



In-Station Training

TM 26-26 Residential/Commercial Fire



Author

Chief Ed Hartin with participants in the *Strategy, Tactics, and Decision Making for Structural Firefighting* course held in Brugges, Belgium June 15-19, 2026.

Purpose

This 10-Minute Training is a bit different than usual. It is set in Beauraing, Wallonia, Belgium and resources and water supply are based on resources that would be typical in this context.

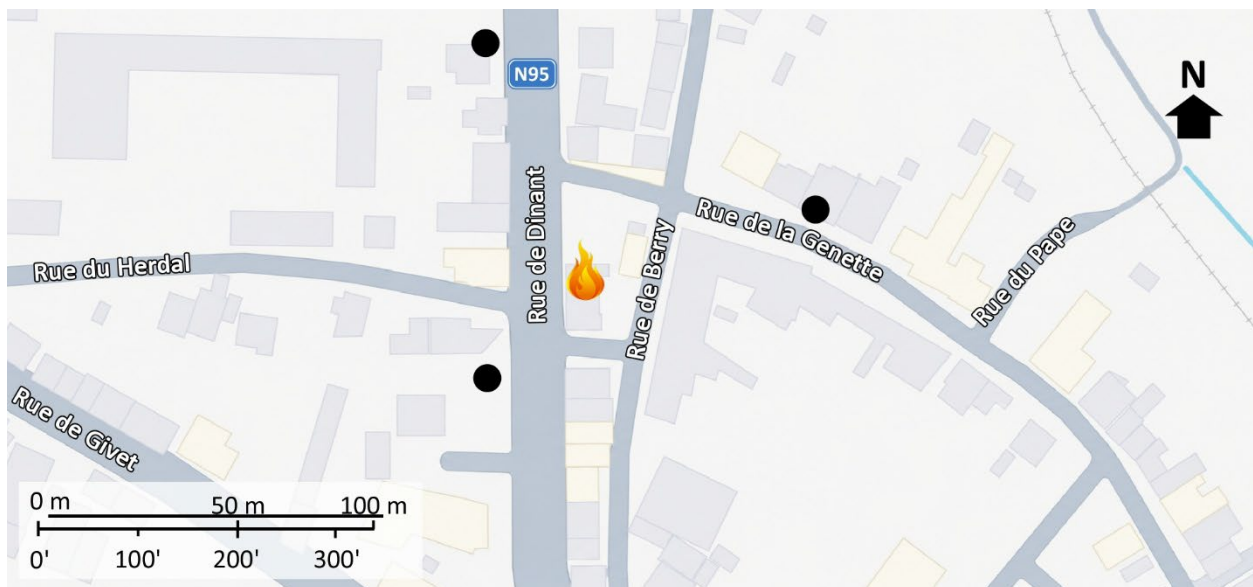
Learning Outcomes

Initial incident commanders perform an effective size-up, select an appropriate strategy, and implement tactics based on the strategic decision-making model.

Conducting the Drill

This incident involved a fire in a large house with professional office space at 32 Rue de Dinant, Beauraing, Wallonia, Belgium on Wednesday, March 10, 2021, at approximately 09:00 (Zownir, 2021; Sudinfo, 2021; & MaTélé, 2026). Review the map and photos (Figures 1-9) to gain an understanding of the building and area involved.

Figure 1. Map of the Incident Area



Note: Adapted from Google. (2026a). [Map, 32 Rue de Dinant, Beauraing, Wallonia, Belgium]. Map data ©2026 Google. <https://bit.ly/4fUO7ZS>.

Figure 2. Aerial. Preplan View¹

Note: Adapted from Google. (2026b). [Google Earth 2020 aerial view 32 Rue de Dinant, Beauraing, Wallonia, Belgium]. Imagery © Google © 2026. <https://bit.ly/4uPDFqm>.

The closest hydrant is at Rue de Dinant just south of Rue du Heral and there are other hydrants in the area as illustrated in Figures 1 and 2. Hydrants in this area typically flow less than 1,000 lpm (264 gpm).

Typical fire hydrants are below grade and require use of a riser to connect supply lines. Risers may have one or two 70 mm (2.76") outlets as illustrated in Figure 3.

Given the flow available from the hydrant system, water tenders are often used to supplement the municipal water supply. One typical tactic would be to use a water tender to supply an engine and connect the water tender to a hydrant (allowing the tender to refill when discharge flow falls below the flow capability of the hydrant).

Figure 3. Underground Hydrant



Note: Adapted from CWS Fire Safety (2026). Underground hydrant. <https://bit.ly/4gz9W1l>,

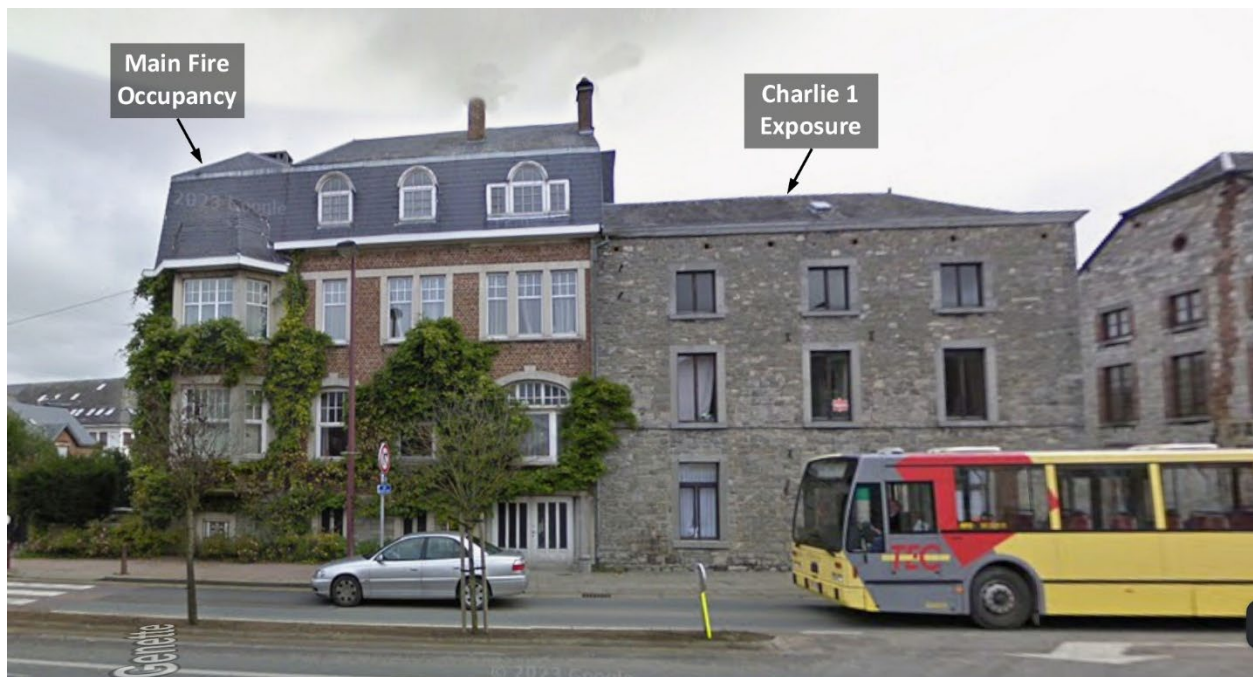
¹ The "NS" symbol indicates that the Main Fire Occupancy and Charlie 1 Exposure are not equipped with fire suppression sprinkler systems.

Figure 4. Approaching - Alpha/Delta Corner



Note: Adapted from Google. (2009). [Street view 32 Rue de Dinant, Beauraing, Wallonia, Belgium].
©2026 Google. <https://bit.ly/43Obw8c>.

Figure 5. Side Delta



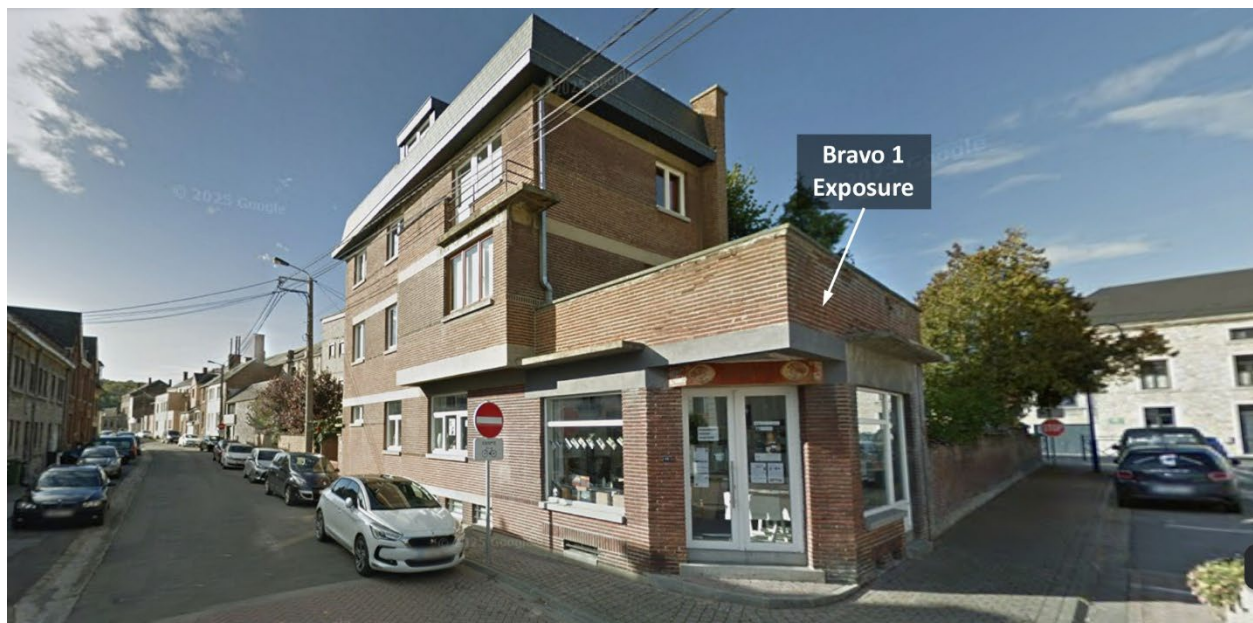
Note: Adapted from Google. (2010a). [Street view 32 Rue de Dinant, Beauraing, Wallonia, Belgium].
©2026 Google. <https://bit.ly/4g4ysaB>.

Figure 6. Bravo/Charlie Corner



Note: Adapted from Google. (2018a). [Street view 32 Rue de Dinant, Beauraing, Wallonia, Belgium].
©2026 Google. <https://bit.ly/4vY1LQx>.

Figure 7. Alpha/Bravo Corner – Bravo 1 Exposure



Note: Adapted from Google. (2018b). [Street view 32 Rue de Dinant, Beauraing, Wallonia, Belgium].
©2026 Google. <https://bit.ly/4vku3F7>.

Figure 8. Alpha/Bravo Corner



Note: Adapted from Google. (2018c). [Street view 32 Rue de Dinant, Beauraing, Wallonia, Belgium]. ©2026 Google. <https://bit.ly/4gttvlo>.

Figure 9. Side Alpha



Note: Adapted from Google. (2010b). [Street view 32 Rue de Dinant, Beauraing, Wallonia, Belgium]. ©2026 Google. <https://bit.ly/4oOZ8OU>.

The incident location is in the central part of Beauraing, a small Walloon town with a compact mix of residential buildings, local shops, services, and civic uses. Rue de Dinant forms part of the developed town center with housing set close to the street and interspersed with small commercial or professional occupancies. Nearby residential occupancies include older masonry attached houses and smaller multi-

unit buildings, with more detached and semi-detached residential occupancies toward the edges of the community. The surrounding community includes modest income households with income levels below Belgian national averages. French is the primary language in the community with a minority of residents speaking Flemish or being bi-lingual or multi-lingual. (Open AI, 2026). Fire and emergency medical call volume in this area is typical of a small town.

Belgian engines typically have 2500 liters (660 gallons) of water and have 2,000 Lpm (528 gpm) pumps. Attack line options are 25 mm (1") high pressure hose reel lines, 45 mm (1 ¾") attack lines and 70 mm (2.76") lines that are typically used as supply lines but can be used as large attack lines or to supply master stream devices. Belgian water tenders typically have a staffing level of two and carry between 8,000 (2,113 gallons) and 15,000 liters (3,962 gallons) and have a minimum of a 2,000 Lpm (528 gpm) pump. The Belgian fire service does not have ladder companies in the same sense as the US, their aerials are used to provide rescue, elevated access, or for aerial master streams and typically have two-person staffing.

The temperature is currently 37 F (3° C) with wind from the south at 6 mph (10 kph) (Weather Underground, 2026). It is Wednesday, March 10th and you are dispatched for a commercial fire at 32 Rue de Dinant at 09:00 along with two water tenders, an aerial ladder, and a command officer. Your engine has six-person staffing². **You are the officer of the first arriving engine company.**



Time starts now! Answer the first 10 questions within the next 10 minutes. Save discussion until after you have answered these questions.

1. What critical factors would you consider when dispatched and during response? What conversations would you have with your crew during response?
2. Based on the dispatch information and what you know about this occupancy and response area, what do you anticipate finding on arrival?

While you are responding dispatch advises that they are receiving multiple calls for flames and smoke from the roof.

² If your first alarm deployment is different, you can use your own resource assignment and staffing, but it might be interesting to work this tactical decision game with typical Belgian Fire Service deployment and staffing.

3. How does your anticipation of the conditions you will find on arrival change based on this additional information? If you would change the resource determination and/or communicate with dispatch state the communication exactly as you would transmit it.



Important! Answer questions four through 10 in the form of communication you would have with your crew, dispatch, other companies, and the first arriving command officer. State the communications exactly as you would say them face-to-face or over the radio. Save explanation or discussion until after you have completed these questions.

You will arrive from the north on Rue de Dinant. You anticipate a water tender and aerial ladder will arrive shortly after you, followed by the command officer. The remaining resources will arrive after the command officer.

Watch the [incident video](#) (Zownir, 2021) from 01:25 to 01:55 and examine Figure 10 illustrating conditions on arrival. Click the link above or scan the QR code to access the video.

Figure 10. Conditions on Arrival



Note: Adapted from Zownir, S. (2021). Beauraing maison en feu 10-03-2021 [House fire in Beauraing, March 10, 2021] [video]. <https://bit.ly/3QRpPpv>

4. State your initial radio report (IRR) exactly as you would transmit it to dispatch.

5. What specific actions would you take (as the company officer) immediately upon arrival and exiting the apparatus and what task orders would you give your crew?
6. Would you change the action you are taking or modify the assignments given to your crew? If so, what task orders would you provide?

Watch the [incident video](#) (Zownir, 2021) from 02:50 to 03:10 and examine Figure 11 illustrating conditions on Side Bravo before answering the next question. Click the link above or scan the QR code to access the video.

Figure 11. Conditions on Side Bravo



Note: Adapted from Zownir, S. (2021). Beauraing maison en feu 10-03-2021 [House fire in Beauraing, March 10, 2021] [video]. <https://bit.ly/3QRpPpv>

7. State your follow up report exactly as you would transmit it to dispatch.

Watch the [incident video](#) (Zownir, 2021) from 03:20 to 03:50 and examine Figure 12 illustrating conditions on Side Alpha after completing your reconnaissance.

Figure 12. Changing Conditions on Side Alpha



Note: Adapted from Zownir, S. (2021). Beauraing maison en feu 10-03-2021 [House fire in Beauraing, March 10, 2021] [video]. <https://bit.ly/3QRpPpv>

8. Water Tender 1 arrives and reports that they are Level 1 on a hydrant at Rue de Dinant at Rue du Heral. State the tactical assignment you would give them exactly as you would transmit it.
9. Ladder 1 arrives and reports that they are Level 1 on Rue de Dinant at Rue de Givet. State the tactical assignment you would give them exactly as you would transmit it.
10. Based on anticipated effectiveness of your tactical operations, state your conditions, actions, and needs (CAN) report that you would provide to the first arriving command officer as part of command transfer to IC #2.



Reflect on your strategic decision-making and responses to questions 1 through 10 before answering the next eight questions. Think about what cues, patterns, or anomalies (differences from conditions that you would anticipate) informed your answers.

11. What information most influenced your expectations?
12. Did anything in the incident post-arrival challenge your initial expectations?
13. What was the actual problem once you arrived?
14. What were your tactical priorities and what was getting in the way of achieving them?
15. During initial operations, was there an immediate threat of serious injury or death to you, your crew, or other companies?
16. Was it reasonable to believe that the building was occupied?
17. Was there searchable space?
18. If you believed there was searchable space and that it was reasonable that the building was occupied, what could you do about it?

The initial response for this incident included an engine, two water tenders, an aerial ladder and a command officer (and possibly other resources). The first arriving engine implemented an offensive strategy and deployed an attack line to Floor 3 for fire control. Watch the [incident video](#) (Zownir, 2021) from 03:53 to 06:28. It is important to not that there are some gaps in the incident video and operations seen in the video are not in real time as they occurred in the incident (duration of the gaps is unknown). Click the link or scan the QR code to access the video before answering the next question.



19. What conditions do you think the crew of the first arriving engine encountered on Floor 3?
20. What challenges do you think the crew of the first arriving engine encountered in their effort knocking down the fire and achieving fire control on Floor 3? Consider fire behavior, building construction and resource capabilities.
21. Based on your observation of conditions on the exterior, do you believe that the first arriving company was in an appropriate position for offensive fire control operations? What factors influenced your perspective? What conditions do you think the company officer observed from their position (on Floor 3)? How might these observations have influenced their perspective?

Offensive fire control operations on Floor 3 were successful at knocking down most of the fire. However, the incident commander eventually shifted to a defensive strategy with operation of two elevated master streams for fire control. Watch the [incident video](#) (Zownir, 2021) from 06:53 to 25:12. Click the link or scan the QR code to access the video before answering the next question.



22. What factors do you suspect influence the incident commander's decision to implement a strategic shift?

Additional Learning

Examining mansard roof construction and its implications during firefighting operations and a look at open water supply tactics that were likely used in this incident provide multiple opportunities for additional learning.

Mansard Roof Construction

A mansard roof is a four-sided, double-sloped roof featuring a steep, almost vertical lower pitch and a nearly flat upper pitch. Named after the 17th-century French architect François Mansart, this design maximizes interior attic space and turns the attic space into a living area

Watch [An Amazing Mansard Roof Frame](#) (Escape to Rural France, 2025) to gain some perspective on the construction features of a mansard roof. This video does not focus on firefighting but provides a good look the building construction features in a roof that is likely similar to that encountered in the incident examined in this 10-Minute Training.



Now watch [Mansards 1](#) (Bastinelli, 2021) to gain additional perspective on the firefighting challenges of mansard roof construction. Consider how these challenges may have impacted operations at the incident examined in this 10-Minute Training.

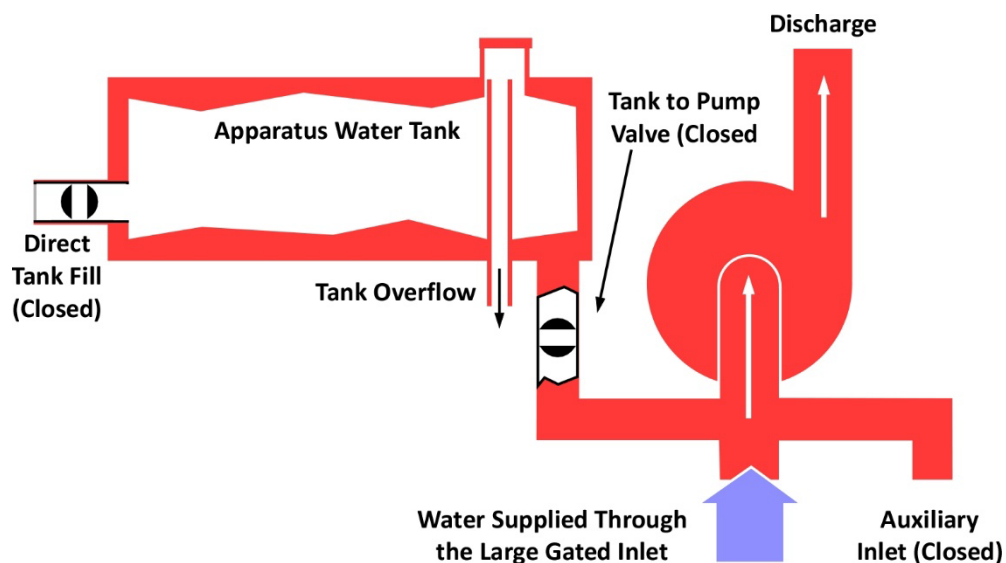


Closed or Open Water Supply

In the United States water supply in hydranted areas generally involves using water from the apparatus tank and then taking water into the pump from a supply line connected to a hydrant. This is a **closed system** (see Figure 13). The principal advantage of this approach to water supply is that the pump can take advantage of the incoming pressure (residual pressure) to maximize flow capability and minimize the work done by the apparatus motor.

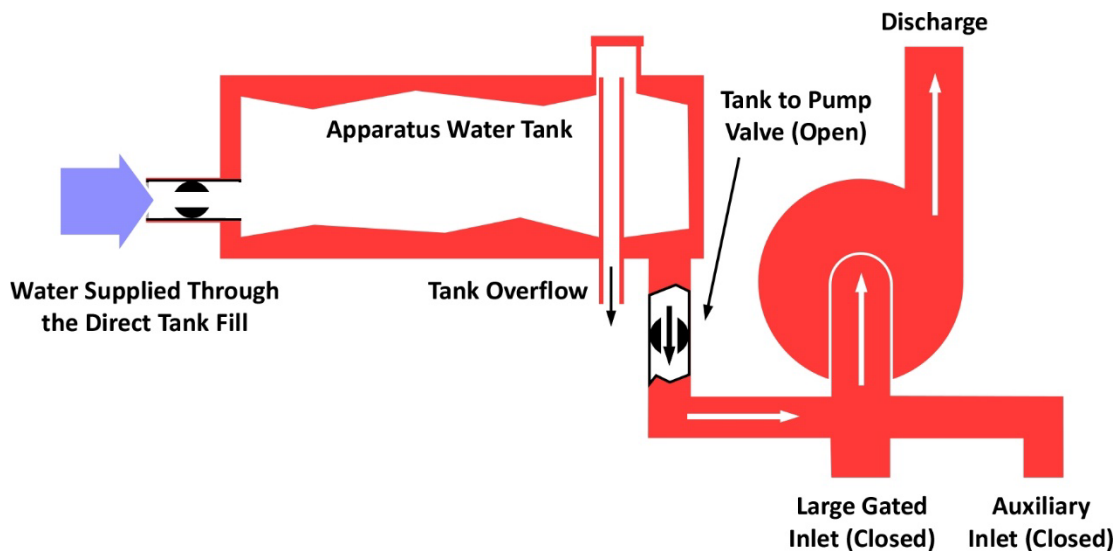
Closed water supply tactics involve taking a supply line into a pump inlet when inline pumping, direct pumping, or in a relay. Taking the supply line directly into the pump provides maximum efficiency as the pump can use any residual pressure on the intake side of the pump. However, this approach to water supply limits the flow rate to that provided by the supply line. Closed water supply methods are most effective when working with high flow hydrants.

Figure 13. Closed System



In Europe and other parts of the world hydrants often have a relatively low flow rate. One approach to water supply in this context is to establish water supply from the apparatus tank and then connect a supply line from a hydrant to a direct tank fill. This is an **open system** (see Figure 14). The principal advantage of this approach to water supply is that the flow rate from the attack engine can exceed the flow available from the hydrant (for a limited period) and tank water continues to be replenished when lines are shut down or flow rate is reduced below the flow capability of the hydrant.

Figure 14. Open System



Open water supply methods such as taking a supply line into the direct tank fill when inline pumping or using an open relay are an effective approach when working from low flow hydrants.

Figure 15. Establishing an Open Water Supply System



Note: from Zownir, S. (2021). Beauraing maison en feu 10-03-2021 [House fire in Beauraing, March 10, 2021] [video]. <https://bit.ly/3QRpPpv>.

In Belgium it is common to establish a closed relay between a water tender and the attack engine and if hydrant supply is available, to then use an open system between a hydrant and the water tender to augment the water supply provided by the water tender as illustrated in Figure 15.

Work on the following problem to see how this works.

A water tender has a 10,000-liter (528-gallon) water tank and a 2,000 Lpm (528 gpm) pump. The water tender is supplying 1000 Lpm to an engine through a 70 mm supply line. How long can you maintain water supply to the engine?

You have now stretched a 70 mm supply line from the direct tank fill of the water tender to a nearby hydrant that can flow 500 Lpm. You have charged the supply line and opened the direct tank fill. Now how long can you supply the engine flowing 1000 Lpm?

How would this open system work if the engine you are supplying has a peak flow rate of 1000 lpm, but at times is flowing less than 500 lpm?

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