

What is Free Air Delivery?

Free Air Delivery (F.A.D) is very important when selecting the right Air Compressor as this measures the actual air flow coming out of the air tap to run your air tools. It's also the standardised measure of the air capacity of an Air Compressor.

When you see the technical specifications of any brand air compressor the most important things to look for are the F.A.D and the working pressure in PSI as this is the amount of air flow you will get from the air compressor at that pressure in standard conditions. A lot of companies only display the Pump displacement - this is not free air delivery.

For example;

P17 Electric Belt Drive Compressor (00087)

- Free Air Delivery @ 100PSI 320LPM • 3.5HP Single Phase - 15amp motor
- Pump RPM: 963 • Maximum PSI: 145PSI • Amps Draw: 13 • 55 Litre Air Receiver

When we advertise any Peerless industrial air compressor we have the following:



Our P17 clearly shows FREE AIR DELIVERY (under normal operating conditions) 320 litres per minute. Tested and rated in accordance with Australian Standard AS4637-2006



Equivalent competitor model confuses everyone, shows 2 numbers but just look for "FREE AIR DELIVERY" (under normal operating conditions) 255 litres per minute. Tested and rated in accordance with Australian Standard AS4637-2006

You can see that the Free Air Delivery of the P17 giving 320LPM @ 100PSI (working pressure) is what you exactly need to know when buying an air compressor. Every Air Compressor should state what working pressure they are rated at, if they do not display these it's best to avoid that particular air compressor.

How to identify this on the Air Compressor

Look for "Free Air Delivery" NOT the "Pump displacement". All air compressors should have a "Free Air Delivery" sticker stating its performance, if it does not have one, avoid buying that air compressor!

Displacement of the pump is 100% air capacity of the pump - like a car engine, at the shaft it will be 400 kilowatts but at the wheels its 315 kilowatts - Displacement means nothing, it's only confusing you and your customer by being there.

In other words, "Free Air Delivery" = the real rating that you should pay attention to, It's how much flow you'll actually get in standard conditions

What is CFM?, How do I convert to LPM (Litres per minute)?

The measurement of F.A.D are based off the imperial measurements of the CFM, LPM - Litres per minute. CFM = Cubic feet per minute - conversion to litres per minute is 1 CFM = 28.3LPM.

Things you need to know!

- F.A.D with working pressure - very important
- Motor size = Performance and power required (10A/15A)
- Pump speed = slower RPM the better, also less heat
- Maximum working pressure, good to know if you need it!
- Current draw in operation with good power
- Tank size = run time / recovery (too big you'll be waiting)
- What warranty is being offered?



Air Tool Consumption

So when you look at your 1/2" Impact gun, it will have a Pressure rating to work off and an average CFM rating to go off. (Some may have a CFM rating under load also - preferred so you know the maximum tolerances).

For example:

1/2" Air Impact Wrench - 450ft/lbs - Ingersoll 131S-2-EA

Air Consumption (average): 4.7CFM

Air Consumption (at load) 20CFM @ 90PSI

Free Air Delivery conversion:

4.7CFM x 28.3 = 133.01 Litres per minute to run at average consumption @ 90PSI

20CFM x 28.3 = 566 Litres per minute to run at load @ 90PSI - **HUGE DIFFERENCE**