



High-pressure air selection guide

For drilling applications



People.
Passion.
Performance.

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Meet our all-new portable high pressure range

Three models to choose from:

CPS 750-360, CPS 1150-360, CPS 1400-500

Built for demanding ground engineering & drilling applications, including drill & blast, water well, pipeline, and geothermal.



Model	Airflow (CFM)	Pressure (PSI)
CPS 750-350	~678–699 cfm	Up to 360 PSI
CPS 1150-360	~1,070–1,163 cfm	Up to 360 PSI
CPS 1400-500	~1,229–1,373 cfm	Up to 500 PSI

Find the right compressor for your drilling application

This guide is designed to help you select the right Chicago Pneumatic high-pressure compressor for your drilling application **based on airflow, pressure, depth, and hammer requirements**. From water well and geothermal drilling to demanding DTH applications, understanding how pressure and airflow impact performance is key to choosing the right machine for the job.



Scan the QR code to view the full
specs of our high pressure lineup.

First: Understanding pressure, airflow, and depth



Pressure, airflow, and depth:

Understanding what drives compressor selection

As drilling depth increases, compressor demands increase with it. Higher pressure is needed to overcome increased resistance and water head, while higher airflow is required to keep cuttings moving out of the hole efficiently.

A simple way to think about it:

- **PSI (Pressure):** provides the driving force behind each stroke, helping you drill deeper
- **CFM (Airflow):** keeps the hammer/drill cycling while keeping chips suspended and removing cuttings from the hole

If pressure is too low, the hammer loses performance and penetration slows.

If airflow is too low, cuttings build up in the hole, resulting in regrinding, reducing efficiency.

As hole diameter and depth increase, both airflow and pressure become more critical to maintaining production and hammer performance.



KEEP IN MIND

Several factors affect the air requirements for your drilling application:



HOLE SIZE

Larger holes require increased airflow.



DEPTH

Deeper drilling typically requires higher pressure.



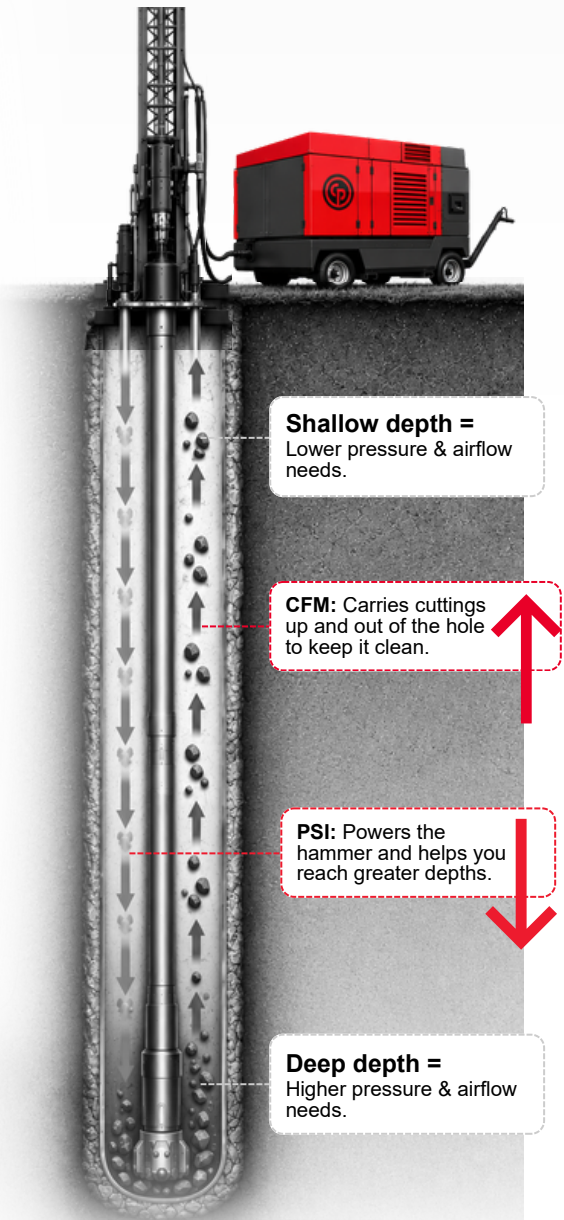
FORMATION

Harder formation requires more force to break, meaning more pressure.



HAMMER SIZE

Larger hammers may require additional airflow and pressure.



High pressure model comparisons

A closer look at model ranges, drilling conditions, and best-fit applications

CPS 750-360:

Best for shallow-mid depth drilling, smaller hammers, and lighter circulation requirements



TYPICAL DEPTH RANGE:

- Water well: 200-600'
- Geothermal: 150-400'
- Foundation drilling: 100-200'
- DTH drilling: 4-6" hammers up to 400'

WHERE IT EXCELS:

- Jobs where pressure is more important than massive airflow
- Smaller diameter holes (4-6")
- Places where cutting volume is moderate

WHY:

360 PSI is enough to run mid-size hammers effectively, and 750 CFM provides adequate cuttings removal for moderate hole sizes and depths.

CPS 1150-360:

Best for mid-depth to deeper drilling, larger hammers, and higher cutting volume



TYPICAL DEPTH RANGE:

- Water well: 600-1,200'
- Geothermal: 400-800'
- Foundation drilling: 150-300'
- DTH drilling: 6-8" hammers up to 1,000'

WHERE IT EXCELS:

- Larger diameter holes (6-8")
- Formations that produce heavy cuttings
- Deeper wells where pressure losses increase with depth

WHY:

360 PSI is enough to run mid-size hammers effectively, but 1150 CFM is more than enough for hole cleaning and penetration rate at deeper depths.

CPS 1400-500:

Flagship for serious drilling – best for ultra deep, demanding applications



TYPICAL DEPTH RANGE:

- Water well: 1,200-2,500'
- Geothermal: 800-2,000'
- Foundation drilling: 250-500'+
- DTH drilling: 8-12" hammers up to 1,000'

WHERE IT EXCELS:

- Larger diameter holes
- Formations that produce heavy cuttings
- Deeper wells where pressure losses increase with depth
- High-pressure hammers

WHY:

500 psi increases hammer impact energy and capability. 1400 cfm ensures cuttings removal even in large or deep holes where airflow losses are high.

More than pressure and airflow.

What sets our lineup apart:

Chicago Pneumatic's high-pressure compressors are built around an integrated performance management system + the smart air controller, giving operators **control of flow and pressure** while automatically optimizing performance, so one compressor can be efficiently matched to multiple applications.

Our Eco Mode and trend monitoring features work together to **reduce fuel consumption and operating costs**, with Eco Mode cutting fuel use **up to 50%** during idle periods. Plus, the units **no-DPF** design* further simplifies maintenance and helps deliver reliable, consistent uptime on the job.

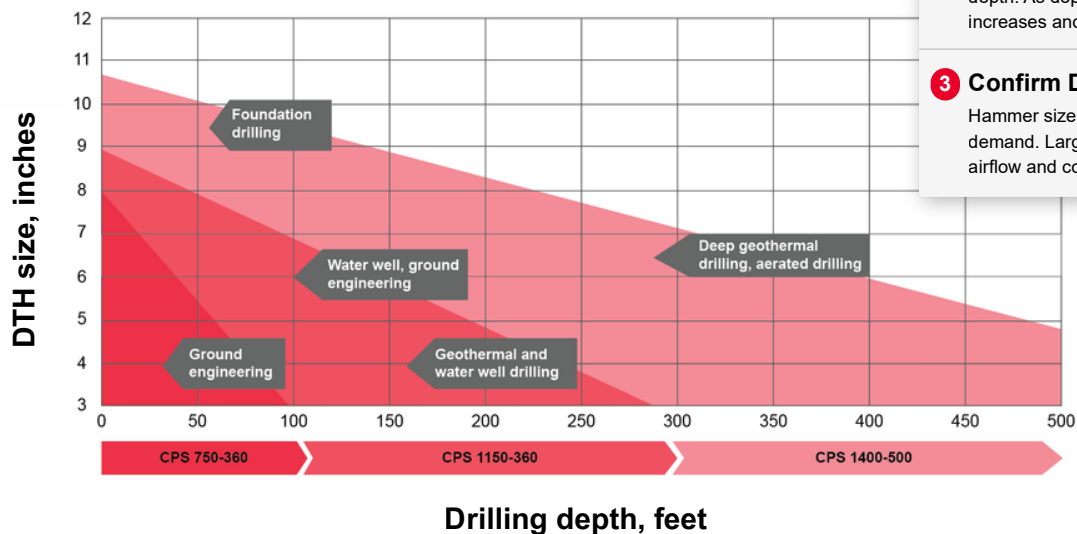
*No-DPF only available on 1150-350 and 1400-500 units.



Visualizing drilling performance across the lineup

While the previous section highlights where each compressor performs best, this chart provides a broader comparison of drilling capability across the lineup.

By mapping drilling depth against DTH hammer size, operators can quickly identify model overlap and when additional airflow or pressure may be beneficial for larger holes, deeper drilling, or demanding conditions.



Key takeaways for compressor sizing

Effective compressor sizing requires balancing airflow, pressure, drilling depth, DTH hammer size, and formation conditions to maintain consistent drilling performance. As application demands increase, sufficient airflow for cuttings removal and adequate pressure for hammer efficiency become increasingly critical.

Chicago Pneumatic's high-pressure lineup is engineered to deliver the performance flexibility, efficiency, and reliability required across a wide range of drilling applications.



Need help sizing your compressor?

Our team can help match your drilling requirements to the right high-pressure compressor unit. Contact us to get started.



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