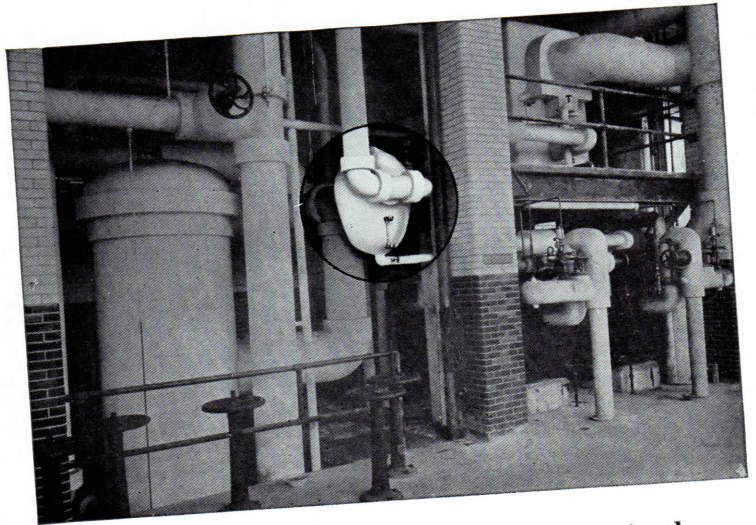
Companion flanges can be furnished at extra cost. For list prices and Flange Schedule, please see page 144. Eye bolts are supplied on the cast Separators 12" size and larger.

Water Gauges are supplied on all sizes except 1½" and 2". On other sizes the list price includes Water Gauge only.

Sizes up to and including 12" cast Separators are usually in stock.

**TYPICAL INSTALLATIONS OF WRIGHT-AUSTIN
TYPE "S" HORIZONTAL OIL SEPARATORS**

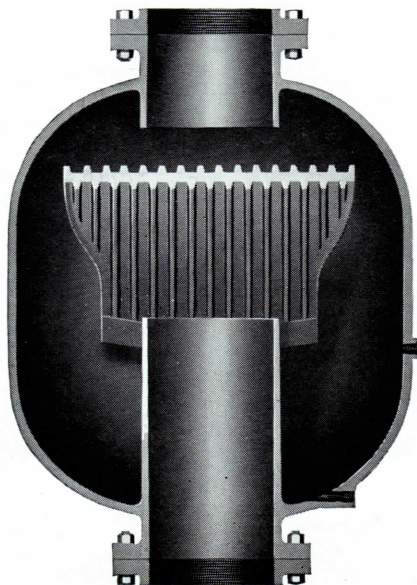
**A Type "S" Oil Separator in the Plant of a
Dyeing and Finishing Company**



**An 8" Type "S" Horizontal Oil Separator in the
Power House of a Large Automobile Factory**

TYPE "R"

Wright-Austin Vertical Oil Separator—Self-Cleaning



The Wright-Austin Type "R" Vertical Oil Separator embodies all the essentials for perfect oil separation—large clearance areas, large baffles, proper angles, etc.

It also is self-cleaning and will make a most excellent installation, where a vertical pattern is necessary.

The Type "R" has rightly earned its place beside the well known and nationally used Type "S" Oil Separator, described on pages 130 to 133 inclusive.

Every Separator should be automatically drained by an efficient steam trap. See page 151.

Prices and Dimensions

Pipe Size	Dimensions in Inches				Weight Pounds	List Price	Code Word
	Diam. Flanges	A	B	Drain			
4	9	15	20 $\frac{7}{8}$	1	230	\$66.00	Rally
5	10	17	24 $\frac{1}{8}$	1 $\frac{1}{4}$	315	88.00	Rapid
6	11	18	28 $\frac{3}{8}$	1 $\frac{1}{2}$	450	120.00	Ramie
7	12 $\frac{1}{2}$	24 $\frac{1}{2}$	37 $\frac{1}{2}$	1 $\frac{1}{2}$	785	330.00	Range
8	13 $\frac{1}{2}$	25 $\frac{1}{2}$	37 $\frac{1}{2}$	1 $\frac{1}{2}$	920	336.00	Raven
10	16	32 $\frac{3}{4}$	41 $\frac{1}{8}$	1 $\frac{1}{2}$	1280	366.00	Rebus
12	19	32 $\frac{3}{4}$	42	1 $\frac{1}{2}$	1340	372.00	Redan

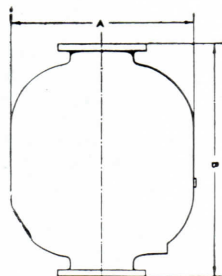
Price includes Water Gauge only. Flanges faced and drilled to A. S. M. E. Standard Schedule.

Companion flanges can be furnished at extra cost.

For prices and Flange Schedules, see page 144.

See special patterns on page 138.

Made to order—shipment two weeks.



For Working Pressures Up to 50 Lbs.

TYPE "V"

Wright-Austin Vacuum Oil Separator

Vacuum Separators for the elimination of oil and moisture from exhaust steam, under medium and high vacuums, are always made of a suitable size for the operating conditions, because of the great difference in the cubic volume of a pound of steam under different vacuums. Every Separator is carefully figured out beforehand to suit the conditions and, for that reason, Wright-Austin Vacuum Oil Separator installations have been conspicuously successful.

Catchalls under vacuum for sugar and chemical evaporators are determined in the same way, insuring the highest efficiency.

Before we can definitely quote for vacuum service we must have—

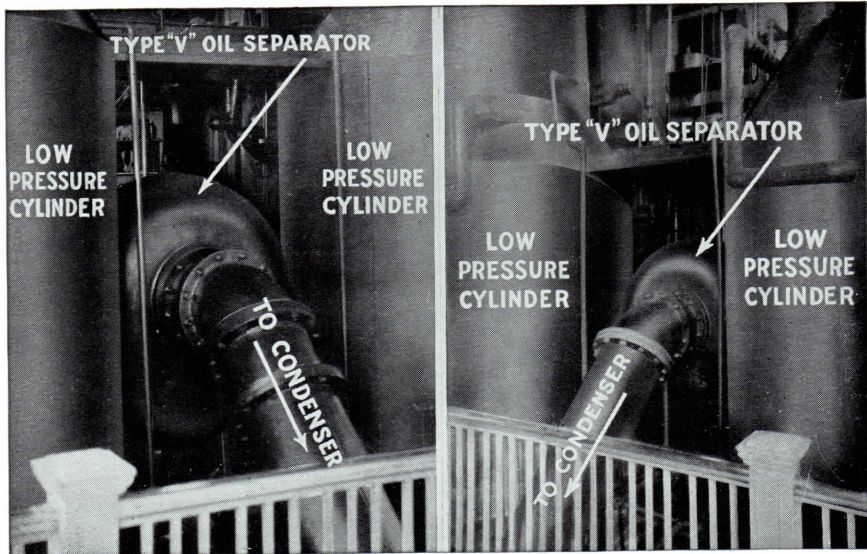
- 1—Size of pipe connections.
- 2—Maximum pounds of steam per hour.
- 3—Maximum, normal and minimum inches of vacuum.
- 4—Direction of steam flow through Separator.
- 5—Is exhaust steam from Uniflow Engines?

When the oil is extracted from exhaust steam without impairing the vacuum, engineers concede the following advantages:

1—A Saving in Water, because the same feed water may be used continuously, with the addition of fresh water to replace loss by leakage, evaporation, etc. This is a saving of considerable importance in plants where water supply must be purchased.

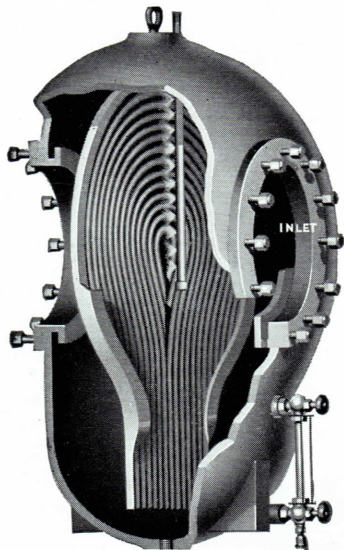
2—A Saving in Fuel. The water of condensation delivered to the hot well contains a large number of heat units, most of which are saved in returning this water to the boilers.

3—A Saving in Boiler Repairs, etc. A supply of distilled water is obtained for boiler feed purposes. Being practically free from oil and other impurities, this water will prevent boiler trouble due to scale, foaming, leaky tubes, bulged plates or burnt shells and, for like reasons, the necessity for frequently cleaning the boilers is often avoided.



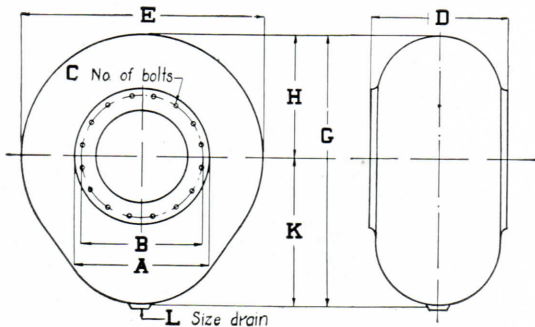
**Two Wright-Austin Type "V" Vacuum Oil Separators Installed in Close Quarters
Between the Low Pressure Cylinders of the Pumping Engines at the
Toledo Water Works, Toledo, Ohio**

TYPE "V" Vacuum Oil Separator Self Cleaning



The Type "V" Separator contains all the excellent details of construction embodied in the Type "S."

It is guaranteed to extract the oil from exhaust steam operating under a vacuum, to such an extent that this steam, when condensed, will be entirely suitable for boiler feed or any other purpose for which exhaust steam condensate is used.



Prices and Dimensions

Dimensions in Inches										Wgt. Lbs.	Code Word
Pipe Size	A	B	C	D	E	G	H	K	L		
8	13½	11¾	8-¾	20	34	42	17½	24½	1½	800	Visit
10	16	14¼	12-¾	20	36	43	18½	24½	1½	925	Value
12	19	17	12-⅞	22	40	44	20½	23½	1½	1125	Vutal
14	21	18¾	12-1	24	42	46	21½	24½	1½	1375	Venal
16	23½	21¼	16-1	26	44	49	22½	26½	1½	1475	Verge
18	25	22¾	16-1⅞	30	48	55	24½	30½	2	2075	Vesta
20	27½	25	20-1⅞	33	54	62	27½	34½	2	2500	Vicar
22	29½	27¼	20-1¼	36	58	68	29½	38½	2	3050	Vowel
24	32	29½	20-1¼	38	64	74	32½	41½	2½	4000	Vixen
26	34½	31¾	24-1¼	40	69	80	34½	45½	2½	5650	Vivid
28	36½	34	28-1¼	42	74	86	37½	48½	2½	6000	Vigil
30	38¾	36	28-1⅞	44	80	93	40½	52½	3	6500	Villa
34	43¾	38½	32-1½	44	90	105	45½	59½	3	7500	Vapor
38	48¾	40½	32-1⅝	48	100	116	50½	65½	3	8300	Vobbe
40	50¾	45¼	36-1⅝	48	106	120	53½	66½	3	9500	Verse
42	53	49½	36-1⅝	48	112	129	56½	72½	3	10500	Vomer

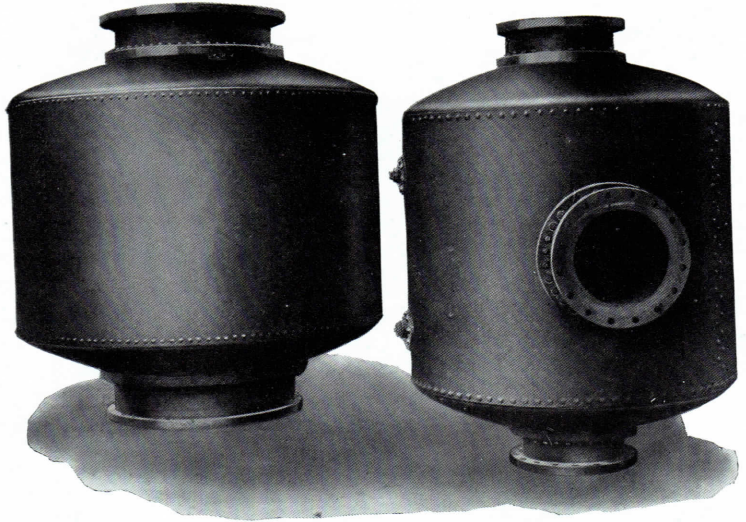
Prices, dimensions and weights of a Separator suitable for your conditions will be cheerfully supplied upon receipt of the needed information as follows:

- 1—Size of pipe connections.
- 2—Maximum pounds of steam per hour to be passed through Separator.
- 3—Maximum, normal and minimum inches of vacuum.
- 4—Direction of steam flow through Separator, horizontal, angle, or vertical. Please see pages 128, 138.
- 5—Is exhaust steam from Uniflow Engine?
- 6—Give temperature of steam if possible.

This Separator is made in a one-piece casting of semi-steel, or all-steel welded construction.

The cast semi-steel cap Separators are made with close flanges and furnished with stud bolts and nuts—also, eye bolt, inside spray attachment and Water Gauge.

**“Standard Special”
Steel Receiver Oil Separators
for
Low Pressure—Vacuum**



One 42" and One 18" Steel Receiver Vacuum Oil Separators

Oil Separators can be built to order from Standard patterns and Standard designs, at moderate prices, to suit customer's special conditions, in the same manner that Welded and Riveted Steel Steam Separators can be built. See page 122 for general information on "Standard Special" Separators.

Welded joints can be furnished when desired. Separators are built in accordance with the A. S. M. E. Code unless otherwise specified. Their construction follows the description given on page 124.

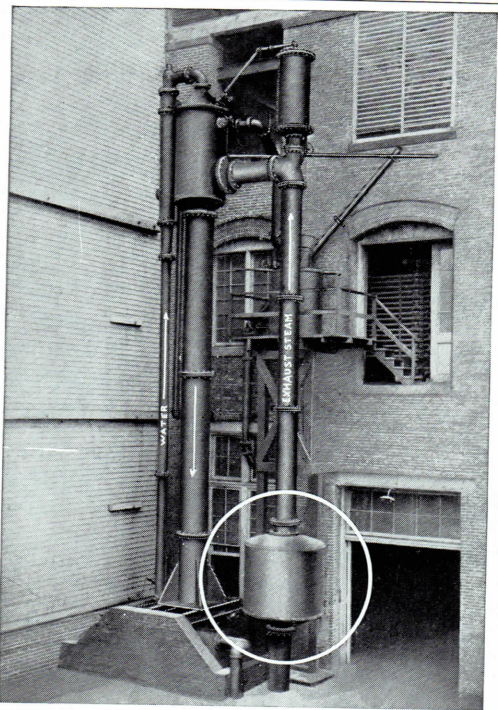
ADVANTAGES OF OIL SEPARATORS BUILT TO ORDER

First—Complete elimination of oil at any velocity and for any volume of steam per hour.

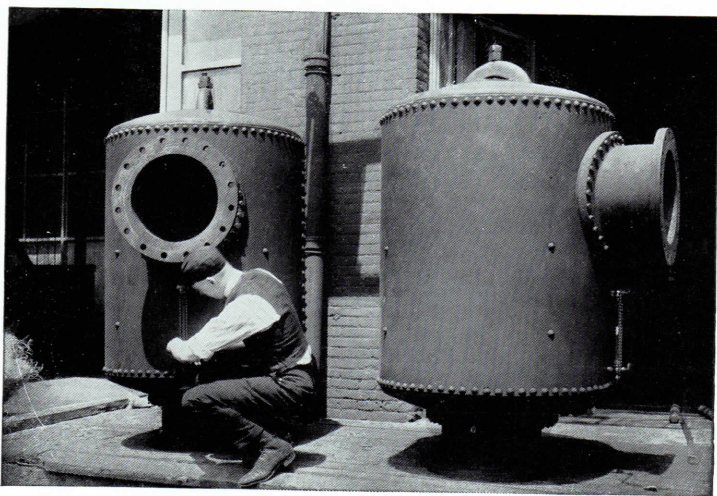
When exhaust steam is to be returned to the boiler, used for ice making, heating systems, drying, steam cooking, etc., it is imperative that oil be entirely removed. If conditions are out of the ordinary, the only sure way to accomplish this is to build a Separator to meet the conditions.

Second—Convenient arrangement of connections to suit piping.

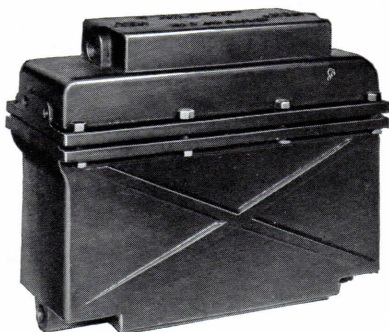
Third—Arrangement of volume and dimensions to suit customer's design or engineer's designs.



A Large "Standard Special" Vacuum Oil Separator, 8 Feet High, on Exhaust Steam Pipe between Engines and Barometric Condenser



Two 16" "Standard Special" Steel Angle Receiver Oil Separators Furnished to Eliminate Oil and Moisture from Exhaust Steam Before Use in 2,000 KW. Low Pressure Turbines



“BLIZZARD” AIR COOLER

Compressed Air is highly heated in the process of compression. It then becomes essential to cool it before moisture can be removed or the compressed air used effectively.

If compressed air is used hot, it carries with it a heavy content of moisture which Separators remove with difficulty, and which is injurious to tools and material against which the air may be directed. For many processes, air must be cool and dry to be efficient and avoid damage.

The “Blizzard” Air Cooler has been designed for branch air lines of 1" diameter or under and will reduce the temperature of the most highly heated compressed air to within 10° of the temperature of the cooling water (that is, to about 50° to 70°F.). Its capacity is 100 cu. ft. of free air per min., and it will stand a pressure of 125 lbs. per sq. in. It is a stationary device and operates by circulating cooling water in a particularly efficient manner through the passing air. All that is necessary to install it is to connect the air line to the air inlet and outlet and a water supply to the water inlet. The water discharge may be taken to any convenient point.

In principle, the “Blizzard” Air Cooler is of the two pass type consisting of a copper water coil making eight passes through the air chamber, the coil being surrounded by several hundred aluminum radiating fins. The air is conducted around the coil by a system of baffles, which exposes the air to the water coil in a most effective manner. The Cooler is exceedingly compact. The cold water enters at the air outlet and runs counter to the flow of air.

Thus the combination of several passes of water, highly efficient radiating fins and counter flow of water and air, results in complete transfer of heat in the compressed air to the water and satisfactory cooling of the compressed air. The Cooler uses a minimum amount of water.

The casing of the Cooler and the cooling coil can be removed for cleaning without disconnecting the Cooler from the air line or disturbing any pipe joints.

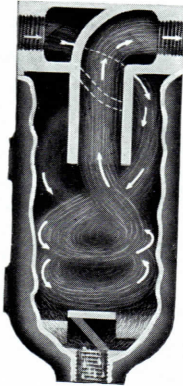
Price and Dimensions

DIMENSIONS ARE IN INCHES

Pipe Size Inches	Height	Width	Water Conn.	Length	Drain	Wgt. Lbs.	Dist. Bet. Air Conn.	List Price	Code Word
$\frac{3}{4}$ -1	15	8 $\frac{1}{2}$	$\frac{3}{8}$	19	1	118	12	\$49.00	Bliza

Separators for Compressed Air and Gas Lines

“WHIRLWIND” TYPE “T”



Troubles and expense, caused by moisture and oil getting into your compressed air operated equipment, can now be avoided, as well as preventing costly shutdowns, lost time and repairs.

Efficiency of all air operated equipment is greatly increased by the use of clean, dry, compressed air.

Made with small pipe connections, the Type “T” Purifier is especially suited for all compressed air tools, air blasts, paint sprayers, and other air operated equipment.

There is no perceptible pressure loss through this Purifier—no small ports or screens to clog up—no moving parts to wear or get out of order.

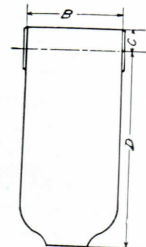
Although having straightway, horizontal, pipe connections, the “Tangent Flow” inlet imparts a whirlwind motion to the air in the body of the Purifier, as indicated by the arrows.

Thus the heavier particles of moisture, oil and foreign matter are completely separated by the natural law of gravity, being thrown out of the swiftly whirling air current, against the inside wall of the Purifier. The scrubbing effect on the inside wall makes the Purifier self-cleaning.

The air velocity forces the separated moisture and oil to cling to the surface of the wall and gradually descend, by its own weight, into the lower, slow motion area in the bottom of the Purifier. Here a protecting baffle prevents further agitation and collects all separated substances into the drain connection. The purified compressed air leaves the Purifier through the central passage to the outlet.

Price and Dimensions

Pipe Sizes	B	C	D	Drain	Wgt. Lbs.	List Price	Code Word
$\frac{1}{2}$ " $\frac{3}{4}$ " 1"	4"	$\frac{7}{8}$ "	$8\frac{1}{8}$ "	1"	10 lbs.	\$12.00	$\frac{1}{2}$ " Piraf $\frac{3}{4}$ " Pifra 1" Pfair
$1\frac{1}{2}$ " 2"	$6\frac{3}{4}$ "	$1\frac{3}{8}$ "	$10\frac{5}{8}$ "	$1\frac{1}{4}$ "	30 lbs.	\$20.00	$1\frac{1}{2}$ " Prafi 2" Pairf



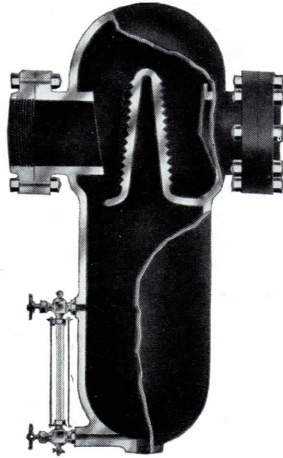
*Regularly tapped this size and bushed to smaller connection.

The Purifier is made in a one-piece, semi-steel casting with screw connections.

Suitable for working pressures up to 200 lbs. per sq. in.

For larger sizes, kindly write us being sure to give pipe sizes and maximum working pressures.

For Water Gauge, and tapping necessary connections in above Purifiers, list price—\$6.00.



TYPE "E"
For Pressures Above 50 Lbs.



TYPE "S"
For Pressures from 0 to 50 Lbs.

Wright-Austin Type "E" and Type "S" Horizontal Separators are especially adapted for the complete extraction of oil and moisture from air or gas. The Type "E" is used with pressures above 50 lbs. per square inch, the Type "S" at pressures from 0 to 50 lbs. per square inch.

Hundreds of these Separators are in use throughout the United States in air service and, according to reports constantly received, they are giving complete satisfaction.

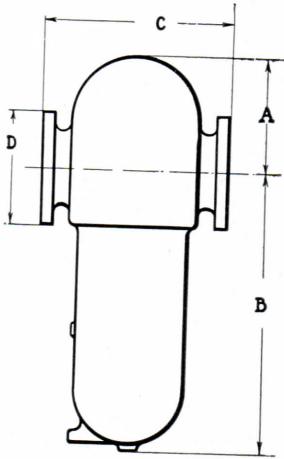
The selection of the Type "E" and the Type "S" Separators for use with air and gas was not a haphazard choice but the result of careful experimentation and some modification of design to make the Separators suitable for both steam and air. As a result, they are as well adapted to air and gas service though they had been designed for these alone.

Detailed descriptions of these Separators will be found on pages 113 and 133 as well as on page 143 opposite.

The proper installation of Separators on compressed air systems has been thoroughly studied by Wright-Austin engineers. Advice as to the best size and location of Separators will be given, without obligation, to any one making inquiry or forwarding a sketch of his piping system.

These Separators are also used to extract liquid from gaseous chemicals to a considerable extent and the Wright-Austin Engineering Department will advise as to such use at any time.

TYPE "E"

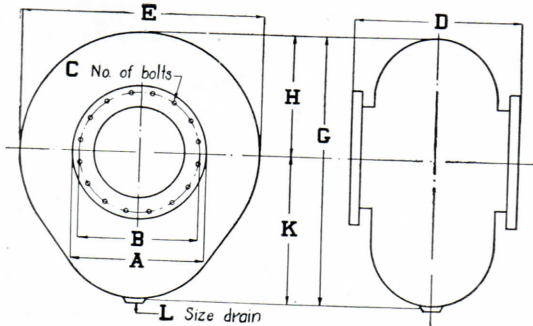


Pipe Size	Dimensions in Inches					Wgt. Lbs.	List Price Includes Water Gauge Only	Code Word
	A	B	C	D	Drain			
1½	5	10	10½	S. E.	1½	60	\$26.00	Effet
2	5	10	10½	S. E.	1½	60	28.00	Exert
2½	6	12	11	7	¾	125	36.00	Erupt
3	6½	13	12¼	7½	¾	155	43.00	Essay
3½	7½	15	13¾	8½	¾	170	54.00	Entry
4	9	17	14¾	9	¾	230	66.00	Ephod
4½	10	20	16¼	9¼	¾	310	78.00	Epoch
5	11	23	19	10	1	470	108.00	Erase
6	12	26	21	11	1	565	132.00	Estop
7	13¾	29	22¾	12½	1¼	715	168.00	Ether
8	16	32	24	13½	1¼	880	224.00	Evict

Regularly furnished with flanges drilled to A. S. M. E. Standard Drilling for working pressures up to 125 lbs. per square inch. Can also be furnished for Extra Heavy Drilling at same price.

Companion flanges, also drain valve and nipple, can be furnished at extra cost. For prices and flange drilling see page 144. Carried in stock.

TYPE "S"



Pipe Size	Dimensions in Inches										Wgt. Lbs.	List Price	Code Word
	A	B	C	D	E	G	H	K	L				
1½	Scrd.	.....	.....	9⅞	12	15½	6⅛	9⅜	¾	60	\$24.00	Saxon
2	Scrd.	.....	.....	10	12⅞	15½	6⅜	9⅝	¾	70	27.00	Saury
2½	7	5½	4-5/8	10¼	14½	17⅞	7⅞	10⅞	1	150	42.00	Skiny	
3	7½	6	4-5/8	10½	15	18	7½	10⅞	1	165	48.00	Satin	
3½	8½	7	4-5/8	11	17	20	8½	11½	1	190	54.00	Sandy	
4	9	7½	8-5/8	12	19	23	9½	13½	1	235	72.00	Saint	
4½	9¼	7¾	8-3/4	13	21	25	10½	14½	1¼	290	80.00	Scare	
5	10	8½	8-3/4	15	23	27	11½	15½	1¼	370	100.00	Scene	
6	11	9½	8-3/4	17	25	30	12½	17½	1½	475	122.00	Scope	
7	12½	10¾	8-3/4	17½	27	33	13½	19½	1½	580	156.00	Screw	
8	13½	11¾	8-3/4	18	29	36	14½	21½	1½	670	170.00	Stick	

Water Gauges furnished on all sizes except 1½" and 2". Price includes Water Gauge only.

Companion flanges, drain valve and nipple, can be furnished at extra cost. For prices and flange drilling see page 144.

Carried in stock.

COMPANION FLANGES

American Engineering Standards Committee Drilling Schedule Effective Feb. 1928

Standard Companion Flanges	Size Inches	Diam. of Flanges Inches	Thick-ness of Flanges Inches	Dia. of Bolt Circle Inches	Number of Bolts	Dia. of Bolts Inches	List Price *
Series 15 For 125 Lbs. Working Pressure	1	4 1/4	7/16	3 1/8	4	1/2	.....
	1 1/4	4 5/8	1/2	3 1/2	4	1/2	.....
	1 1/2	5	9/16	3 7/8	4	1/2	.....
	2	6	5/8	4 3/4	4	5/8	.....
	2 1/2	7	11/16	5 1/2	4	5/8	\$ 4.30
	3	7 1/2	3/4	6	4	5/8	4.70
	3 1/2	8 1/2	13/16	7	8	5/8	6.60
	4	9	15/16	7 1/2	8	5/8	7.20
	5	10	15/16	8 1/2	8	3/4	8.70
	6	11	15/16	9 1/2	8	3/4	9.90
	8	13 1/2	1 1/8	11 3/4	8	3/4	13.50
	10	16	1 3/16	14 1/4	12	7/8	21.90
	12	19	1 1/4	17	12	7/8	27.80
	140.D.	21	1 3/8	18 3/4	12	1	38.40
	Extra Heavy Companion Flanges Series 30 For 250 Lbs. Working Pressure	1	4 7/8	11/16	3 1/2	4	5/8
1 1/4		5 1/4	3/4	3 7/8	4	5/8	.....
1 1/2		6 1/8	13/16	4 1/2	4	3/4	.....
2		6 1/2	7/8	5	8	5/8	\$ 6.70
2 1/2		7 1/2	1	5 7/8	8	3/4	7.80
3		8 1/4	1 1/8	6 5/8	8	3/4	8.70
3 1/2		9	1 3/16	7 1/4	8	3/4	10.10
4		10	1 1/4	7 7/8	8	3/4	11.10
5		11	1 5/8	9 1/4	8	3/4	12.50
6		12 1/2	1 7/16	10 5/8	12	3/4	15.90
8		15	1 5/8	13	12	7/8	24.20
10		17 1/2	1 7/8	15 1/4	16	1	38.30
12		20 1/2	2	17 3/4	16	1 1/8	57.40
140.D.		23	2 1/8	20 1/4	20	1 1/8	75.30
Series 40 Companion Flanges For 400 Lbs. Working Pressure		1	4 7/8	11/16	3 1/2	4	5/8	Prices on Application.
	1 1/4	5 1/4	13/16	3 7/8	4	5/8	
	1 1/2	6 1/8	7/8	4 1/2	4	3/4	
	2	6 1/2	1	5	8	5/8	
	2 1/2	7 1/2	1 1/8	5 7/8	8	3/4	
	3	8 1/4	1 1/4	6 5/8	8	3/4	
	3 1/2	9	1 3/8	7 1/4	8	7/8	
	4	10	1 3/8	7 7/8	8	7/8	
	5	11	1 1/2	9 1/4	8	7/8	
	6	12 1/2	1 5/8	10 5/8	12	7/8	
	8	15	1 7/8	13	12	1	
	10	17 1/2	2 1/8	15 1/4	16	1 1/8	
	12	20 1/2	2 1/4	17 3/4	16	1 1/4	
	14	23	2 3/8	20 1/4	20	1 1/4	

*Price includes two companion flanges, bolts and nuts.
 Bolt holes are drilled 1/8 inch larger than nominal diameter of bolts.
 Use code word "Rodeo" if companion flanges are wanted with Separator.
 For list price of Reducing Companion Flanges add 40% to list.

COMPANION FLANGES

American Engineering Standards Committee Drilling Schedules Effective Feb. 1928

Series 60 Companion Flanges For 600 Lbs. Working Pressure	Size Inches	Diam. of Flanges Inches	Thickness of Flanges Inches	Dia. of Bolt Circle Inches	Number of Bolts	Dia. of Bolts Inches	Prices on Application
	1 1 1/4 1 1/2 2 2 1/2	4 7/8 5 1/4 6 1/8 6 1/2 7 1/2	1 1/16 1 1/8 1 1/8 1 1 1/8	3 1/2 3 7/8 4 1/2 5 5 7/8	4 4 4 8 8	5/8 5/8 3/4 5/8 3/4	
3 3 1/2 4 5 6	8 1/4 9 10 3/4 13 14	1 1/4 1 3/8 1 1/2 1 3/4 1 7/8	6 5/8 7 1/4 8 1/2 10 1/2 11 1/2	8 8 8 8 12	3/4 7/8 7/8 1 1		
8 10 12 14	16 1/2 20 22 23 3/4	2 3/16 2 1/2 2 5/8 2 3/4	13 3/4 17 19 1/4 20 3/4	12 16 20 20	1 1/8 1 1/4 1 1/4 1 3/8		

Areas of Circles

Dia.	Area	Dia.	Area	Dia.	Area	Dia.	Area	Dia.	Area
1/8	0.0123	3 1/4	8.295	12 1/2	122.71	22 1/2	397.60	40	1256.6
1/4	0.0491	3 1/2	9.621	13	132.73	23	415.47	41	1320.2
3/8	0.1104	3 3/4	11.044	13 1/2	143.13	23 1/2	433.73	42	1385.4
1/2	0.1963	4	12.566	14	153.93	24	452.39	43	1452.2
5/8	0.3067	4 1/2	15.904	14 1/2	165.13	24 1/2	471.43	44	1520.5
3/4	0.4417	5	19.635	15	176.71	25	490.87	45	1590.4
7/8	0.6013	5 1/2	23.758	15 1/2	188.69	26	530.93	46	1661.9
1	0.7854	6	28.274	16	201.06	27	572.55	47	1734.9
1 1/8	0.9940	6 1/2	33.183	16 1/2	213.82	28	615.75	48	1809.5
1 1/4	1.227	7	38.484	17	226.98	29	660.52	49	1885.7
1 3/8	1.484	7 1/2	44.178	17 1/2	240.52	30	706.86	50	1963.5
1 1/2	1.767	8	50.265	18	254.46	31	754.76	51	2042.8
1 5/8	2.073	8 1/2	56.745	18 1/2	268.80	32	804.24	52	2123.7
1 3/4	2.405	9	63.617	19	283.52	33	855.30	53	2206.1
1 7/8	2.761	9 1/2	70.882	19 1/2	298.64	34	907.92	54	2290.2
2	3.141	10	78.540	20	314.16	35	962.11	55	2375.8
2 1/4	3.976	10 1/2	86.590	20 1/2	330.06	36	1017.8	56	2463.0
2 1/2	4.908	11	95.030	21	346.36	37	1075.2	57	2551.7
2 3/4	5.939	11 1/2	103.86	21 1/2	363.05	38	1134.1	58	2642.0
3	7.068	12	113.09	22	380.13	39	1194.5	59	2733.9

To find the area of a circle when diameter is given, multiply the square of the diameter by .7854.

From Standard Authorities—Not Guaranteed

MISCELLANEOUS

- 1 cu. ft. of water weighs 62.36 lbs. at 62° F. at sea level.
- 1 cu. ft. of water equals 7.48 U. S. gals.
- 1 cu. ft. steam weighs .063 lbs. at 10 lb. per sq. in. gauge pressure; .153 lbs. at 50 lb. pressure; .262 lbs. at 100 lb. pressure; .471 lbs. at 200 lb. pressure.
- 1 lb. of condensation equals the loss of 946 B. T. U. at 10 lb. gauge pressure.
- 1 lb. of condensation equals the loss of 855 B. T. U. at 150 lb. gauge pressure.

PROPERTIES OF SATURATED STEAM

From 29.0" Mercury Vacuum to Atmospheric Pressure

(Reprinted from "Steam Tables For Condenser Work" by courtesy of the Wheeler Condenser and Engineering Co.)

Vacuum in In. of Hg. referred to a 30" Bar. (Hg. at 58.4° F.)	Absolute Pressure in In. of Hg. at 32° F.	Absolute Pressure in Lb. per Sq. In.	Temperature Fahrenheit	Specific Volume Cu. Ft. per Lb.	Heat of the Liquid	Total Heat of Steam	Entropy of Water	Entropy of Steam
29.0	0.997	0.488	79.07	657.0	47.11	1094.3	0.0913	2.0358
28.5	1.495	0.732	91.70	446.2	59.70	1100.0	0.1146	2.0015
28.0	1.994	0.977	101.15	339.6	69.12	1104.1	0.1316	1.9772
27.5	2.493	1.221	108.70	275.2	76.64	1107.4	0.1449	1.9585
27.0	2.991	1.465	115.06	231.9	82.98	1110.2	0.1560	1.9434
26.5	3.490	1.710	120.55	200.2	88.46	1112.6	0.1654	1.9306
26.0	3.989	1.954	125.38	176.7	93.28	1114.7	0.1736	1.9197
25.5	4.487	2.198	129.75	158.1	97.64	1116.5	0.1812	1.9100
25.0	4.98	2.44	133.77	143.0	101.65	1118.3	0.1879	1.9013
24.0	5.98	2.93	140.64	129.0	108.51	1121.3	0.1994	1.8867
23.0	6.98	3.42	146.78	104.5	114.64	1123.9	0.2096	1.8739
22.0	7.97	3.90	152.16	92.3	120.02	1126.2	0.2185	1.8631
21.0	8.97	4.39	157.00	82.6	124.86	1128.2	0.2263	1.8535
20.0	9.97	4.88	161.42	74.8	129.28	1130.1	0.2334	1.8449
19.0	10.97	5.37	165.42	68.5	133.28	1131.8	0.2398	1.8372
18.0	11.96	5.86	169.14	63.1	137.00	1133.4	0.2457	1.8302
17.0	12.96	6.35	172.63	58.6	140.50	1134.8	0.2512	1.8238
16.0	13.96	6.84	175.93	54.6	143.80	1136.1	0.2564	1.8177
15.0	14.95	7.32	179.03	51.17	146.91	1137.4	0.2612	1.8121
14.0	15.95	7.81	181.92	49.03	149.80	1138.6	0.2658	1.8070
13.0	16.95	8.30	184.68	45.55	152.57	1139.7	0.2701	1.8021
12.0	17.95	8.79	187.31	43.18	155.21	1140.7	0.2742	1.7975
11.0	18.94	9.28	189.83	41.05	157.73	1141.7	0.2780	1.7932
10.0	19.94	9.77	192.23	39.13	160.14	1142.3	0.2817	1.7890
9.0	20.94	10.26	194.52	37.40	162.44	1143.6	0.2853	1.7852
8.0	21.94	10.75	196.73	35.79	164.68	1144.5	0.2887	1.7815
7.0	22.93	11.23	198.87	34.33	166.81	1145.4	0.2919	1.7779
6.0	23.93	11.72	200.94	33.00	168.88	1146.3	0.2951	1.7745
5.0	24.93	12.21	202.92	31.76	170.89	1147.0	0.2981	1.7712
4.0	25.92	12.70	204.85	30.62	172.81	1147.6	0.3010	1.7680
3.0	26.92	13.19	206.71	29.55	174.68	1148.4	0.3038	1.7650
2.0	27.92	13.68	208.52	28.57	176.50	1149.1	0.3065	1.7621
1.0	28.92	14.17	210.28	27.66	178.27	1149.7	0.3092	1.7593
0.0	29.92	14.67	212.00	26.79	180.00	1150.4	0.3118	1.7565

From Standard Authorities—Not Guaranteed

PROPERTIES OF SATURATED STEAM

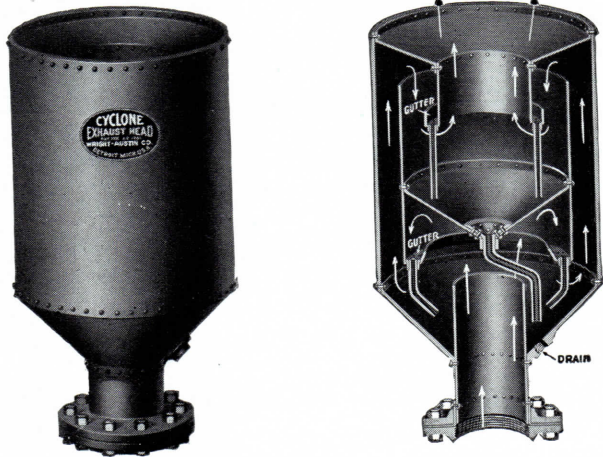
(Condensed by Kent from Marks and Davis' Steam Tables.)

Gauge Pressure, Pounds per Square Inch	Absolute Pressure, Pounds per Square Inch	Temperature Fahrenheit	Total Heat above 32° F.		Latent Heat $L=H-h$, Heat-units	Volume Cubic Feet in 1 Pound of Steam	Weight of 1 Cubic Foot Steam, Pounds	Entropy of the Water	Entropy of Evaporation
			In the Water h , Heat-units	In the Steam H , Heat-units					
0.0	14.70	212.0	180.0	1150.4	970.4	26.79	0.03732	0.3118	1.4447
0.3	15	213.0	181.0	1150.7	969.7	26.27	0.03806	0.3133	1.4416
1.3	16	216.3	184.4	1152.0	967.6	24.79	0.04042	0.3183	1.4311
2.3	17	219.4	187.5	1153.1	965.6	23.38	0.04277	0.3229	1.4215
3.3	18	222.4	190.5	1154.2	963.7	22.16	0.04512	0.3273	1.4127
4.3	19	225.2	193.4	1155.2	961.8	21.07	0.04746	0.3315	1.4045
5.3	20	228.0	196.1	1156.2	960.0	20.08	0.04980	0.3355	1.3965
6.3	21	230.6	198.8	1157.1	958.3	19.18	0.05213	0.3393	1.3887
7.3	22	233.1	201.3	1158.0	956.7	18.37	0.05445	0.3430	1.3811
8.3	23	235.5	203.8	1158.8	955.1	17.62	0.05676	0.3465	1.3739
9.3	24	237.8	206.1	1159.6	953.5	16.93	0.05907	0.3499	1.3670
10.3	25	240.1	208.4	1160.4	952.0	16.30	0.0614	0.3532	1.3604
11.3	26	242.2	210.6	1161.2	950.6	15.72	0.0636	0.3564	1.3542
12.3	27	244.4	212.7	1161.9	949.2	15.18	0.0659	0.3594	1.3483
13.3	28	246.4	214.8	1162.6	947.8	14.67	0.0682	0.3623	1.3425
14.3	29	248.4	216.8	1163.2	946.4	14.19	0.0705	0.3652	1.3367
15.3	30	250.3	218.8	1163.9	945.1	13.74	0.0728	0.3680	1.3311
16.3	31	252.2	220.7	1164.5	943.8	13.32	0.0751	0.3707	1.3257
17.3	32	254.1	222.6	1165.1	942.5	12.93	0.0773	0.3733	1.3205
18.3	33	255.8	224.4	1165.7	941.3	12.57	0.0795	0.3759	1.3155
19.3	34	257.6	226.2	1166.3	940.1	12.22	0.0818	0.3784	1.3107
20.3	35	259.3	227.9	1166.8	938.9	11.89	0.0841	0.3808	1.3060
30.3	45	274.5	243.4	1171.6	928.2	9.39	0.1065	0.4021	1.2644
40.3	55	287.1	256.3	1175.4	919.0	7.78	0.1285	0.4196	1.2309
50.3	65	298.0	267.5	1178.5	911.0	6.65	0.1503	0.4344	1.2024
60.3	75	307.6	277.4	1181.1	903.7	5.81	0.1721	0.4474	1.1778
70.3	85	316.3	286.3	1183.4	897.1	5.16	0.1937	0.4590	1.1561
80.3	95	324.1	294.5	1185.4	890.9	4.65	0.2151	0.4694	1.1367
85.3	100	327.8	298.3	1186.3	888.0	4.429	0.2258	0.4743	1.1277
95.3	110	334.8	305.5	1188.0	882.5	4.047	0.2472	0.4834	1.1108
105.3	120	341.3	312.3	1189.6	877.2	3.726	0.2683	0.4919	1.0954
115.3	130	347.4	318.6	1191.0	872.3	3.452	0.2897	0.4998	1.0809
125.3	140	353.1	324.6	1192.2	867.6	3.219	0.3107	0.5072	1.0675
135.3	150	358.5	330.2	1193.4	863.2	3.012	0.3320	0.5142	1.0550
145.3	160	363.6	335.6	1194.5	858.8	2.834	0.3529	0.5208	1.0431
155.3	170	368.5	340.7	1195.4	854.7	2.675	0.3738	0.5269	1.0321
165.3	180	373.1	345.6	1196.4	850.8	2.533	0.3948	0.5328	1.0215
175.3	190	377.6	350.4	1197.3	846.9	2.406	0.4157	0.5384	1.0114
185.3	200	381.9	354.9	1198.1	843.2	2.290	0.437	0.5437	1.0019
210.3	225	391.9	365.5	1199.9	834.4	2.046	0.489	0.5562	0.9799
235.3	250	401.1	375.2	1201.5	826.3	1.850	0.541	0.5676	0.9600
260.3	275	409.6	384.3	1203.0	818.6	1.688	0.593	0.5780	0.9420
285.3	300	417.5	392.7	1204.1	811.3	1.551	0.645	0.5878	0.9251

From Standard Authorities—Not Guaranteed

Wright-Austin Exhaust Heads

"CYCLONE" EXHAUST HEAD



Made of Heavy Galvanized Steel, with Copper Drip Pipes Inside

Two kinds of "Cyclone" Exhaust Heads are made—Heavy Duty and Standard. Both are of the same design and differ only in dimensions and price.

The Heavy Duty is recommended where a large volume of steam is exhausted. For medium or light service the Standard is suitable.

Both are constructed of first-grade steel heavily galvanized, and provided with copper drip pipes inside that will never rust.

The steam, after being deflected by the cone, again turns, passing up between the outer and inner shells (follow the course of the arrows shown in the sectional view), and is impinged a second time against another inverted cone which forms the top. Here again provision is made to catch the condensate in a trough or gutter around the outlet pipe, and in copper drip pipes which drain it below the steam current.

In no other Exhaust Head will be found a combination of four complete reversals of the steam, double drain gutters with copper drip pipes and especially large areas and outlet, (see dimensions) slowing down the steam velocity so that it leaves this head more like the smoke from a chimney—without back pressure, absolutely noiseless and free from moisture.

Too much emphasis cannot be placed on the highly efficient and lasting qualities of the "Cyclone" Exhaust Head. It is without an equal among Exhaust Heads and will invariably outlive the plant it serves. Both Heavy Duty and Standard are fully guaranteed.

Wright-Austin Heavy Duty "Cyclone" Exhaust Head

Size of Exhaust Pipe Inches	Diam. of Outlet Inches	Outside Diam. Inches	Height Inches	Size of Drip Inches	Weight Pounds	List Price	Code Word
1	4	10	18½	½	14	\$32.00	Pagan
1½	4	10	18½	½	14	32.00	Paint
2	5	12	21	¾	19	37.00	Panel
2½	5	12	21	¾	20	37.00	Paper
3	6½	14	23¾	1	35	46.00	Party
3½	6½	14	23¾	1	42	46.00	Paste
4	8	16	26¾	1	48	54.00	Patch
4½	8	16	26¾	1	54	54.00	Peach
5	8½	18	30½	1¼	65	70.00	Pecan
6	11	21	37	1¼	80	80.00	Pedal
7	13	24	41½	1¼	130	112.00	Pence
8	15	27	44½	1½	155	140.00	Peony
9	15¾	30	46¾	1½	190	165.00	Piano
10	18⅝	33	52	1½	250	205.00	Piece
12	20	37	57½	2	280	270.00	Piper
14	22	42	60½	2½	355	375.00	Pitch
16	26½	46	72	2½	485	520.00	Plate
18	29	54	83	3	725	625.00	Plead
20	32	63	91	3	875	720.00	Plush

Sizes up to 2½ inches are furnished with standard thread nipples. Sizes 3 inches to 12 inches are made with flange unions. Standard flange connection can be furnished when specified. Sizes 14 inches and larger are regularly provided with a standard flange. In sizes over 20 inches the flange on the exhaust head is made to conform in diameter and drilling with the flange on the exhaust pipe.

For Standard Flange Schedules see page 144.

Made in regular sizes up to 40 inches. Prices and details upon request. Sizes up to and including 14 inches usually in stock.

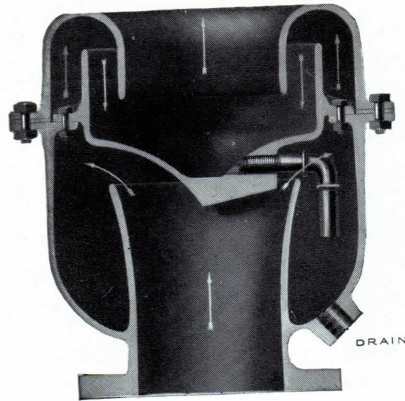
Wright-Austin Standard "Cyclone" Exhaust Head

Size of Exhaust Pipe Inches	Diam. of Outlet Inches	Outside Diam. Inches	Height Inches	Size of Drip Inches	Weight Pounds	List Price	Code Word
2	4	10	18½	½	14	\$32.00	Point
2½	4	10	18½	½	15	32.00	Poise
3	5	10	18½	½	25	35.00	Polar
3½	5	10	18½	½	28	35.00	Poppy
4	5¾	12	21⅝	¾	40	44.00	Porch
4½	5¾	12	21⅝	¾	45	44.00	Poser
5	6½	14	23⅝	1	52	52.00	Powan
6	8	16	27	1	65	64.00	Prank
7	8½	18	31	1¼	95	80.00	Preen
8	11	21	37½	1¼	125	88.00	Prism
9	13	24	41¾	1¼	138	110.00	Proof
10	15	27	44½	1½	156	118.00	Prune
12	15¾	30	46⅝	1½	180	160.00	Pulse
14	18⅝	33	52⅝	1½	255	190.00	Punic
16	20	37	57½	2	285	254.00	Pupil
18	22	42	60½	2½	365	300.00	Purge
20	26½	46	72	2½	510	500.00	Putty

Sizes up to 3½ inches are furnished with standard thread nipples. Sizes 4 inches to 12 inches are made with flange unions. Standard flange connection can be furnished when specified. Sizes 14 inches and larger are regularly provided with a standard flange. In sizes over 20 inches the flange on the exhaust head is made to conform in diameter and drilling with the flange on the exhaust pipe.

For Standard Flange Schedules, see page 144.

Made in regular sizes up to 40 inches. Prices and details upon request. Sizes up to and including 14 inches usually in stock.

WRIGHT-AUSTIN CAST IRON EXHAUST HEAD


With large clearance areas and ample cooling and collecting surface, the Wright-Austin Cast Iron Exhaust Head has embodied in its design all the fundamental principles required for complete separation of oil and water from exhaust steam.

The large clearance area slows down the steam to a point where separation is possible and absolutely prevents back pressure.

Thoroughly guaranteed, and if not satisfactory in every respect, may be returned at our expense.

It is inexpensive and permanent. Costs nothing for maintenance.

Prices and Dimensions

Size Exhaust Pipe	Dimensions in Inches						Bolts No.	Weight Pounds	List Price	Code Word
	Diameter	Height	Diameter Flange	Flange		Drip Pipe				
				Bolt Circle	Bolt Size					
1	8	8	Scrd.	.....	.....	3/4	.....	25	\$20.00	Zebra
1 1/2	8	8	"	.....	.....	3/4	.....	25	20.00	Zenis
2	9	9	"	.....	.....	1	.....	35	25.00	Zurra
2 1/2	9	9	"	.....	.....	1	.....	35	25.00	Zenth
3	11	11	"	.....	.....	1	.....	55	30.00	Ziwer
3 1/2	11	11	"	.....	.....	1	.....	55	30.00	Zabie
4	12	12	"	.....	.....	1	.....	65	40.00	Zoner
4 1/2	12	12	"	.....	.....	1	.....	65	40.00	Zuwth
5	14	14	"	.....	.....	1 1/4	.....	80	50.00	Zomba
6	16	16	11	9 1/2	3/4	1 1/4	8	120	60.00	Zutin
7	18	18	12 1/2	10 3/4	3/4	1 1/4	8	185	75.00	Zaeon
8	20	20	13 1/2	11 3/4	3/4	1 1/4	8	215	90.00	Zibbe
10	23	23	16	14 1/4	3/4	2	12	320	125.00	Zloye
12	28	28	19	17	7/8	2 1/2	12	500	150.00	Zmona
14	31	31	21	18 3/4	1	2 1/2	12	700	200.00	Zrabe

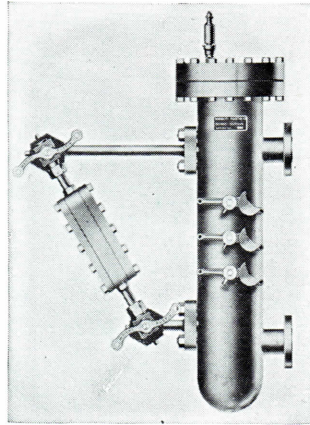
Sizes up to and including 5 inches have threaded pipe connection. Larger sizes flanged A. S. M. E. Standard Schedule. For drilling see page 144.

Carried in stock.

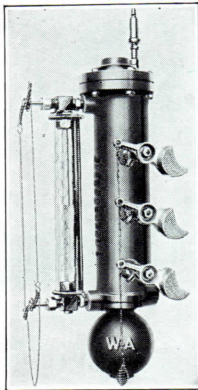
BOILER TRIMMINGS

Bulletin No. 30

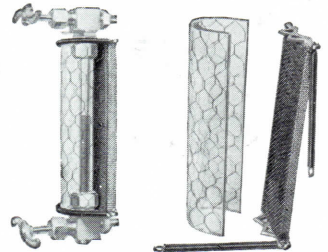
High Pressure, Forged Steel Water Column for High and Low Alarm, fitted with rigid one-piece water gauge Incliner, showing flat glass water gauge. Pressure 0 to 700 lbs. Inclined Water Gauge with round glass also made for standard pressures on cast iron columns.



*Descriptive
Bulletins
or General
Catalog
will be
cheerfully
furnished
on
request.*

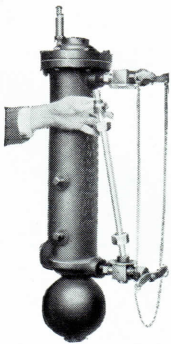


Regular cast semi-steel type High and Low Alarm Water Column with Nickel Float, Outside Monel Metal Whistle Valve, "Quick Change" Water Gauge, "Crescent" Try-Cocks & "Kleervu" Safety Gauge Glass Protector. Sizes for all boilers. Investigate this modern column by sending for Bulletin No. 30.



"Kleervu" Safety Gauge Glass Protector gives a clear view of gauge glass from three sides without obstructing rods or frames, extra strong wire glass. Performs an important function in safety.

Circular No. 525

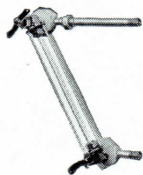
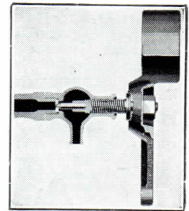


"Quick Change" Water Gauge, glass can be replaced without cutting standard length gauge glass and with steam pressure on the water column. A time and money saver. Fits all types of water columns.

Circular No. 522

"Crescent" Try-Cock absolutely non-leaking. For pressures 0 to 700 lbs. Moderate price. Double life due to reversible Special Metal valve and seat. Can be readily taken apart for renewing, reversing, or re-grinding valve. Suitable for any water column.

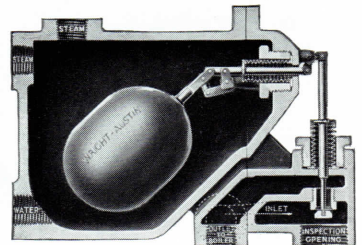
Circular No. 523



"Plainsite" Incliner

Your present gauge glass may be inclined and make the water level more visible—inexpensively. Ask for circular showing how it may be done.

Circular 520

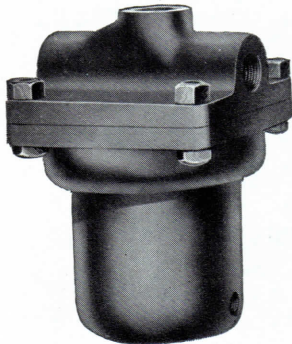


Boiler Feeder

An iron watchman that never sleeps, but automatically maintains normal water level in low pressure boilers.

"AIRXPEL" VERTICAL BUCKET STEAM TRAPS
are "double duty" traps because they automatically
discharge both air and condensate

Ask for Bulletin No. 20.

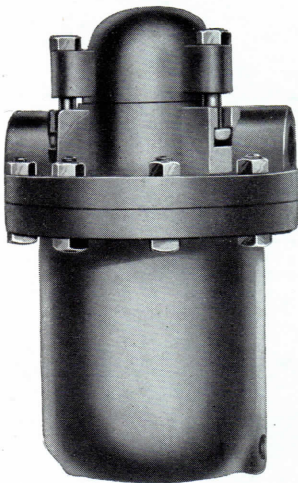
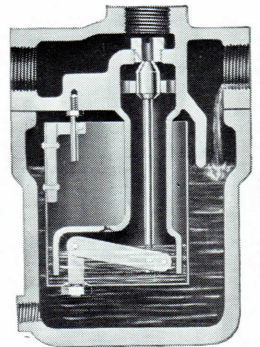


No. 050— $\frac{1}{2}$ "
The "Baby Airxpel" Steam Trap
0 to 125 lbs.

A new streamline body design adds
attractiveness to the installation. Has
the handiest of all pipe connections.
Circular 257-A

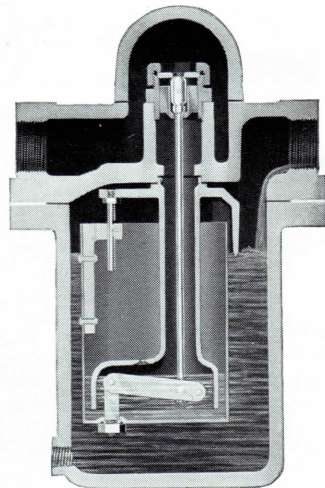
Three "Cub" Sizes— $\frac{1}{2}$ ", $\frac{3}{4}$ ", 1" especially
suitable for individual unit
drainage on process and heating
equipment, maintaining maximum
efficiency by discharging both air and
condensate.

0 to 250 lbs. W.S.P.
Circular No. 257A

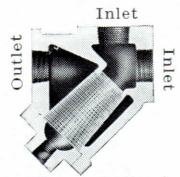


"Master"
Sizes $\frac{1}{2}$ " to 2". Valve and seat reversible,
giving double life. 0 to 300
lbs. W.S.P.

Circular No. 257A

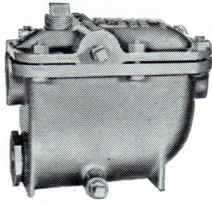


"Cast Alloy Steel"
Type, with either
flanged or screwed
connections, for pres-
sures up to 700 lbs.



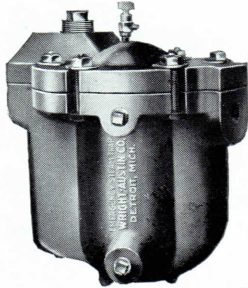
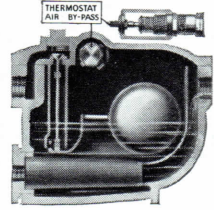
The "Tuway" Strainer—
Every "Tu way" in the
strainer bin may be used
two ways—either straight-
way or angle. Just reach
for a "Tuway"—it's the
universal strainer.
Circular No. 292

Tell us your
steam drainage
problems.
Wright-Austin
technical men are
at your service.
Ask for bulletins.



"Combination" Steam Trap, float type with internal thermostatic air by-pass, internal strainer; also water gauge. A modernly designed heating trap of large capacity suitable for vacuum heating service, District Heating Systems, coils, etc.

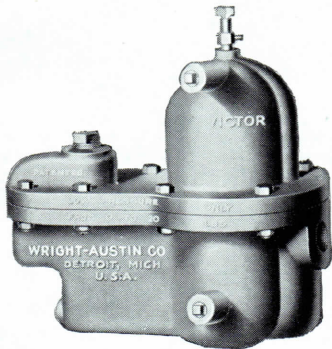
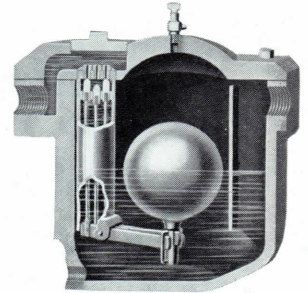
Circular 261



"Emergency" 3-Valve Steam Trap — 0 to 200 lbs. Sizes ½" to 3".

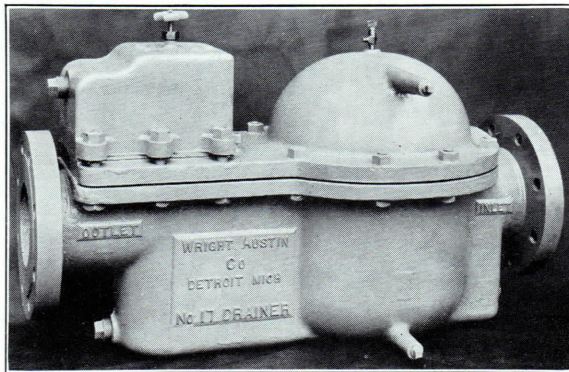
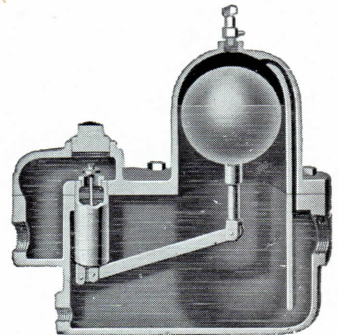
Now faithfully serving the second generation of Engineers.

Circular No. 220

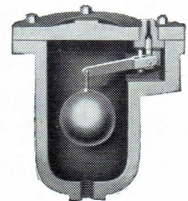


"Victor" Low Pressure heavy duty Steam Trap, also excellent as oil and grease trap. 0 to 20 lbs. Sizes ½" to 3".

Circular No. 250



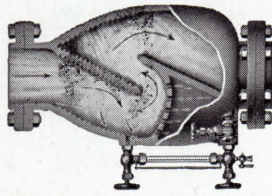
The "Drainer" Type of Steam Trap. This type handles huge volumes of condensate. Illustration shows 5" size.



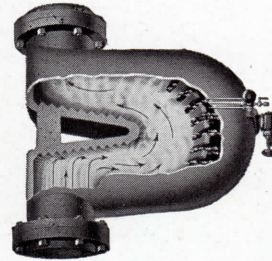
Air Relief Trap to remove air from forced circulation hot water heating systems, water supply lines, closed tanks, receivers, pumps, etc.

Circular No. 281

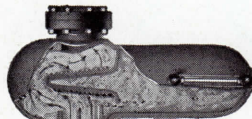
STEAM SEPARATORS



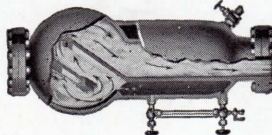
Type "A" Vertical Steam Separator



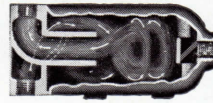
Type "B" Horizontal Steam Separator



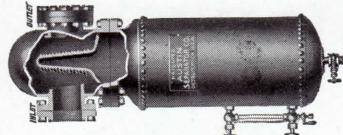
Type "E" Horizontal Steam Separator



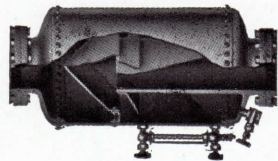
Type "M" Vertical Steam Separator



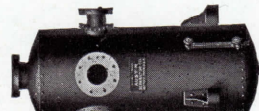
The "Whirlwind" Type "T" Compressed Air Purifier and Separator. Circular No. 440



Type "L" Horizontal Steel Receiver Separator



Type "C" Vertical Rusted Steel Receiver Separator



Type "I" Horizontal Steel Receiver Separator

your Separator or Steam Purifier Problems up to Wright-engineers. Moisture, slugs or vibration can all be successfully eliminated. Our many years of experience are yours asking.

STEAM TRAPS

For Steam, Oil, Air, Gasoline.

Experience has proven that there is no one type of trap suitable for all conditions. By manufacturing several types and patterns it is a simple matter to select a Wright-Austin trap of a type and size that is especially adapted to each particular requirement or service.

The "Airxpel," besides satisfying the requirements of those engineers who prefer a Vertical Bucket Type, is a highly efficient, accessible trap that embodies new and exclusive patented features. A "double duty" steam trap which automatically discharges both air and condensate.

It is made in three patterns. The small Cub sizes to serve Unit Heaters, Cookers, Chemical Processes, Laundry Equipment, etc.

The Master sizes for larger capacities and general use in power plant service. The Cast Alloy Steel and Forged Steel patterns are for high pressures up to 700 lbs.

The "Emergency" 3-Valve Trap is a float type, which operates on all pressures from 0 to 200 lbs. without change of valves or any adjustment.

The "Victor" is a low pressure float type for extremely large volumes of condensation at low pressures or vacuum. It is also an excellent oil and grease trap, because of its very large valve opening.

The "Combination" Trap is intended for heating services and as the name implies, it is a combination float and thermostatic type, having built-in strainer, and provided with water gauge if desired.

SEPARATORS

For Steam, Oil, Air, Gas, Etc.

The largest number of sizes and types of separators in the world have been developed as a result of our experience of more than 40 years in building separators for all manner of conditions.

Suitable separators can be selected to fit the exact requirements and piping conditions at reasonable prices. Made in semi-steel, cast steel, riveted and welded construction. Sizes 1/2" to 48", for vacuum service and pressures up to 650 lbs.

SAFETY ALARM WATER COLUMNS

Dependable, rugged construction. All parts are operated at each alarm; also every time operator blows down column for water level test—no chance to become corroded and stick. Sizes for all boilers.

EXHAUST HEADS

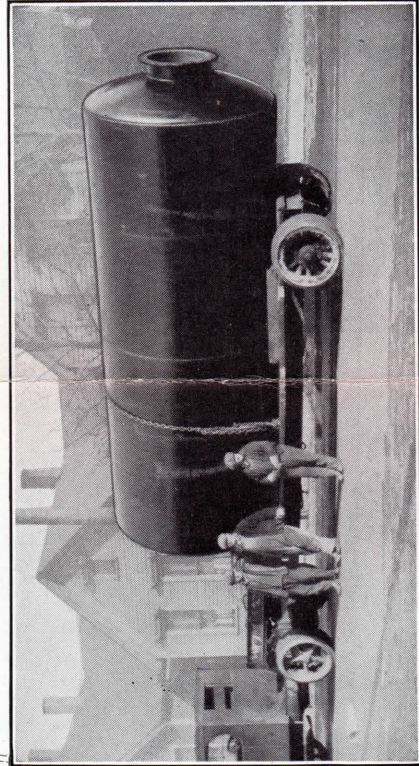
Three types for all conditions. "Heavy Duty" and "Standard" made in galvanized steel with copper drip pipes. Eliminate noise and spray. Cast iron type is efficient and moderately priced. Sizes 1" to 48".

FEED WATER REGULATORS

Positive type, dependable, simple and inexpensive. Ask for Bulletin No. 30.

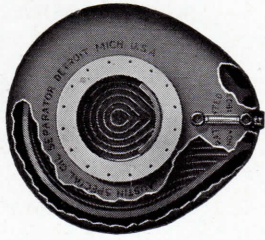
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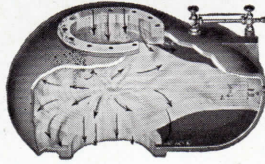


OIL SEPARATORS

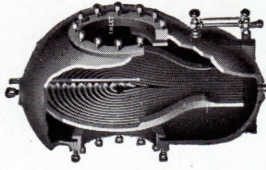
Circular No. 410



Type "S" Horizontal Self Cleaning Oil Separator



Type "V" Vacuum Oil Separator



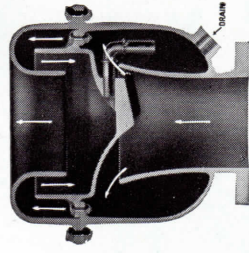
Type "R" Vertical Oil Separator



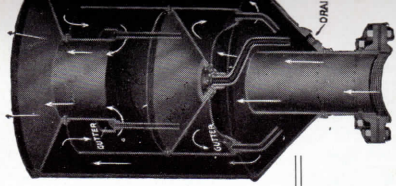
"Standard Special" Separator, Angle pattern

EXHAUST HEADS

Circular No. 450



Cast Iron Exhaust Head



Galvanized Steel "Cyclone" Exhaust Head

Wright-Austin products are catalogued in "Success," American Heating and Ventilating Society "Guide," "American District Heating Association," "Hand Book," "Oil Refinery and Gasoline," "Composite Catalog," Mill Supplies "Catalog and Directory," also several hundred Mill Supply Distributor catalogs.

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