

### WHITE PAPER

# BULK MATERIAL TRANSFER



Mining with Industrial Vacuum Systems Increasing production, improving safety.

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## Introduction

#### Pumping up your ROI with industrial vacuums

IVAC Industrial Vacuum Systems Ltd. was created to manufacture and supply pneumatic material transfer systems for the Mining Industry. IVAC units are designed to produce high transfer rates in all types of conditions while remaining safe and easy to operate. The concept of our vac systems was born from the struggles and experience of miners on the job. With a combined 50+ years of experience in underground mining rigs and mine engineering, the core group of IVAC technicians developed a pneumatic conveyance system able to "PUMP the UNPUMPABLE".

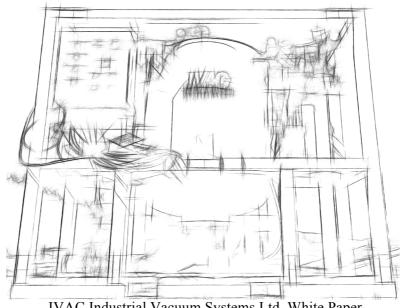
### Identify the problem, create the solution

The first step in the planning phase was to specify particular issues that were a consistent problem in the material transfer process. By highlighting these concerns the team was able to strive for and develop definative solutions with a new focused approach.

### Mine Productivity: Big profits with streamlined processes

The commitment of IVAC to building reliable mining equipment for multiple functions is what drives us to deliver consistent positive results. By communicating with other industry leaders and our clients we continue to evolve our products and company.

Mining is an expensive enterprise. The days of striking it rich with a pick axe and a dream are over. Mines can fail to meet production expectations and fail in delivering value to their investors for a myriad of reasons. Some issues are a constant no matter what style of mining being employed, labour costs and equipment downtime are two major factors in the financial success of a project. Industrial vacuums and pneumatic conveyance systems are an excellent choice for operators to keep costs low and employees safe.



IVAC Industrial Vacuum Systems Ltd. White Paper



# Labour & Safety

#### **Bottom lines & Zero tolerance**

Physical labour jobs are being transitioned to automated processes more than ever as workplace safety and mine profitability issues become increasingly prevalent factors in determining mine feasibility. The constant pressure of being cost effective drives the decision makers of a company to make well researched and sound equipment choices to achieve project viability.

IVAC systems take the strain off workers by alleviating the demand for high intensity physical labour. Workplace safety is very important, avoid injuries and improve worker morale by streamlining the material handling process with our systems and accessories.

Safety standards vary widely from country to country but IVAC systems are manufactured to meet the most stringent of laws to ensure safe and efficient usage by the operator. IVAC keeps current with all CSSA, MSHA and EUOSHA regulations. We are a global supplier and so respecting and adhering to multiple governing bodies and their regulations guarantees that IVAC units will be ready to work on delivery.

- Automating processes can dramatically affect ROI
- Physical labour can be slow and dangerous
- Industrial Vacuum Systems are safe and efficient

PHYSICAL LABOUR

AUTOMATION



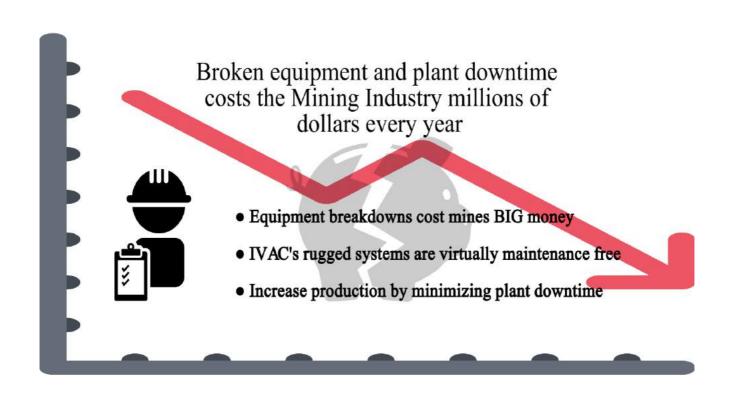
# **Equipment Concerns**

### Mining Equipment: Pneumatic machines keep materials moving

Equipment breakdowns are detrimental to the productivity of a mine. Every minute material is not being produced cuts away at the mine's profitability. Having dependable conveyance systems that are able to stand up to the rigors of constant use helps to ensure confidence in the projects successful completion. Remove the stress and strain of dealing with down equipment and waiting on replacement parts or mechanics. IVAC industrial vacuum units are durable. With only three moving parts (knife gate valves) breakdowns and constant maintenance will not be a consideration.

Traditional approaches to bulk transfer in mining are processes like the LHD (Load, Haul Dump) system. This process requires multiple large scale machines to work in concert to acheive the desired result. The drawbacks to this style are very apparent when evaluating the cost per ton ratio and the maintenance budget.

IVAC industrial vacuum systems are an all in one solution to a mine's material handling needs. We manufacture our conveyance equipment with top quality components and materials to ensure they perform optimally day in and day out.



# **IVAC Solutions**



#### **PV250**

Powerful and compact, great for underground and limited access areas

Simple set up lets the operator dial in optimal intake and discharge cycles for high production rates

Customized units and accessories are available to suit specific applications

#### **PV500**

25 H.G. vacuum is perfect for sump and shaft bottom clean out

Noise and dust suppression upgrades are another option to ensure unit can perform in all conditions

Controlled by a single operator at unit site or remotely



### BARREL VAC

Clean up mill and smelter areas then discharge material into totes or back onto production line

Ideal for sample bagging during reverse circulation drilling

Small but mighty, set up as a hub station to perform multiple applications



## Conclusion

IVAC Industrial Vacuum Systems Ltd. is a company that was created to solve material handling problems encountered in the mining industry. Building equipment that meets the demanding requirements of the mining industry has helped IVAC produce powerful and efficient pneumatic material handling units that can "Pump the Unpumpable" anywhere in the world for all kinds of industries and applications.

IVAC services the whole gamut of mining operations. Basic functions like mine dewatering and bulk load transfer are made quick and easy with our portable, multi functional machines. Heavy duty jobs like slurry and tailings removal, solids laden aqueous waste and larger dry solids (ore, gravel, etc.) are the applications where the strength and features of IVAC begin to shine and overwhelm our competitors.

When you need dependable and productive material handling solutions contact the IVAC Team to learn about our standard and customized systems. Our knowledgeable staff has years of experience to draw from to investigate and analyze your particular project concerns. Materials to be transfer, country specific safety regulations, air and energy consumption, intake and discharge distances, noise and dust suppression options, all these and more are obstacles the IVAC Team will inspect and evaluate so a viable and profitable material handling solution may be implemented.

IVAC "Pump the Unpumpable" with our safe efficient solutions



IVAC Industrial Vacuum systems are rugged, multi-functional material transfer units perfect for pumping sludges, slurries, crushed ore and many other difficult materials a mine site can accumulate. With a focus on safe and efficient pumping solutions, IVAC has been setting a performance standard in all types of applications and environments since 2009.

#### For more information:

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Visit: www.industrialvacuumunit.com

