X-100

Dust Collector System

Installation and operating instructions

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Safety regulations

These instructions contain important sections dealing with safety.
Special attention must be paid to all framed safety text that begins with a warning symbol (triangle) followed by a signal word, as shown below.

⚠ **Warning** denotes a hazard or hazardous procedure which CAN lead to serious or life threatening injuries if the warning is not observed.

⚠ **Caution** denotes a risk or risky procedure which CAN lead to personal injury or damage to equipment if the warning is not observed.

Also observe the following general safety rules:

- Before starting the machine, read through **these instructions** carefully.
- Also read through the **safety instructions** before putting the machine to use.
- For reasons of product safety, the machine must not be modified.
- Use approved personal protective equipment.
- Use ILMEG Genuine Parts only.
- Always replace worn or damaged signs.

⚠ Warning

If the air coming out of the suction fan contains dust. Stop immediately the X-100 and check for leakages. Never operate with dust coming out of the suction fan since the suction fan will be worn out. This can cause severe damages.

⚠ Warning

Always turn the X-100 off while moving the equipment. Quick movements of the X-100 can cause excessive forces on the suction fan. This can cause severe damages

⚠ Warning

The X-100 contains rotating and moving parts. When servicing the X-100 make sure the hydraulic power is switched off, the pneumatic pressure is evacuated and the electric circuit is switched off.

⚠ Caution

Components are heavy. Please use lifting devises where necessary to avoid accidents and damages.

Further safety instructions

- The X-100 can only be used for what it is intended for
- Only qualified and trained personnel may operate the machine
- Practice how to turn off the machine in case of emergency
- The maximal air pressure cannot be exceeded
- Always inspect the equipment before use
- Never use the equipment if you suspect it is damaged
- Always use good practice and sound judgment
- Be alert on what you are doing
- Never use the equipment when you are tired or under the influence of drugs, alcohol or anything else that can affect you vision, your reactions or your judgment
- Participate in safety training and other trainings applicable
- Never hit the equipment and never misuse it
- Store the equipment in a safe place and without reach of children
- Make sure that all equipment is maintained in the right way
- Make sure that warning signs and decals is readable and maintained.
- Make sure that unauthorized personnel never comes within the working area of the equipment
- Keep the workspace free from foreign objects
- Never point compressed air against yourself or anybody else. To avoid damages, never use compressed air to clean your clothes form dust and other dirt.

Specification X-100 Dust Collector System

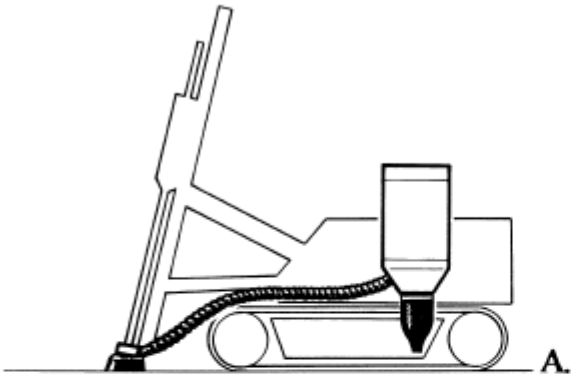
Specification:

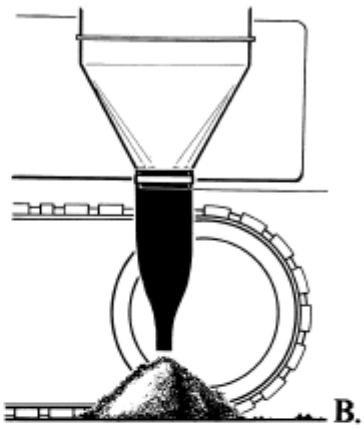
Max hole size:	100 mm (4”)
Filter area:	8 m²
Number of filters:	2
Oil flow requirement:	22 l/min
Oil pressure requirement:	200 bar
Width x depth x height:	740 x 957 x 1062
Approx weight:	160 kg
Filter cleansing system:	Reversed air through filters in sequences while drilling.
Rec. working pressure:	7 Bar (100PSI)

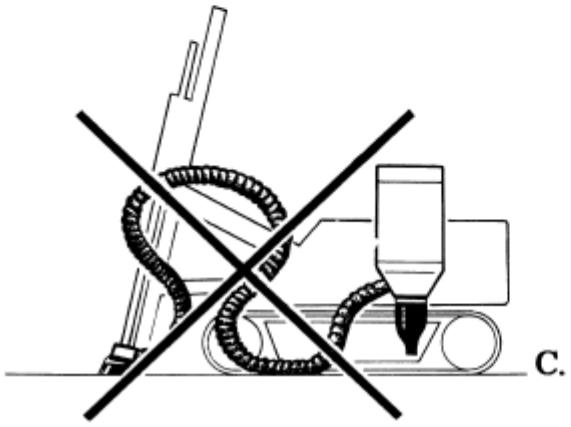
Installation

Mechanical installation

Make sure the mechanical bracket used for the X-100 is sufficient to carry the full weight of the dust collector in rock drilling applications. Correct mounting is as close to the feed beam/ rock drill as possible to reduce the suction hose length. The suction hose should be as straight as possible.







Hydraulic installation

- Contact a hydraulic specialist to design the hydraulic circuit for your application.
- The hydraulic hoses for the pressure and return line must have the capacity of 22 l/min and 200 Bar pressure without excessive counter pressure. Recommended size is Ø ½" or Ø 13 mm.
- The drain line size is recommended to be Ø ¼" or Ø 6mm and connected directly to tank. No backpressure is allowed. With too high back pressure in the drain line the hydraulic motor axle gasket will be damaged and leakage will occur.

⚠ Warning
Always use proper quality of hydraulic hoses and fittings to reduce risk of leakage. Hydraulic pressure can cause severe damages.

⚠ Caution
Hydraulic oil leakages have a negative effect on the environment.

Attach the pressure line to the port marked P and the return line to the port marked T.
On top of the motor the drain line should be fitted.

The maximum speed for the fan is 4000 rpm which corresponds to appr 22 l/min hydraulic flow.

⚠ Warning
Do not install more hydraulic flow than specified. Over-speed of the fan can cause severe damages.

Air pressure installation for the filter cleaning system

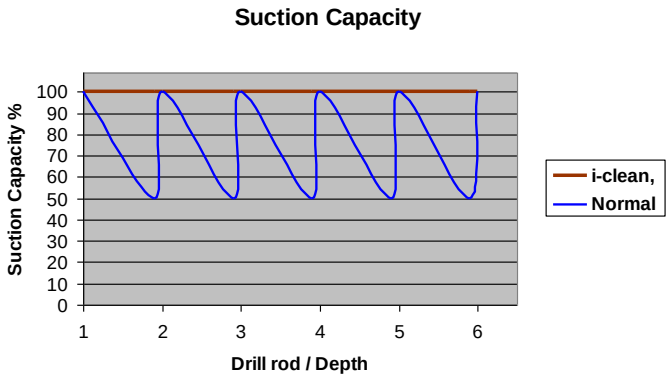
Connect air supply for the filter cleansing function of the dust collector. Recommended pressure is 7 BAR or 100 PSI. To safeguard full filter cleansing effect a Ø 1” or Ø 25 mm hose is recommended.

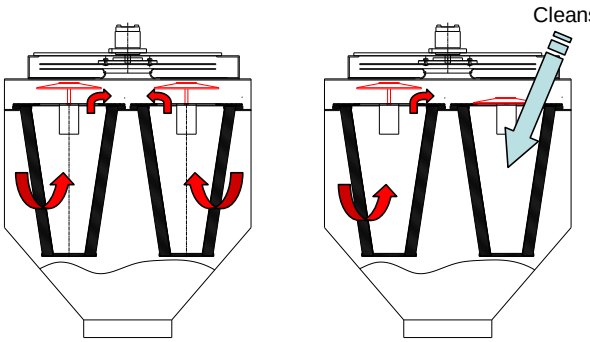
Warning
Always use proper quality of pneumatic hoses and fittings to reduce risk of leakage. Pneumatic pressure can cause severe damages.

The X- 100 cleansing system

i-clean **a quantum leap when it comes to suction capacity in drilling applications.**

The new filter cleansing function, *i*-clean, ensures high suction efficiency, even under severe drilling conditions. The system cleans each filter independently and continuously during the drilling sequence. The suction capacity remains regardless of drill rod length and rock conditions. The need for a pre-skimmer is reduced.





During the drilling sequence the closing valves are open, thus letting air through the filters creating the required suction. With certain intervals one valve closes and a short air pulse is introduced in the closed filter compartment to clean the filter. After the cleansing sequence both valves are open again until the next cleansing sequence comes in action on the next filter.

Electrical installation

The electric control system controls the cleansing sequence and opens and closes the air valves in the dust collector

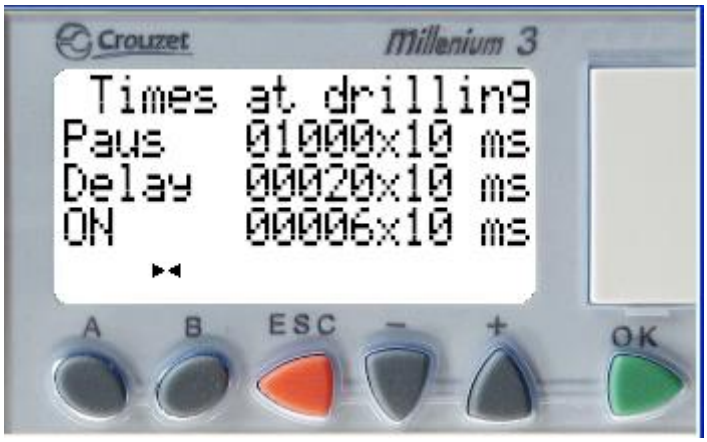
Connect the control box to 24 V DC and connect the drilling signal to the system giving 24 V DC as “drilling signal “ i.e. the dust collector should suction.

See separate drawings for the electrical installation.

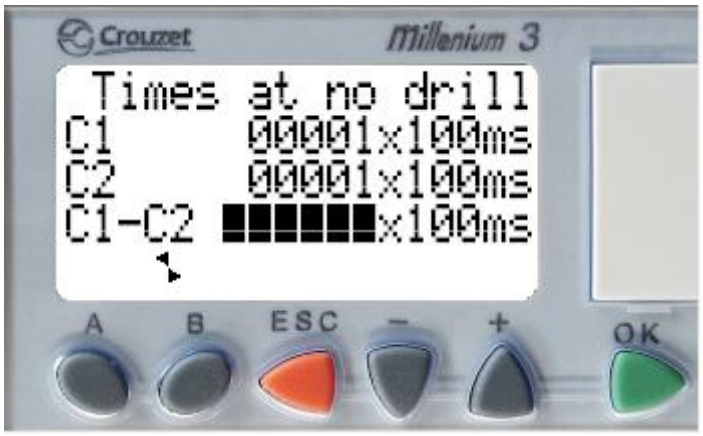
The control system is programmable and during operations the cleaning times can be changed.

How to adjust the cleaning pulses and pauses between the pulses in the control system:

Open the cover of the control system.
The display shows: Press “A” to set parameters and “ESC” to go back
By pressing multiple on “A“you will toggle between the menus.



By pressing once on "A" the menue for setting the parameters / times during drilling appears.
Paus means the time between the cleaning pulse during drilling. (see i-clean above) Factory setting is:
Pause: 1000 x 10ms = 10 seconds
Delay means tie to close one of the air valves.
Factory setting 20 x 10 ms = 0,2 seconds
ON Means the cleaning pulses length
Factory setting 6 x 10 ms = 0,06 seconds



By pressing "A" once again you enter the menu defining parameters when not drilling. C1 = cleaning pulse length for filter 1 and C2 = cleaning pulse length for filter 2.
Factory setting for both is 1 x 100 ms = 0,1 second.

C1-C2 = time between cleaning pulses
Factory setting is 5 x 100 ms = 0,5 seconds

By Pressing "A" once again you enter the menu number of cleaning pulses after stop. Factory setting is 4 pulses per filter.

To change parameters

Select menu with the "A" button. Toggle up and down on the screen with "+" or "-" and select parameter. Press "OK" and increase or decrease parameter with the "+" or "-" button. Press "OK" again to confirm the new parameter.
The new parameter is now active and stored in the memory of the X-100 Control system

Suction hose installation:

The suction hose recommended for the X-100 is ø 4“ or ø 100 mm
On the X-100 the suction hose is inserted in the rubber bushing, inlet reduction, and tightened on the outside to avoid unnecessary wear on the steel inlet.

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