Bowser Figure 230 Fueling System

For Gasoline Service

The Bowser Aviation Fueling System is designed to meet the practical needs of commercial aviation. It is built with only one purpose—to provide a speedy, accurate, safe and economical means of delivering aviation gasoline, in any quantity, to aeroplanes on the flying field.

Operating from a Service Pit, set flush with the ground, at a point of convenient service on the field, the Bowser Fueling System will serve planes within a radius of fifty feet—in any direction.

Planes can approach within the serving radius of the Fueling Pit, fill up with clean, filtered gasoline—which is accurately measured by Xacto Meter—in any quantity—at a speed of 18 to 20 gallons per minute—then proceed on their flight or taxi to the hangar or line.

Nozzle control of the flow of gasoline at the discharge point affords protection against spilling or overflowing of liquid—eliminating fire hazards. Pumping unit is put into operation by closing of a vapor-proof switch in service pit.

Bowser Fueling Pit is installed in the ground, with the top set flush with the ground level. It is not a ground hazard—planes can taxi across the top of the pit, when closed, without interference or danger of any kind.

Gasoline is accurately measured by the Bowser Xacto Meter, which is located on the discharge line, in the pit. Measurement is by positive volumetric displacement—accurate under all rates and volume of flow.

Set-back counter on Xacto Meter gives an exact record, to the tenth-of-a-gallon, on each individual sale or delivery. Totalizer counter maintains a positive, accurate record of all gasoline dispensed at the airport. Easily meets the tolerances established by the U. S. Bureau of Standards, the Weights and Measures Departments of every state in the Union, and the Department of Weights and Measures of the Dominion of Canada.

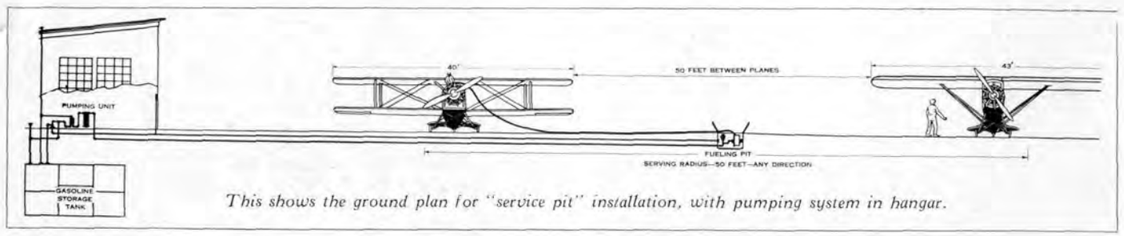
The Fueling Pit also contains a fifty-foot length of flexible, metal-lined hose with a self-closing nozzle, wound on a substantial reel, which keeps it in good condition. Hose is drawn from or returned to pit over rollers which are provided on sides of pit. The flow of gasoline is controlled at the end of the hose—the point of delivery. A slip cap, chained to the nozzle, is provided to prevent dirt or water from getting into the nozzle when hose is being taken out of or returned to pit.

A complete pumping system, located in a small corner of the hangar or repair shop provides speedy and efficient delivery of gasoline to the pit.

By its simple, speedy, economical and efficient operation the Bowser Fueling System will save time, labor and expense at airports. It permits faster fueling—eliminates the dangers of spilling gasoline—insures accurate records—offers absolutely no ground hazard—and is specialized to meet the exact needs of aviation.

The cost of maintenance is negligible—depreciation is small.

The Bowser Fueling Pit is a complete unit—it is necessary only to connect pipe to outside connections on pit, to make installation. If necessary, pit can be disconnected from the line, and may be re-installed at another point on the field, without great inconvenience or expense.



This shows the ground plan for "service pit" installation, with pumping system in hangar.

BOWSER FIGURE 230 PIT

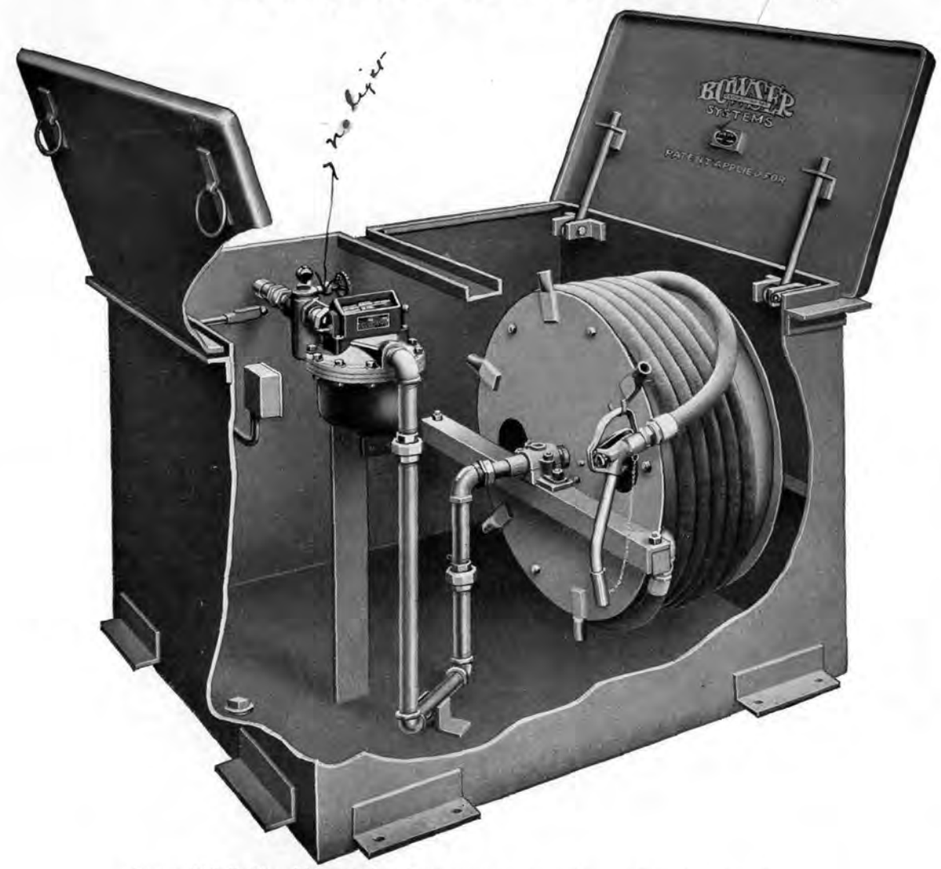


Figure 230 Fueling Pit opened and cut-away to show the complete pit system for gasoline service—Xacto Meter, hose and nozzle with cap, hose reel, strainer, vapor-proof switch, necessary piping, etc., ready for immediate installation.

DIMENSIONS OF PIT

Height . . . . . 42" Width . . . . . 42" Length . . . . . 51"

The Service Pit is substantially constructed of heavy black iron, with all seams welded. It is water-tight when closed.

It is built to withstand heavy planes taxi-ing over it without interference or danger of any kind. Covers are equipped with lifting rings which afford easy access for servicing planes. Angle clips are welded to all sides for proper anchoring.

Strainer in pit prevents any dirt particles from entering meter and assures the delivery of clean gasoline.

Vapor-proof switch, of the double button lever type, controls the pumping unit.

Lifting rings on covers may be padlocked together, securely locking pit when not in use.

Clip for fire extinguisher is provided on inside of cover.

All necessary valves and piping inside the pit are furnished completely installed.

Pit is attractively finished inside with a brilliant red enamel, which shows immediately, either from the air or ground, that pit covers are raised.

Closed view of pit. Water-tight covers. No ground hazard. Painted steel blue, with rust-resisting mineral paint.

Pumping System for Fig. 230 System

The complete pumping system furnished standard with the Figure 230 consists of a direct-connected rotary power pump equipped with motor, relief valve and pressure gauge; a Cutler-Hammer starter; an air release; a pipe line strainer; a centrifugal filter and a line valve.

The power pump is capable of delivering 18 to 20 gallons of gasoline per minute. Requires a floor space of approximately 16½" x 32". Remote control, vapor-proof switch, located in service pit, starts and stops pumping operation.

The air release is installed on the discharge line near the power pump to provide for the separation and escape of any air which may be in the liquid, assuring a solid flow of gasoline to the meter at all times.

The pipe line strainer is placed on the suction line, ahead of the power pump to catch any dirt particles which may be in the gasoline. Protects the pump and assures the delivery of clean gasoline.

The centrifugal filter removes any water or moisture, assuring the delivery of dry gasoline.

As many as three fueling pits may be operated successfully by this one pumping system, but the speed of delivery will be proportionately reduced if two or three are operated at the same time.

The complete system requires but a small space in a corner of the hangar or oil house. For illustration of actual installation see cover of this bulletin.

This pumping system is engineered, designed and especially built for gasoline pumping service at airports. Operation is efficient, safe, dependable, durable and economical.

SPECIFICATIONS FIG. 230 FUELING SYSTEM

SERVICE PIT

MATERIAL: Shell and bottom, 3/16" black iron. Covers, ¼" black iron.

CONSTRUCTION: Rectangular. All seams welded. Two openings in top of pit with 1½" flange around them. Angle clips on sides of pit for anchoring. Flanged covers to make water-tight. Lifting rings on covers. Clips on lid inside for fire extinguisher. Rollers on two sides for easy withdrawal and return of hose.

FINISH: Outside painted in steel blue. Inside, red enamel.

DIMENSIONS: 42" high, 42" wide, 51" long.

GASOLINE HOSE REEL: Is of 12-gauge black iron, welded and bolted, with handles for revolving drum when re-winding hose. Dimensions of hose reel drum, 14½" wide by 30" diameter.

HOSE REEL BEARINGS: Are of cast iron with babbit lining, each bearing equipped with oil well.

GASOLINE HOSE: 50 feet of 1¼" metal-lined flexible hose.

NOZZLE: Wet hose, of the pistol-grip type with guard. Nozzle tip, 1⅛" in diameter, 11" long. Slip cap is provided for nozzle tip—preventing dirt, water, etc., from entering nozzle.

XACTO METER: 1¼" pipe connections. Equipped with set-back counter which records in 1/10 of a gallon and gallons up to 1,000 gallons—may be returned to 0 after each withdrawal. Continuous counter records up to 100,000 gallons and then repeats. Two keys furnished for locking shutter over continuous counter.

STRAINER, FIG. 757 WITH PRESSURE GAUGE: 1¼" strainer is installed in pit ahead of the Xacto Meter—catches any foreign matter—protects meter. Pressure gauge indicates pressure on lines.

ELECTRIC MOTOR SWITCH in pit is a double button lever, enclosed in a vapor-proof box, wiring in conduit.

VALVES, PIPING, etc., inside of pit are furnished completely installed, so that it is only necessary to make pipe connections to outside of pit, when making installation.

LOCKING DEVICE: Lifting rings on covers may be padlocked together, securely locking pit. (Padlock not furnished).

PUMPING SYSTEM

POWER PUMP, FIG. 1709: 1¼" motor-driven rotary pump, direct-connected, equipped with relief valve, and pressure gauge. Delivers 18 to 20 G.P.M. Motor is furnished standard—specifications to be given on order.

AIR RELEASE, FIG. 773: A device for ejecting, by venting, air bubbles which may be in liquid being metered.

CENTRIFUGAL FILTER, FIG. 255: Separates, by centrifugal force, water, moisture, and impurities from the gasoline. Insures a delivery of clean, dry gasoline.

STRAINER, FIG. 757: 1¼", installed in suction line, ahead of power pump, to catch all dirt and foreign substance.

LINE VALVE: For installation on top of storage tank.

SHIPPING WEIGHT: Approximately 1,200 pounds.

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Fueling Systems for Airports

Typical Installation of Bowser Figure 230 Fueling Pit

Speedy gasoline service, any quantity—18 to 20 G.P.M.—50 feet from the pit—in any direction. One man fuels planes easily, quickly, accurately, and economically.

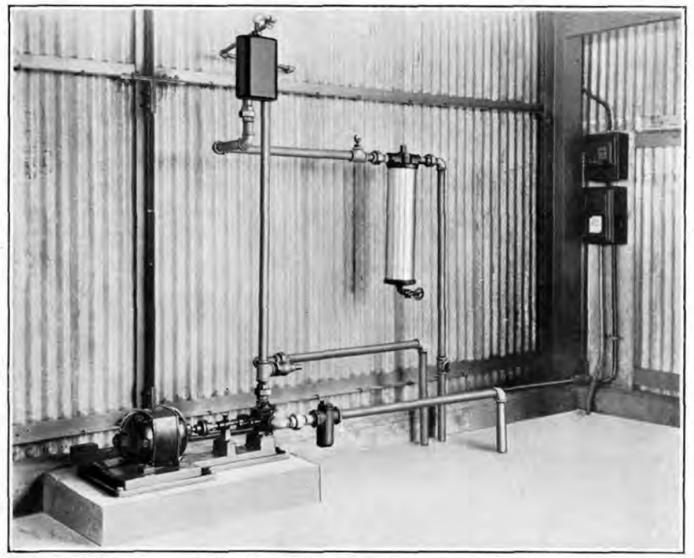

Figure 230 Pumping System, installed in the Hangar, efficiently delivers a continuous supply of clean, filtered gasoline to the Service Pit.

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