

## --- GINA VALIDATOR MANUAL ---

Protocol to ensure proper GINA\_Validator functionality:

1. Follow this checklist before commencing recording from the GINA and FlowLab:
  - a. Both machines must be calibrated to current atmospheric conditions (see GINA manual and FlowLab manual).
  - b. Connect silicon pipes and connectors to approximate Figure 1. Connections must be as hermetic as possible.
  - c. Both machines must run for 10 minutes to warm up.
  - d. Both machines must be set to have a sampling rate of 0.05s (200Hz).
    - i. Set this on GINA through Log > Dec.Factor = 10 (Figure 3).
    - ii. Set this on FlowLab through Trending > Configuration > Recording interval = 0.05 (fig 4).
  - e. In FlowLab, Trending > Configuration must be set to record Time, Flow High, Flow Low, Pressure Difference and Tidal Volume Vte, (Figure 4).
  - f. Ensure warning lights on GINA interface are not flashing (Figure 2).
  - g. Under Log tab, change File Name to desired. Press 'Store Set.' and save this settings file with the same name as the File Name (Figure 3).
2. Commence recording. Interval between GINA and FlowLab start of recording must be less than 15 seconds.
3. After data recording is complete, ensure that the GINA .xlsx file and the FlowLab log file are both saved into the Tests\_Data folder in the GINA Validator Files.
4. Open FileValidator application.
5. Use *Browse* buttons to select files.
6. *Name output file* in appropriate box. Name must contain no spaces and only the characters in these parentheses ( \_ - . ).
7. Click *GO* to run validation. Plots will be displayed and stored in Tests\_Results folder.

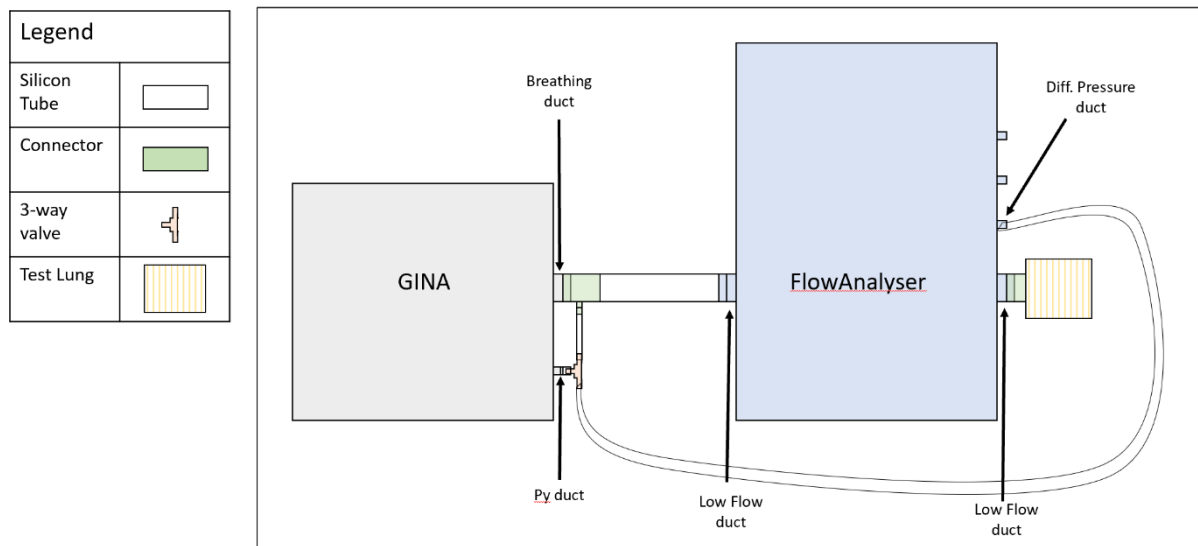


Figure 1: Set-up for GINA to FlowAnalyser connection

Serv.

Resp. M. Chann. Opt. Spec. Log Eval.

Directory: C:\Users\Labor\Document...\Pruefung\PruefErgebnisse\LM\_PNT

File Name: Test

Title:

Description:

Fix Param. SN: 46, Fmin: 0.5, Fmax: 20.5, n: 21, gas: 0

Var. Param. Temp: 23, P0: 997, rH: 48, FiO2: 21

Remark:

Cont. M. Delay 0 ms

Store Rem. Store V.Par. Store Set.

Stop Scale Zero All Copy Freeze 0 Exit

Figure 3: Log settings, GINA v1-2

Serv.

Resp. M. Chann. Opt. Spec. Log Eval.

Breathing: Cosine, Frequ. 60, Tbr 10, Tapn 7, Tta2b 3, Ttb2a 2, Pm 20, tau\_i 60, tau\_e 60

Apnoe: OFF, Tbr 10, Tapn 7, Tta2b 3, Ttb2a 2

Random: OFF, ΔPm% 15, ΔTins% 0, ΔFreq% 25, ΔApn% 25

Sigh: OFF, #breath 10, KPrm 1.6, KTins 1

Compliance / Resistance: Cint 1, L. Lung Volume 10, ETtube ET3.0, Raw Ra2

Leakage: OFF, PLeak 13, ΔPLeak 3

Stop Scale Zero All Copy Freeze 0 Exit

Figure 2: Respiratory Mechanics Setting, GINA v1-2. 'Lights' to the right of 'L.Lung Volume'

file panels numerics trending reports options help

SHOW CONFIGURATION

Measuring values	Unit	Color
<input checked="" type="checkbox"/> Flow High	l/min	Blue
<input type="checkbox"/> Flow Low	l/min	Red
<input checked="" type="checkbox"/> Pressure Difference	mbar	Green
<input checked="" type="checkbox"/> Pressure (in Highflow)	mbar	Purple
<input type="checkbox"/> Oxygen	%	Orange
<input type="checkbox"/> PEEP	mbar	Teal
<input type="checkbox"/> I : E	---	Brown
<input checked="" type="checkbox"/> Vte	ml	Grey
<input type="checkbox"/> Humidity	%	Pink
<input type="checkbox"/> Temperature	°C	Black

Recording duration

0 Hours

1 Minutes

Recording interval

0 Minutes

0.050 Seconds

File

Title/Backcolor

Trend ☐

Notes

Time axis

☐ Hours

☐ Minutes

☒ Seconds

Memory resources

File: 0.07 MB

Ram: 0.11 MB

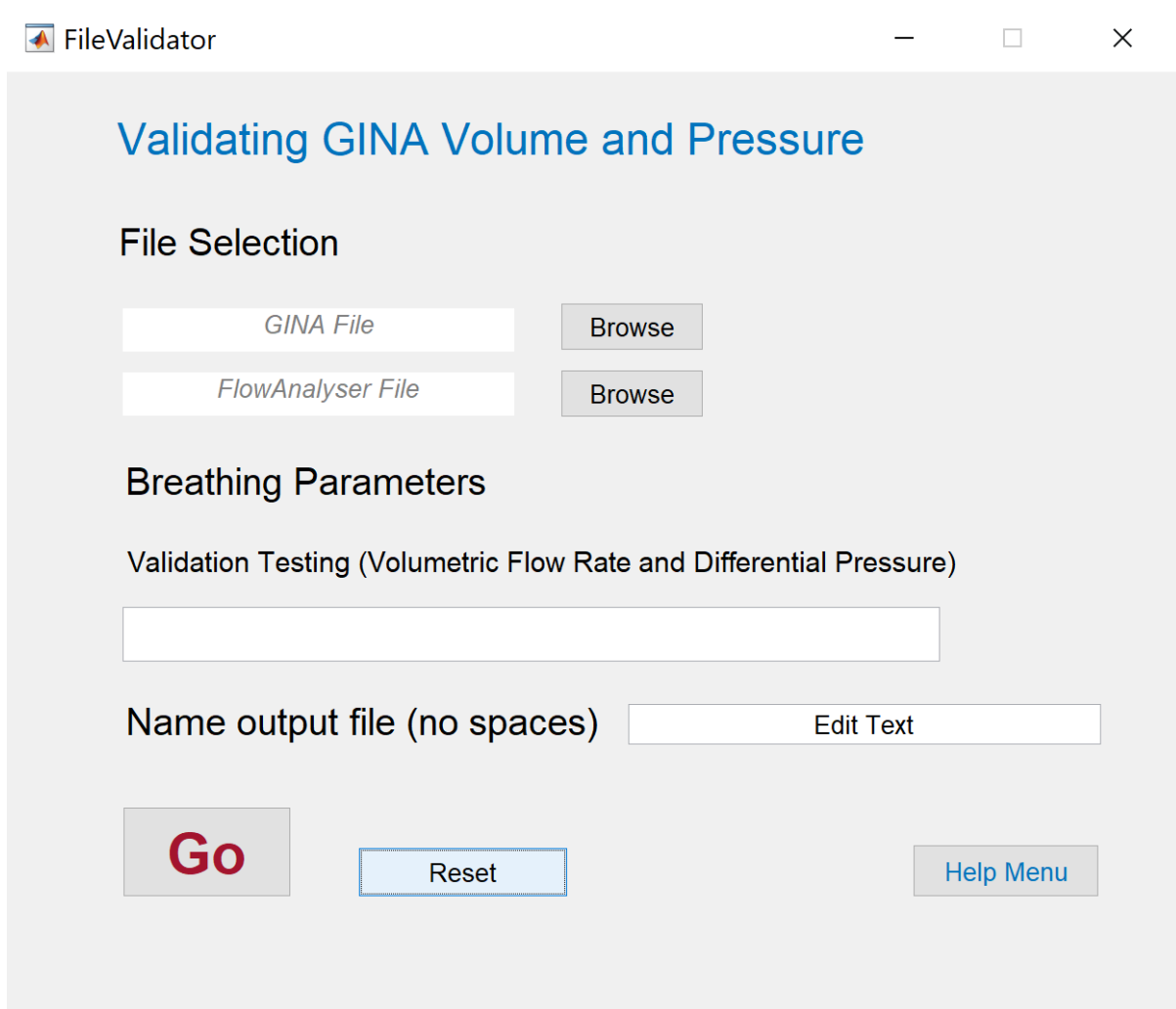
Samples: 1201

Filename  ...

Start

Stop

Figure 4: FlowLab settings



FileValidator

## Validating GINA Volume and Pressure

### File Selection

*GINA File*

*FlowAnalyser File*

### Breathing Parameters

Validation Testing (Volumetric Flow Rate and Differential Pressure)

Name output file (no spaces)

Figure 5: FileValidator GUI