



JULIEN P. FRIEZ & SONS, INC.

(A Subsidiary of The Bendix Aviation Corporation)

BALTIMORE, MARYLAND, U. S. A.

ESTABLISHED 1876

BULLETIN #J

FRIEZ ANEMOMETERS

JANUARY, 1936

THE measurement of air velocities and volume is accurately, reliably and simply accomplished by the use of the Friez Anemometers. Wherever it is desired to measure velocities and volumes of air passing through or leaving ducts, flues, fans, grilles, etc., the Friez standard range of Anemometers are the very finest obtainable. These instruments are ruggedly constructed and designed to withstand service operations in the field, yet they are extremely sensitive and accurate over broad ranges. A leather carrying case should be obtained with each instrument to protect it during storage, while being carried, etc. The present Friez design represents 22 years' experience in the building of Anemometers of this type, and they are in daily service by the U. S. Government Departments, Mines,

Industrial Plants, Laboratories, and in all types of Heating, Cooling and Ventilating applications throughout the country. Each instrument receives the individual attention of skilled craftsmen.

It is desired to stress that these Anemometers are occasionally used out of doors, but they are not designed and not recommended for such applications, which are wholly different problems from indoor applications. The Friez Company have for 60 years manufactured a complete range of outdoor weather instruments, and they should be consulted wherever problems of this nature arise.

THE BIRAM TYPES give readings directly in linear feet, and velocity is obtained by dividing these readings by the elapsed time in minutes. A simple means is provided on all Biram types for returning the dials to zero. On the standard models this is accomplished by a knurled knob projecting out the side of the dials. If it is desired to have incorporated a special lever for returning instantaneously all dial settings to zero, this arrangement is also available at small extra cost. (See Instructions, page 2 of this Bulletin.) These types are provided with straight, tubular spokes, thus insuring rigidity and light weight. They also have adjustable hubs, and the slight wear of the bearing which might develop over a period of years, may be taken up, although obviously this should not be attempted by anyone who is not properly qualified or properly equipped to make such an adjustment. These Friez Biram type Anemometers are extremely sensitive at low speeds, and yet they cover a very broad range. They may be used for either horizontal or vertical measurements. The Biram types A/1, A/2, A/3 and A/4 have pivot and phosphor bronze bearings. A correction chart is provided with each instrument. **These Anemometers are designed and entirely manufactured in the United States.**

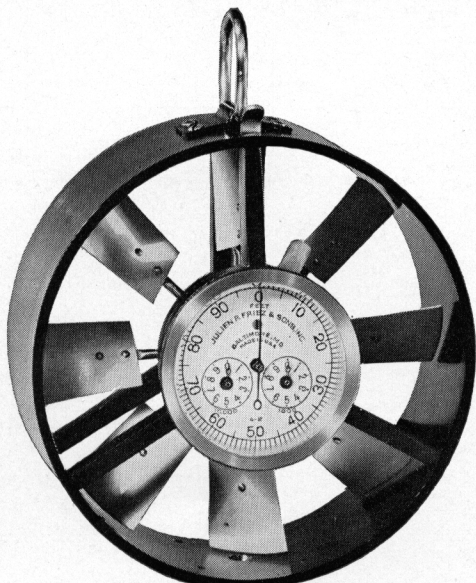


Figure 1.
Biram Type (A/2)

TYPE

A/1—Friez Biram Type Anemometer for air speeds of from 75 to 3,000 feet per minute (see note below). The counting dials read up to 1,000 linear feet. 4 inches in diameter; 8 vanes (see below for carrying cases).....

A/2—Friez Biram Type Anemometer for air speeds of from 75 to 3,000 feet per minute (see note below). The counting dials read up to 10,000 linear feet. (This is the type in most general demand by the industry.) 4 inches in diameter; 8 vanes (see below for carrying cases).....

A/3—Friez Biram Type Anemometer for air speeds of from 75 to 3,000 feet per minute (see note below). The counting dials read up to 100,000 linear feet. 4 inches in diameter; 8 vanes (see below for carrying cases).....

A/4—Friez Biram Type Special High Velocity Anemometer for air speeds of from 500 to 10,000 feet per minute. The counting dials read up to 100,000 linear feet. 4 inches in diameter; 4 vanes (see below for carrying cases).....

Note: Types A/1, A/2 and A/3 may be operated for short intervals at air speeds up to 3,000 feet per minute, but are not recommended to be used ordinarily above 2,000 feet per minute.

LEATHER CARRYING CASE for any of the above Biram Type Anemometers. (We strongly recommend the use of these carrying cases for protection of the instrument when not in use).....

THE DIRECT-READING TYPES provide indication of velocities directly in **feet per minute**. Different types are available for different applications. The dial reads just like a speedometer on an automobile, and no watch or other timing is required. These direct-reading types are very sensitive, reliable and accurate. The rotor vanes are provided with pivot and phosphor bronze bearings, and the speed dials have jeweled bearings. Since each dial is individually calibrated, no correction charts are necessary.

TYPE

A/5—Friez Direct-Reading Anemometer for HORIZONTAL applications. Dial reads directly from 100 to 3,200 feet per minute. Overall height 6½"; 3 blades.....

A/6—Friez Direct-Reading Anemometer for VERTICAL applications. Dial reads directly from 100 to 3,200 feet per minute. Overall height 4½"; 8 vanes.....

LIST PRICE
(F. O. B. Baltimore)
(E)

\$23.00

\$ 5.00

\$24.00

\$ 5.00

\$25.00

\$ 5.00

\$25.00

\$ 5.00

\$ 4.00

LIST PRICE
(F. O. B. Baltimore)
(E)

\$50.00

\$ 5.00

\$50.00

\$ 5.00

TYPE

A/8—FRIEZ SPECIAL SUPER-SENSITIVE ANEMOMETER FOR VERY LOW VELOCITIES. Counting dial reads from 10 to 150 feet per minute. Metal foil wings. The vanes begin to rotate at 10 feet per minute and may then be slowed down to 6 feet per minute. When velocity goes above 20 feet per minute, the correction chart provided should be used. **CAUTION—Do not blow on these Anemometers. They must never be subjected to velocities above 150 feet per minute.**.....
Spun Metal Carrying Case for type A/8 only.....

LIST PRICE
 (F. O. B. Baltimore)
 (E)

\$40.00
\$ 2.00

INSTRUCTIONS—FRIEZ ANEMOMETERS



Figure 2.
Direct-Reading Type (A/5)

THE FRIEZ BIRAM TYPE ANEMOMETERS are provided with counting dials operated by rotating vanes and independently controlled by a clutch release mechanism. All types have means of quickly returning all dial readings to zero. On the standard models this is accomplished by turning a knurled knob which projects out beside the dial face. In the event that it is desired to reset all dials instantly to zero, this means may be provided by the extra attachment referred to earlier in this Bulletin.

When the clutch release mechanism (the long vertical lever projecting out the top of the instrument) is in one position, the rotating vanes move freely without running the counting dials; when this lever is in the other position, the rotating vanes cause the counting dials to move. This is standard fitment on all models.

To take a reading with the Friez Biram Type Anemometer, suspend it in the air stream in such a position that a reading is obtained of representative, average conditions. In broad air streams, several readings must be taken in different positions, and an average of these several readings made. Since there is a wide variation in air speeds in different positions inside the ducts, flues, etc., particular care should be taken to avoid blanking or deflecting the air stream by any object in front of, close behind or too near the Anemometer.

Note: These Anemometers may be held by passing the thumb through the carrying ring on top, or by screwing on a handle. A tapped hole is provided in the base of each instrument for this latter purpose, thus facilitating holding the instrument in air streams which are rather inaccessible.

It is very important that the Anemometer face squarely in the air stream, since if the air stream passes obliquely across the instrument, an erroneous reading will be given. Friez Biram Type Anemometers may be used for readings of either horizontal or vertical air streams.

The dial settings should be noted before a test run is started (or the dials should be returned to zero, whichever is preferred), the clutch release referred to above should be set to allow the blades to run freely without running the counting dials, the anemometer should then be placed squarely in the air stream, and the rotating blades permitted to reach full speed (this requires only two or three seconds), the clutch should then be engaged at a definite moment as carefully noted by a watch. The instrument should then be allowed to run for a minimum of one-half minute, preferably at least a full minute, and then at exactly a half or full

minute the clutch should be disengaged. A reading of the dials may then be taken. If the test run covered a period of one minute, and the dials were originally set at zero, the dial readings will then read directly the number of linear feet per minute. If the dials were not set to zero, the difference between the readings before and after the test run covering a full minute would be the linear feet per minute. If reading was for a period of one-half minute only, multiply by 2 for answer in feet per minute, and so on.

While Friez Anemometers are designed to give satisfactory service under normal conditions over long periods of time, it is strongly recommended that carrying cases be purchased with the instruments in order to protect them from injury during storage, while in transit, etc.

THE FRIEZ DIRECT-READING TYPES require no special instructions for their operation, since they give readings **directly** in linear feet per minute. They have individually calibrated dials and therefore require no correction charts. The same general precautions apply however; namely that average readings should be obtained, positions in the air stream free from interference should be selected, etc.

Friez Air Meters and Draft Gauges are very moderately priced instruments designed especially for **taking readings inside ducts,** etc., of Static Pressures, Velocities, Drafts, Cubic Feet per Minute, etc., where it is not convenient or practical to employ Anemometers. (Write for Friez Bulletin #F.)

As the largest and oldest American makers of hygrometric and meteorological instruments, the Friez Company manufacture a **complete line of instruments for the automatic control, indication, and recording of air conditions,** for indoor or outdoor applications. Write for other Friez Bulletins.

AIR CONDITIONING UTILITIES, INC.
 8 W. 40th STREET NEW YORK CITY
 PHONE MEDALLION 3-4280-1-2

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REG. U. S. PAT. OFFICE

“THE MAKERS OF AMERICA’S WEATHER INSTRUMENTS”

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