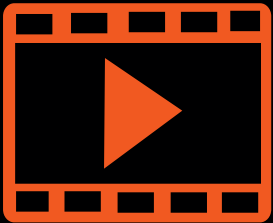


March 2022

Fogmaker news

Technical and market related information for our partners.



Introducing a new Pipe kit cell
for improved capacity.

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Which nozzle should I choose when installing the Fogmaker system?

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Note!
Technical support has changed name to the more appropriate title: System Design and Technical support.



Lars Alrutz, Market and Sales Manager,
Fogmaker International AB.



We are all affected by what is happening in the world

Just when you thought that we will slowly go back to normal routines after Covid-19 we get another crisis on our hands. The situation in Ukraine which shocked the world is now entering its third week. It is a humanitarian catastrophe and it is quite obvious that there will be effects on our life and business. Supply chains are disturbed and even though we have no direct connections with Ukraine our customers and their suppliers might be more affected.

50 % higher volumes
The year has started with a high pace. We have 50 % higher volumes for the first quarter this year compared to 2021 and we count on that we will grow by +20 % this year. The most obvious difference is that the bus manufacturers have higher volumes and we also gain market shares, especially in Material Handling and Mining & Tunneling. Our System Design and Support team has been extremely busy the last month with designing systems for several new bus models (a number of them are BEV), forklifts and reach stackers, several machines for Airport GSE, mining equipment, etc. We can clearly see that we are gaining ground in more markets both as retrofits but also for factory installations.

Price list and part catalogue
I am happy to release both new price list and part catalog. Our intent are to update the price list every quarter with new products.

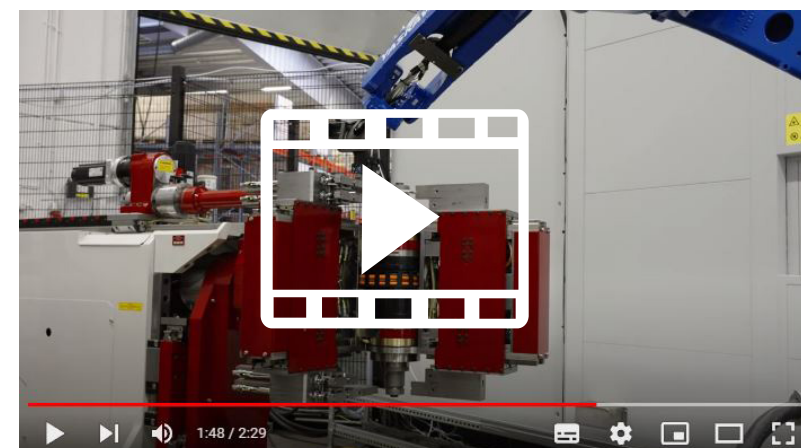
Fogmaker Partner Days
The work of positioning our brand, mentioned in the last Fogmaker News, has continued and we will present the result during the Partner days in June. Fogmaker Partner Days, normally held every second year, is for the larger and major partners. We have invited some of you as speakers as well as an external expert on Electric Vehicles and the development in this field. It will be a pleasure to meet you in Sweden. I hope we can show you the best side of our beautiful country after such a long break.

Increasing inflation
Last year we had a lot of focus on pricing due to the increasing inflation all over the world. Unfortunately, we still see the development going in the wrong direction. We are working a lot on cost savings, but it is not an easy task when the raw materials keep on skyrocketing.

New Pipe kit cell
Please note our new Pipe kit cell which could help you gain time in installation. We are happy to get RFQ:s for pipe kits with volumes larger than 20 pcs/year to introduce to the cell. There is a one-time set-up cost which is quickly returned both in price per kit and of course in saved installation time in the field.

Kind regards
Lars Alrutz

Fogmaker's latest investment - A pipe kit cell

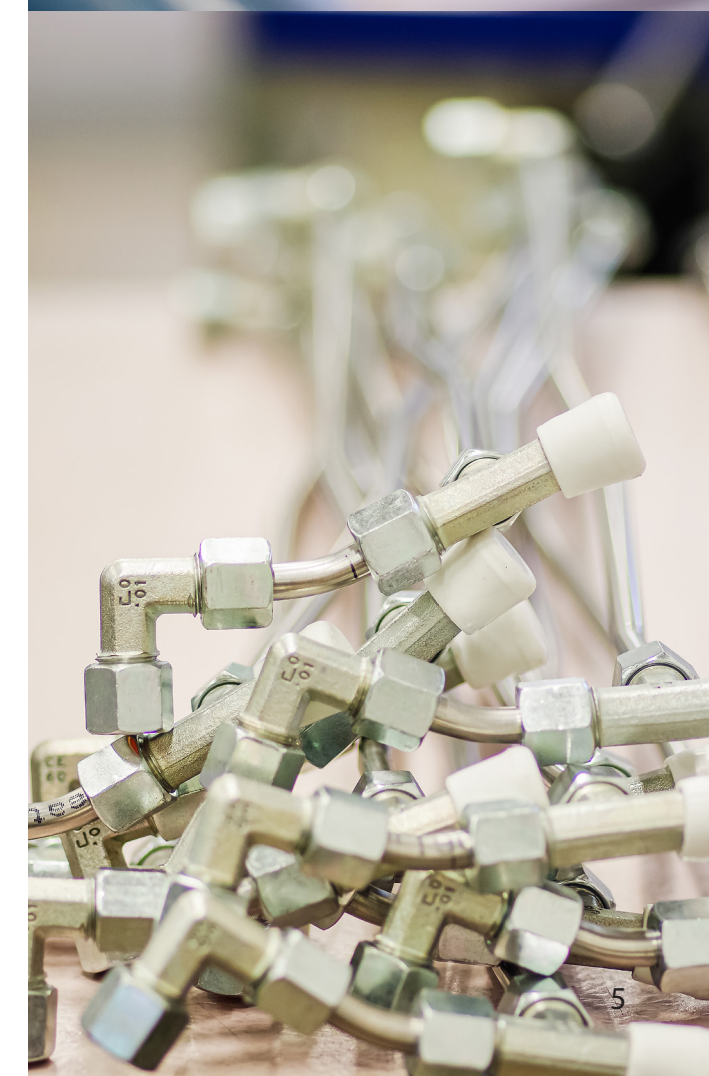
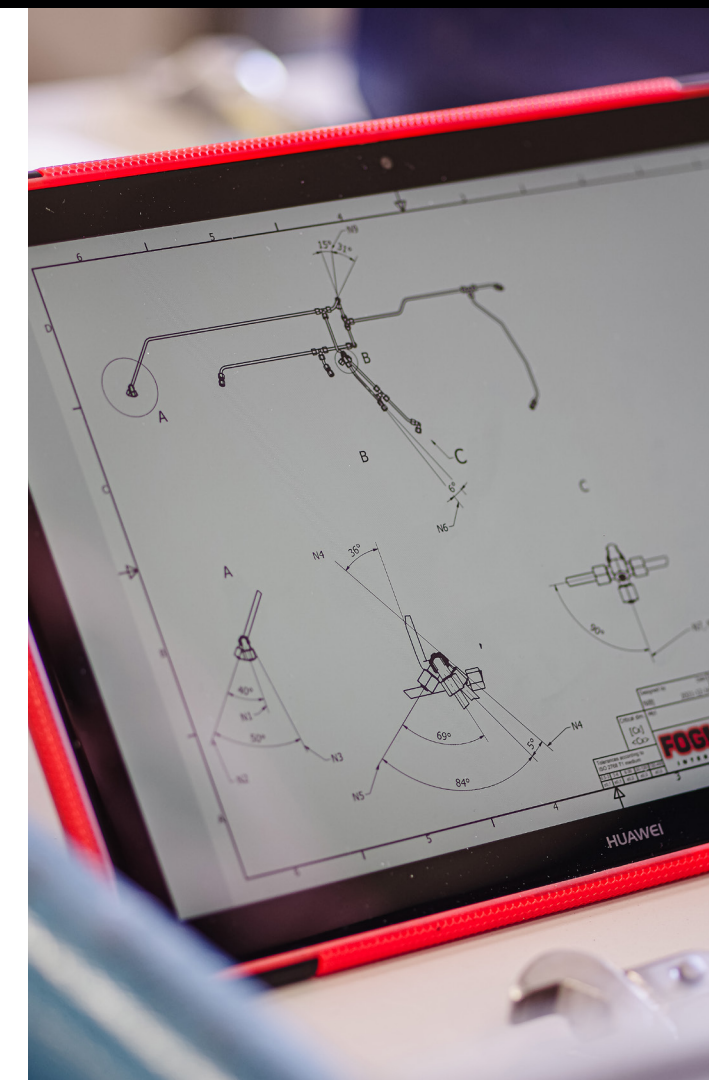


During a year we have planned the new investment with the background that there is a high demand for pipe kits and the numbers continue to grow. Three working steps; cutting, bending and laser marking are now performed by a robot.

The personnel has been trained for programming and we get plenty of help from our CAD software to create the programs for cutting and bending. The three working steps above now have a highly reduced man factor, and the OEE, as well as the capability, is world-class already with the availability of +96% and with Cpk >2,0. Our goal for the project has been to go from 9,000 pipe kits per year to 25,000 in one shift production and we are already there. As always, when making automation, new challenges appear and right now, we have a hard time catching up with the assemblies after the machining process. Many of our OEMs demand the nuts to be assembled and that we put the connectors and nozzles in the right angles so that they can easily install the system in their production line. As a Partner, it might be more interesting to get the pipes and make the assembly yourselves when doing the installation and for this, we see no bottlenecks now apart from the programming which might give a longer lead time for the first delivery.

Higher efficiency

It is, of course, a challenge to introduce all the pipe kits we manufacture in the cell as the robot must be programmed to pick each pipe in the best way to avoid stops. However, so far it seems very promising and we get quicker every day. Our target has been a production time of 23 seconds for each pipe in the cell and we are currently very close. Imagine cutting and bending a pipe manually and having a full set of 12 pipes in less than 5 minutes with excellent precision and not much of a human factor involved. Also, think of the advantage that once the cell is programmed there is not much of a setup time for repeats.



How to think when choosing nozzles

We want to shed light on and explain the importance of using the right nozzle when installing a Fogmaker system.

Fogmaker currently offers 4 different nozzles:

- Hollow cone 0.8 l/min @30 bar
- Hollow cone 1.2 l/min @30 bar
- Hollow cone 3.5 l/min @30 bar
- Full cone 1.7 l/min @30 bar

Which nozzle should I choose when installing a Fogmaker system?

1. If there is a certificate or standard required for the installation. For example, UNECE R107 or SPCR 183, the type of nozzle might already be given in the certificate. All certificates can be found in the partner portal.

2. If no certificate is needed or if the certificate doesn't stipulate a specific nozzle, it is up to the installer to decide a suitable nozzle.

a. For a confined volume without any forced airflow the 0.8-nozzle is a good choice. The 0.8 has the finest droplets which give the best cooling effect and a long emptying time that gives good protection.

b. For volumes with forced airflow, for example, most engine compartments, the 1.2 is the best choice. The droplets are a bit bigger and heavier which makes them more resistant to airflow but still small enough to give a very good cooling effect.

The increased flow also gives a more rapid knock-down effect that could be needed when there is a steady supply of oxygen from the airflow.

c. For very high airflows or compartments that are partially or completely open the 3.5 can be a good choice. The 3.5 has the biggest droplets and will not be as affected by airflow as the other nozzles. The emptying time will be shorter but can be increased with extra piston accumulators.

d. For systems that use the new Environmentally friendly suppression liquid*, the 1.7 full cone is the preferred choice. The 1.7 has a smaller cone angle of 60° which makes it more suitable for Eco 1 where it is even more important to aim the nozzles at high-risk areas. The flow is a bit higher, that gives a good knock-down effect, to compensate for the lack of fluorine surfactants.

* In the next issue of Fogmaker news we will start to introduce you to the new Environmentally friendly suppression liquid.

For volumes with forced airflow, for example, most engine compartments, the 1.2 l/min nozzle is the best choice.

The requested folder is here

The importance of servicing

Something we can never underline enough is the importance of servicing of the Fogmaker system. There is an enormous market for servicing and we can make a difference by offering service agreements and educating our customers. There is a lack of knowledge on the market, and we all have an important role in informing our customers.

How do you inform your customers about service?

Even though the responsibility lies with the owner of the system to make sure the Fogmaker system has undergone service, we still must be active in this area. Neglected servicing can unavoidably fall back on us, when it comes to damaging our reputation, brand, etc., in case of a fire accident. For services, there is large market potential. Some of you partners have an excellent way of handling service in your local market. Think about how your all can approve your way of working with the aftermarket. We encourage you to start using this folder as a digital tool or hand it out as a printed version. After a system has been installed you can for instance leave a copy of the folder.

For servicing there is an enormous market.

[Click here to read](#)

The importance of servicing

"You can budget for servicing. But you can never budget for fires and their consequences."

Fogmaker Service Manager

FOGMAKER

Read more about the MFSS [here](#).



Art.no
271005-DEMO
Price
1 577,84 EUR

You have asked for a Demo for the Mini Fire Suppression System (MFSS) which is now available. Useful on exhibitions or at customer visits.

The MFSS is connected by a pressure switch to both alarm panel and bus alarm (with test switches) and a "Fire"-button to simulate a fire in the protected volume. The system is powered with two 9V-batteries (not included). The board consists of an upper and lower plate. Batteries and cables are hidden between them.

- Order 271005-DEMO for a complete stand with the existing 2701-DEMO stand. Weight: 40 kg. Price: 1,577,84 EUR.
- Order 271005-01-DEMO for only the demo board itself without stand. Weight: 6 kg. Price: 844,61 EUR.


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PRICELIST PART CATALOGUE 2022

Pure Performance with Triple Action



Note!

Updated Price list and part catalogue

Are there any news in the price list and part catalogue? Yes, there has been an extensive work with the new price list and part catalogue. The prices has been adjusted as informed in the end of 2021. The letter sent out can be found [here](#).

We have made a clean-up, offer plenty of components that have been improved over the last years, however, the old versions are still sold. We will not stop selling all old versions, yet they will no longer be a part of the official price list or Part catalogue. Please contact your KAM or contact person from Order support for prices and availability.

You find thiese document at our webpage (downloads) or at the Partner portal.

Plug and play can be ordered

For a more clean and easier installation, our Plug and play box can now be ordered. Read more about Plug and play in the [previous Fogmaker news](#).

