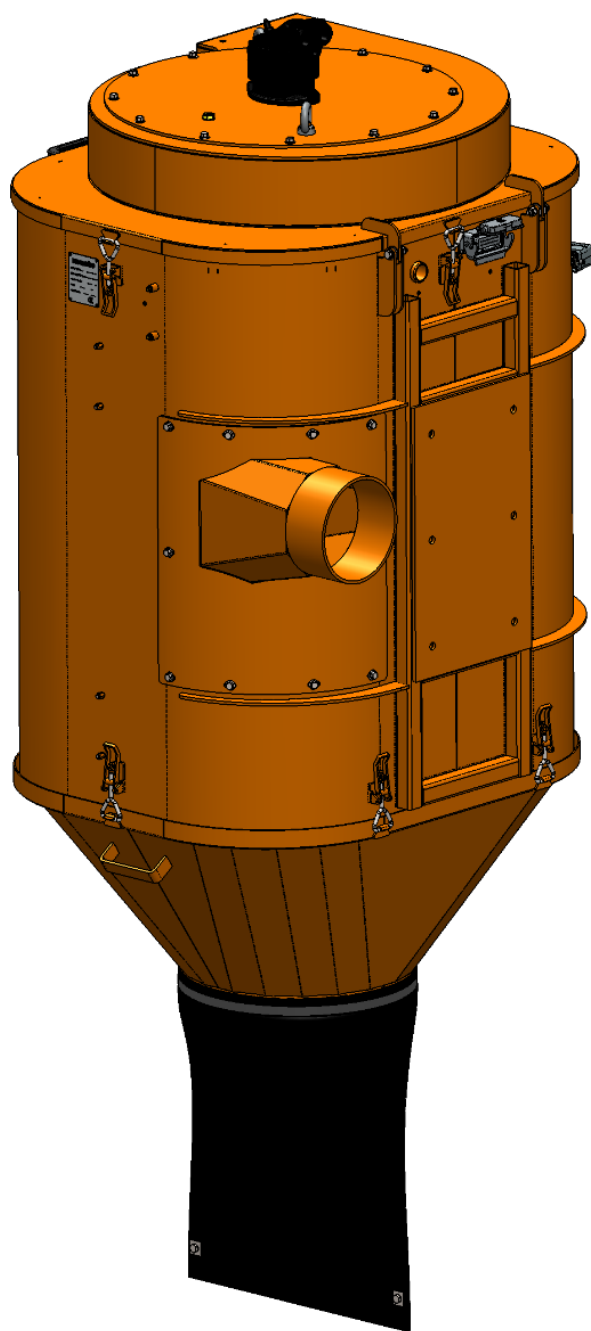




X-250

Dust Collector System

Installation and operating instructions





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-250 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-250 off while moving the equipment. Quick movements of the X-250 can cause excessive forces on the suction fan. This can cause severe damages



Warning

The X-250 contains rotating and moving parts. When servicing the X-250 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 devices where necessary to avoid accidents and damages.

Further safety instructions

- The X-250 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 recommended 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 aware of 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 your 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 out of reach for children
- Make sure that all equipment is maintained in the right way
- Make sure that warning signs and decals are readable and maintained.
- Make sure that unauthorized personnel never come within the working area of the equipment
- Keep the workspace free from foreign objects
- Never point compressed air towards yourself or anybody else. To avoid damages, never use compressed air to clean your clothes from dust and other dirt.



Specification X-250 Dust Collector System

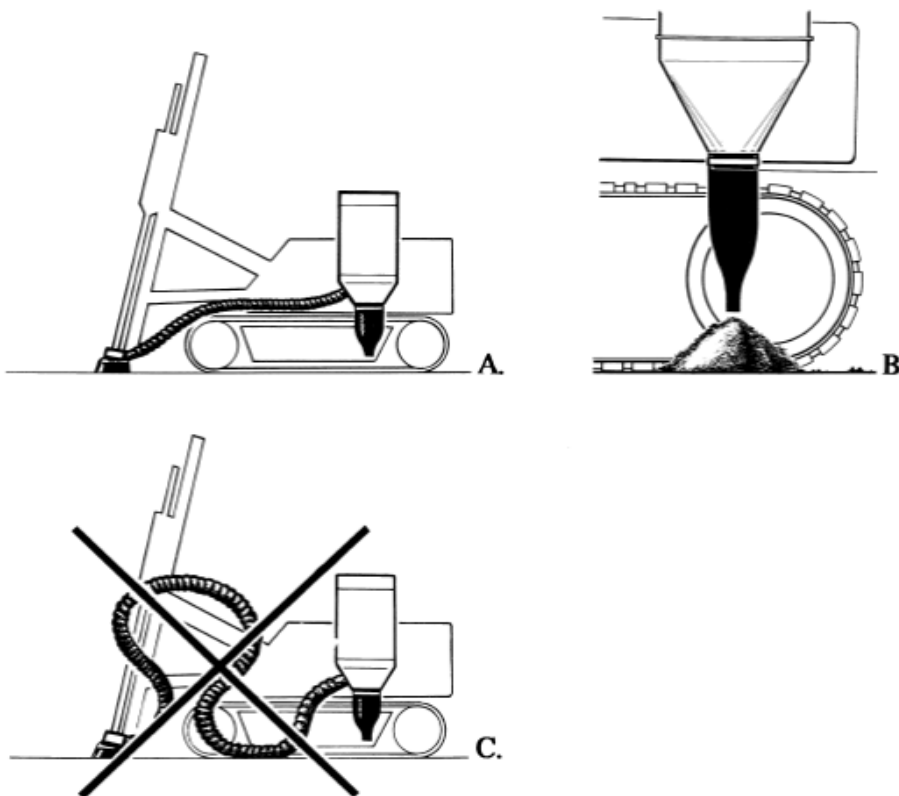
Specification:

Speed of the fan	Nominal 4000 rpm (Maximal 4400 rpm)
Filter area:	32 m ²
Number of filters:	2
Filter cleansing system:	Reversed air through filters in sequences while operating
Compressed air pressure:	7 Bar (100PSI)

Installation

Mechanical installation

Make sure the mechanical bracket used for the X-250 is sufficient to carry the full weight of the dust collector in rock drilling applications. Mount the dust collector as close to the feed beam/ rock drill as possible to minimize 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 80 l/min and 220 Bar pressure without excessive counter pressure. Recommended size is $\varnothing \frac{3}{4}$ " or $\varnothing 19$ mm.
- The drain line size is recommended to be $\varnothing \frac{1}{4}$ " or $\varnothing 6$ mm and connected directly to tank. No backpressure is allowed. With too high back pressure in the drain line the hydraulic motor shaft 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.

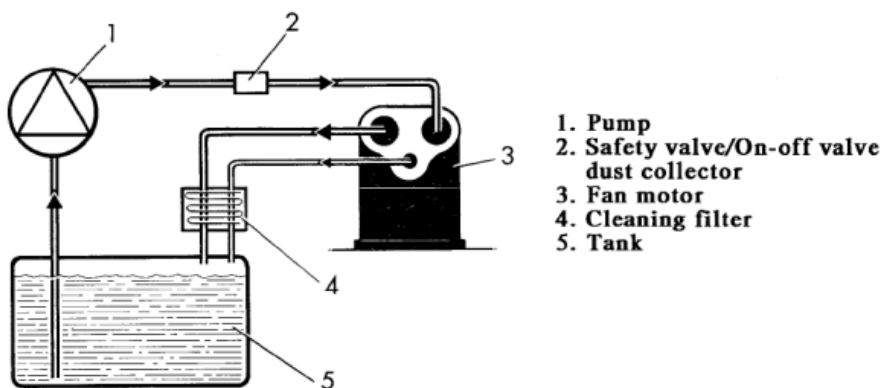


Caution

Hydraulic oil leakages have a negative effect on the environment.

Attach the pressure line to the port marked B and the return line to the port marked A.
The drain line should be connected directly to tank with no back pressure.

The recommended speed for the fan is 4000 rpm which corresponds to appr 76 l/min hydraulic flow.

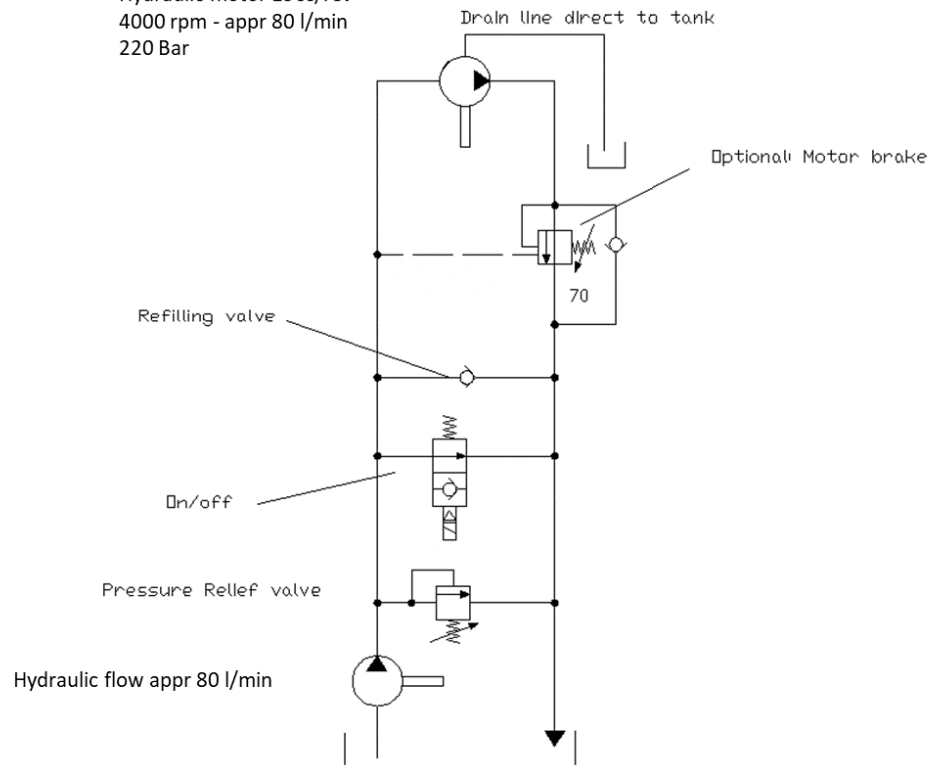


Warning

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

ILMEG X-250 a generic proposal

Hydraulic motor 19cc/rev
4000 rpm - appr 80 l/min
220 Bar





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 $\varnothing$ 1" or $\varnothing$ 25 mm hose is recommended.



Warning

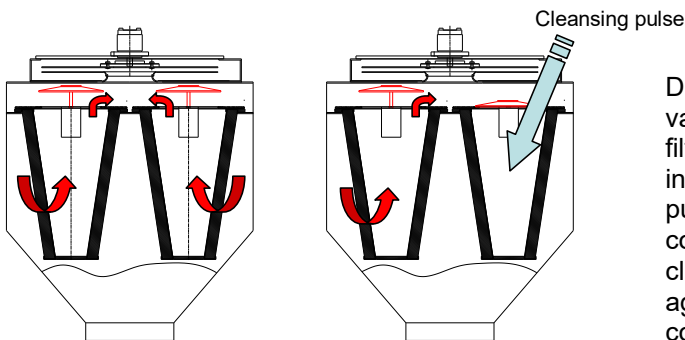
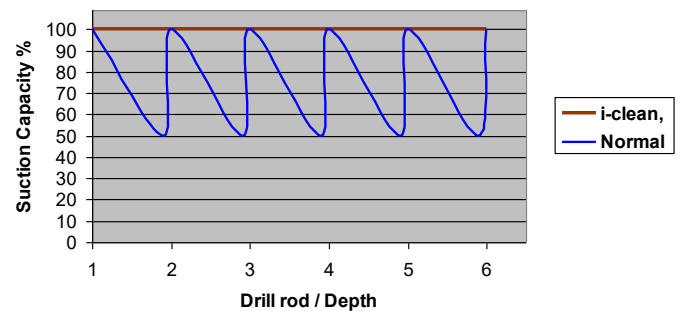
Always use proper quality of pneumatic hoses and fittings to reduce risk of leakage. Pneumatic pressure can cause severe damages.

The X-250 Filter cleaning 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.

Suction Capacity



During the drilling sequence the closing valves are open, thus letting air through the filters creating the required suction. At 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.

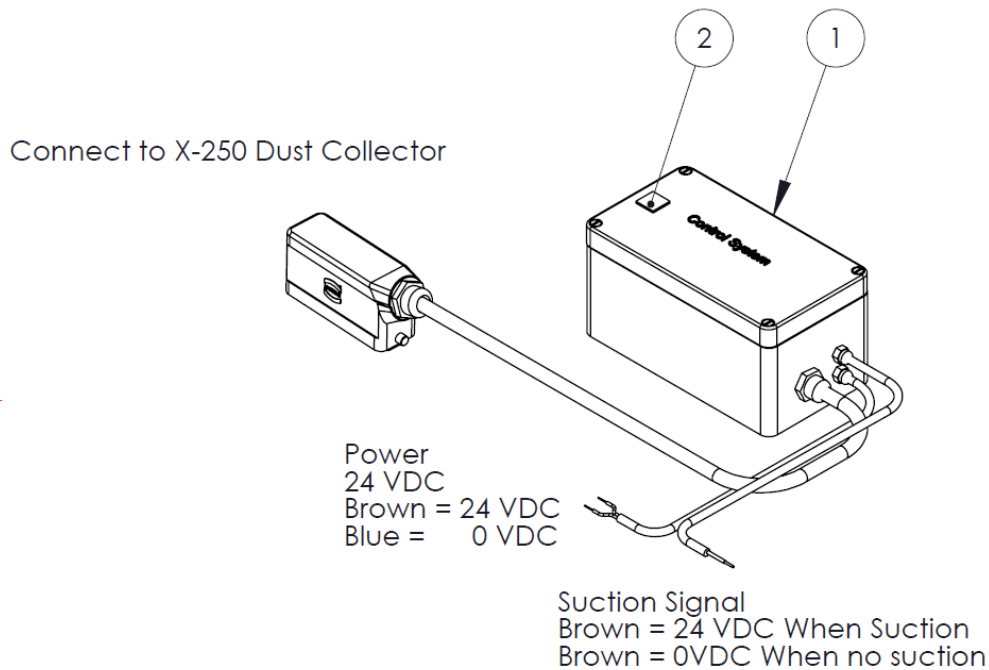


Electrical installation

The electric PLC based control system controls the cleansing sequence and opens and closes the air valves in the dust collector. Connect the signal cable from the drilling rig to the multi connector on the dust collector.

Connect 24 VDC and 0VDC to the power cable.

Connect a +24V signal to the control cable to control the suction.



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:

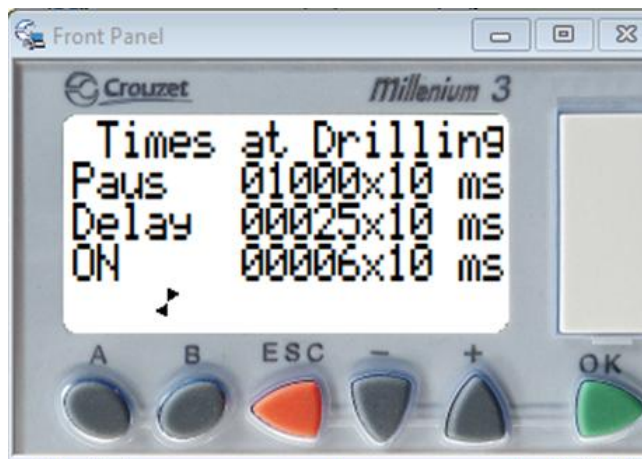
To change parameters

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-250 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 menu for setting the parameters / times during the drilling operation appears.

Pause means the time between the cleaning pulses. (see i-clean above)

Factory setting is:

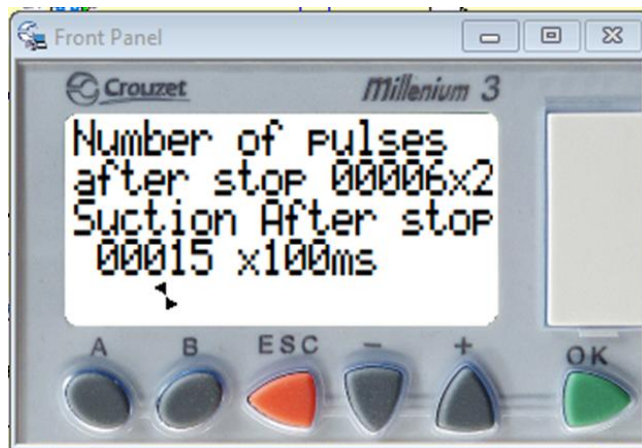
Pause: $400 \times 10\text{ms} = 4 \text{ seconds}$

Delay means time to close one of the air valves.

Factory setting $25 \times 10 \text{ ms} = 0,25 \text{ seconds}$

Factory setting $6 \times 10 \text{ ms} = 0,06 \text{ ON}$

Means the cleaning pulses length seconds

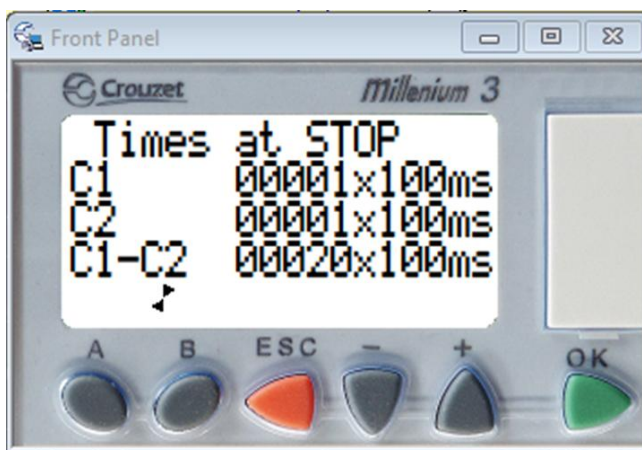


By pressing "A" once again you enter the menu defining parameters when not drilling. C1 = cleaning pulse length for filter 1 and 3 and C2 = cleaning pulse length for filter 2 and 4.

Factory setting for both is $1 \times 100 \text{ ms} = 0,1 \text{ second}$.

C1-C2 = time between cleaning pulses

Factory setting is $20 \times 100 \text{ ms} = 2 \text{ seconds}$



By Pressing "A" once again you enter the menu number of cleaning pulses after stop. Factory setting is 6×2 totally 3 pulses per filter or 12 in total.

There is a delay in stopping the suction to maintain suction when the suction is switched off. Factory setting $15 \times 100 \text{ ms} = 1,5 \text{ seconds}$.