cometer

Installation Instructions

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comefri
Magnano in Riviera (UD)
ITALY

Components

The *Cometer* kit is comprised of 6 components:

① A cylindrical metal sensor with a plastic fitting
② A metal support/ attachment
③ A rectangular plexiglass measurement instrument
④ Stickers with measurement scales for different fan sizes and models
⑤ A bottle of red manometric liquid

Extra:

⑥ Flexible plastic tubing (ø 6 mm)
Note: this component must be obtained by user.

1. Installation of cylindrical metal sensor

Remove the plastic fitting on the cylindrical metal sensor ① and slide this piece into the metal support ②. Remember to place the plastic fitting back on the metal sensor ①.
The cylindrical metal sensor ① is installed near the fan's inlet cone on the side opposite to the transmission. On the case of a base or R-version fan, the metal sensor ① must be positioned on the spider arm bearing opposite the fan outlet. In the case of a T-version fan, the metal sensor ① must be positioned on the same bar where the bearing is located.

Bolt the metal support ② in place so that it positions the metal sensor ① parallel to the fan's spider arm bearing or T-frame and therefore perpendicular to the shaft. When positioning the metal sensor ①, ensure that the axis of the sensor is perpendicular to the shaft and that the axis of the two holes are parallel to the fan's side plate. Make sure that the distance "X" denoted below is between the axis of the hole and the edge of the spider arm bearing or T-frame. Refer to **Figure 1** below.

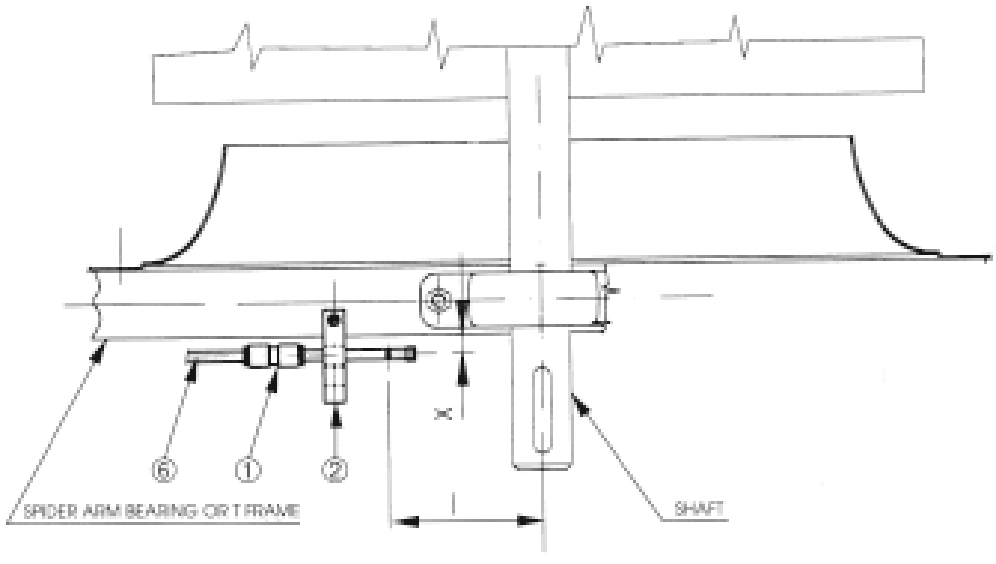

Figure 1

1. Installation of cylindrical metal sensor (cont.)

Positioning distances for the cylindrical metal sensor ① are as follows:

Fan	x (mm)	l (mm)	Fan	x (mm)	l (mm)	Fan	x (mm)	l (mm)	Fan	x (mm)	l (mm)
TLZ 160	7	47	THLZ 180	7	47	HLZ 400 R	32	94	TZAF 450 T1	7	96
TLZ 180	7	53	THLZ 200	7	47	HLZ 400 T	14	120	TZAF 450 T2	32	140
TLZ 200	7	60	THLZ 225	7	51	HLZ 450 R	14	90	TZAF 500 R	14	65
TLZ 225	14	45	THLZ 250	7	45	HLZ 450 T	14	140	TZAF 500 T1	14	115
TLZ 250	7	50	THLZ 280	7	66	HLZ 500 R	32	115	TZAF 500 T2	14	220
TLZ 280	7	56	THLZ 315	7	49	HLZ 500 T	32	140	TZAF 560 R	32	100
TLZ 315	7	96	THLZ 355	14	83	HLZ 560 T	14	225	TZAF 560 T1	14	225
TLZ 355	14	73	THLZ 400	14	94	HLZ 630 T	14	245	TZAF 560 T2	14	285
TLZ 400	7	81	THLZ 450	14	103	HLZ 710 T	32	234	TZAF 630 R	14	163
TLZ 450	7	91	THLZ 500	7	115	HLZ 800 T	32	235	TZAF 630 T1	14	210
TLZ 500	7	103	THLZ 560	7	130	HLZ 900 T	32	270	TZAF 630 T2	32	234
TLZ 560	7	173	THLZ 630	7	143	HLZ 1000 T	32	256	TZAF 710 R	14	115
TLZ 630	7	195	THLZ 710	14	163				TZAF 710 T1	14	235
TLZ 710	7	218	THLZ 710 T	14	210	TZAF 355 R	14	94	TZAF 710 T2	32	235
TLZ 710 T	14	210	THLZ 800 T	14	235	TZAF 355 T1	7	110	TZAF 800 T1	14	270
TLZ 800 T	14	238	THLZ 900 T	14	270	TZAF 355 T2	7	155	TZAF 800 T2	32	270
TLZ 900 T	14	266	THLZ 1000 T	14	256	TZAF 400 R	14	103	TZAF 900 T1	14	256
TLZ 1000 T	14	308				TZAF 400 T1	14	103	TZAF 900 T2	32	310
						TZAF 400 T2	14	140	TZAF 1000 T1	14	256
						TZAF 450 R	14	98	TZAF 1000 T2	32	256

2. Setting-up the measurement instrument

Locate proper sticker with measurement scale ④ and place on back of plexiglass measurement device. Should the Cometer be installed on a dark surface, an additional blank sticker has been provided to create a contrast and render the number on the scale legible. Position the plexiplass measurement instrument ③ in the required location and attach the appropriate flexible tubing.

3. Measuring airflow with the *Cometer*

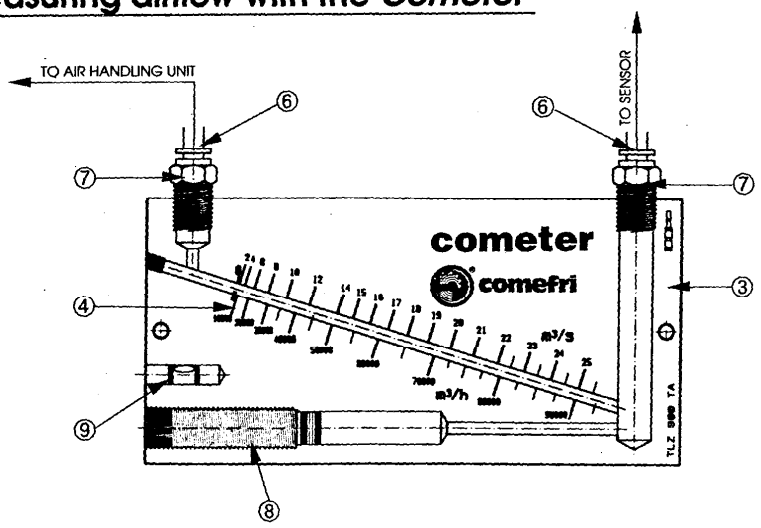

Figure 2

3. Measuring airflow with the *Cometer* (cont.)

Screw in the regulation screw ⑧ to a completely closed postition. Place plexiglass measurement instrument ③ on a horizontal surface and inject red liquid ⑤ into the connection hole ⑦ found on the right hand side, as indicated in the **Figure 2.** Unscrew the regulation screw ⑧ to a completely open position.

Tilting the instrument to the left, place finger on connection hole ⑦ found on the left hand side **not allowing any air to enter or liquid to escape.** Screw in the regulation screw ⑧ forcing all air bubbles to move towards the vertical inside cylinder until there is enough liquid to reach the zero position of the scale. Repeat screwing and unscrewing action until no more air bubbles are present.

Note: At the final stage, the regulation screw ⑧ should be at a roughly halfway position and absolutely no air bubbles must be present in any internal cylinders.

Place plexiglass measurement instrument ③ on a level surface making sure that the green internal level gauge ⑨ has a properly centred air bubble to guarantee a level positioning.

Attach flexible tubing ⑥ leading from metal sensor ① to connection hole ⑦ located on the right of the measurement instrument.

Attach flexible tubing ⑥ to the connection hole ⑦ found on the left side of the measurement instrument. The other end of flexible tubing ⑥ should be connected to the inside chamber of an air handling unit in the vicinity of the fan. This area must be a suitable region for measuring static pressure and not have any obstacles present (such as filters) in between the fan and the point where the end of the flexible tubing ⑥ is placed.

Before beginning to take any airflow readings, ensure that the scale ④ reads zero.

4. General points on the *Cometer*

The Cometer is designed to measure the airflow on Comefri centrifugal fans.

When correctly installed (i.e. respecting the installation procedure outlined in this document), the Cometer has an accuracy of ± 5%.

There must be absolutely no obstruction to the airflow before the metal sensor ①. Any components (such as an inlet guard) which cause an interruption in the airflow will render the readings inaccurate.

The air handling unit (AHU) should optimally have a square shaped section and have sufficient space between the fan's side plate and the AHU wall (≥ 0,5 fan D).

The Cometer is guaranteed to operate at temperatures between -10°C and +50°C.

Comefri SpA
Via Buia, 3
I-33010 Magnano in Riviera (UD)
Italy
Tel. +39 (0432) 79 88 11
Fax +39 (0432) 78 33 78
E-mail: comefri@ud.nettuno.it.

Comefri GmbH
Dieselstraße 4
D-84051 Essenbach - Altheim
Germany
Tel. +49 (08703) 9320-0
Fax +49 (08703) 9320-40

Comefri Nordisk ApS
Mileparken 18
DK-2740 Skovlunde
Denmark
Fax +45 44 92 55 33

Figure 3: Installation of sensor

Figure 4: Measurement instrument