



See the
bigger picture

AIR
PRODUCTS 

Boosted productivity and profitability

You can boost your productivity, just by changing to Maxx[®] weld process gases

Do you think of welding gas as just a cost? Have you ever considered choosing a welding gas that works harder?

Welding gas only makes up 3% of the overall welding cost so is not a big decision, right? **Wrong!** Choosing the optimal gas for your set-up should bring multiple benefits for your business.

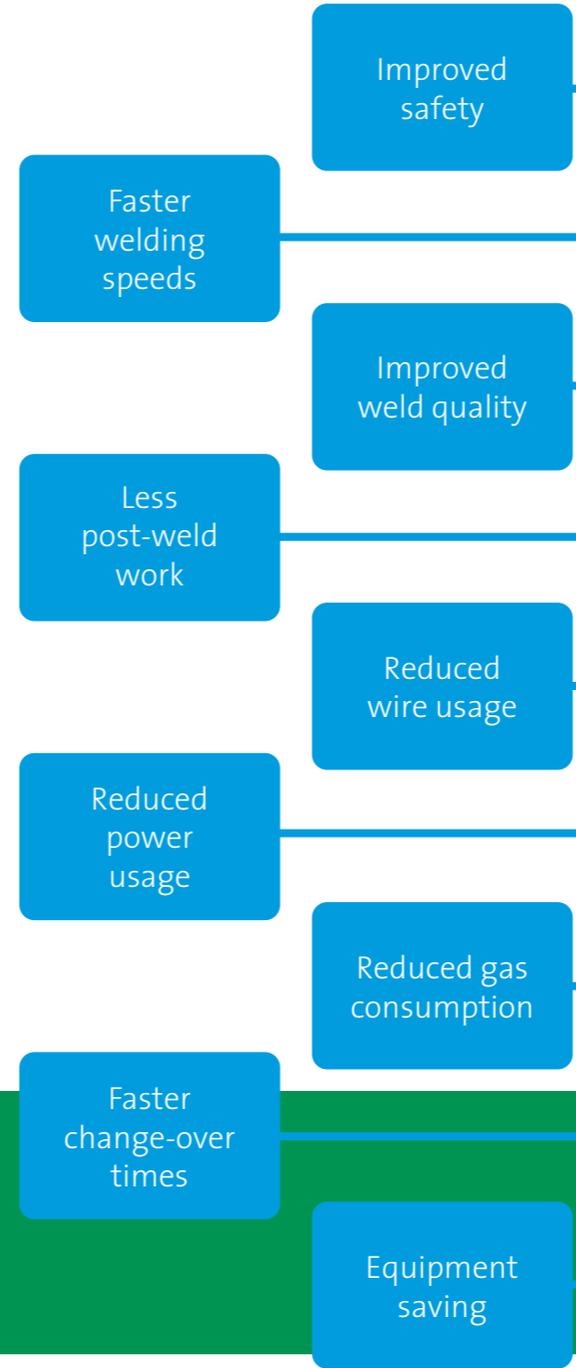
Whilst this is a small percentage, using the right gas can make a big difference to your bottom line.





Maxx[®] Gases can lower your cost per metre welded

There are 9 key areas of your operation where Air Products' welding gas solutions can have a positive impact on your profit. See the bigger picture....

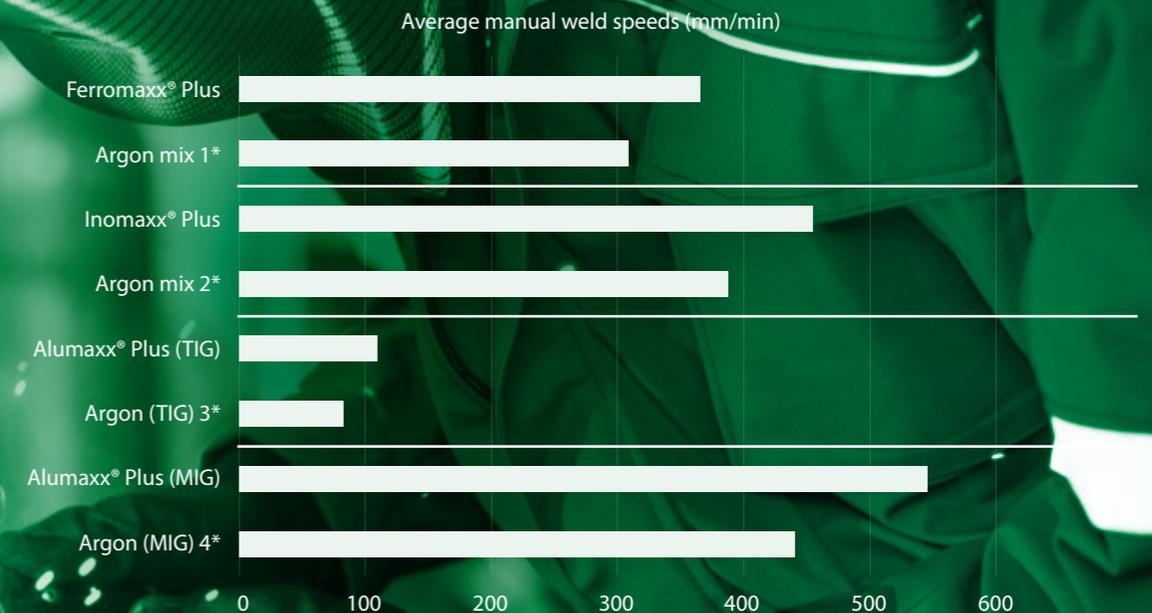


Faster travel speeds

Achieving high quality welds in less time means that the overall cost per metre welded reduces.

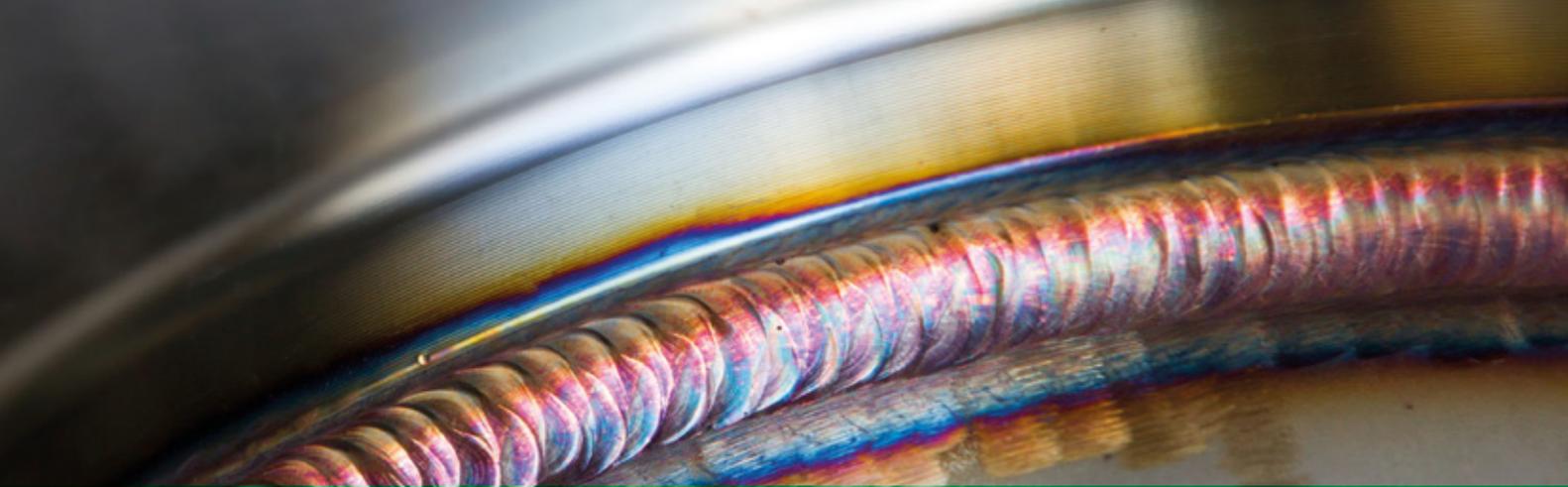
Essentially, you generate increased output using the same amount of resources and costs.

Using welding gas mixtures with an optimum addition of helium, such as Ferromaxx® Plus, Inomaxx® Plus, or Alumaxx® Plus allow you to operate at a higher travel speed without compromising on weld quality.



1* 80% argon 20% CO₂; manual MAG welding 12mm thick carbon steel plate
2* 98% argon 2% oxygen; manual MAG welding 3mm 316L stainless steel plate
3*/4* Argon manual MIG/TIG welding 10mm thick aluminium alloy plate

Increases in manual weld speed



Improve weld quality

Quality is paramount. Any reduction in reject rate has a direct impact on the bottom line.

Using precision blended Maxx[®] welding gas mixtures ensures:

- Ease of use
- Tolerance to variations in weld settings
- Excellent penetration characteristics
- Superb arc stability
- Consistent heat input and outstanding weld pool control

meaning a reduction in defects such as porosity, minimal distortion and a smooth, flat weld.



Less post-weld work

Don't let spatter grind you down.
Choose Maxx[®] gas.

Maxx[®] gases produce significantly lower levels of spatter due to the mix composition - in particular, the precise balance of CO₂ and O₂ in the mix of CO₂, meaning:

- Reduction in labour cost required to remove spatter after welding
- Reduction in the time to produce the desired weld profile
- Minimal expenditure on materials for weld preparation or post-weld cleaning



The importance of controlling welding gas flow

It is widely understood that there must be a minimal flow rate to ensure adequate weld pool protection, however, there is a common misconception that using more gas is always better.

Using more gas than is required to achieve a quality weld increases costs and can be detrimental to weld quality. Monitoring welding gas consumption and eliminating waste by establishing flow rate controls is an excellent way of optimising and economising your welding operation.

Despite best practices in terms of checking equipment and weld set-up, it is commonplace that weld flow rate at the end of the torch is not aligned with expectations (nearly always higher).

Our innovative Integra® cylinder connects via an Integra® Flow Optimiser (IFO). There are a range of IFOs available with pre-set gas flow rates from 8-20 l/min-taking the guesswork out of controlling flow rates and ensuring both optimal weld quality and costs.

CASE STUDY

Reduced power - a case study

As one of the UK's largest contract manufacturers, the key to ensuring a profitable bank balance all hinges on the ability to keep costs to a minimum whilst maximising output. Air Products was asked to submit an offer to identify cost saving opportunities.

Initially, a qualified Welding Specialist visited the customer site to conduct an end to end review of the welding operation. One of the key volume activities involved welding 304 stainless steel with argon using an automated TIG welding process. An on site demonstration quickly led to a trial with Inomaxx® TIG (R1ArH2 mix). The improvement was clearly visible in the reduction in oxidisation and the increase in weld travel speed.

Now time for the commercial discussion... The quality improvements of the Air Products' offer were clearly visible. As the customer began to look at the bigger picture, significant cost benefits also became apparent. The reduction of post-weld cleaning of the joint within the component part was substantial. Combining this labour saving along with an increase in machine output per hour all added up to a sizeable positive impact on the bottom line. To top it off, all these benefits were achieved with a reduction in amperage – another important cost saving for a 24/7 operation. It pays to see the bigger picture.

Supply solutions with built-in profitability

All Maxx[®] gases are available in a range of supply modes including our innovative 300 bar Integra[®] cylinder which is designed to maximise safety, productivity and cost efficiency.

Core features on the Integra[®] cylinder eliminate additional equipment expenditure.

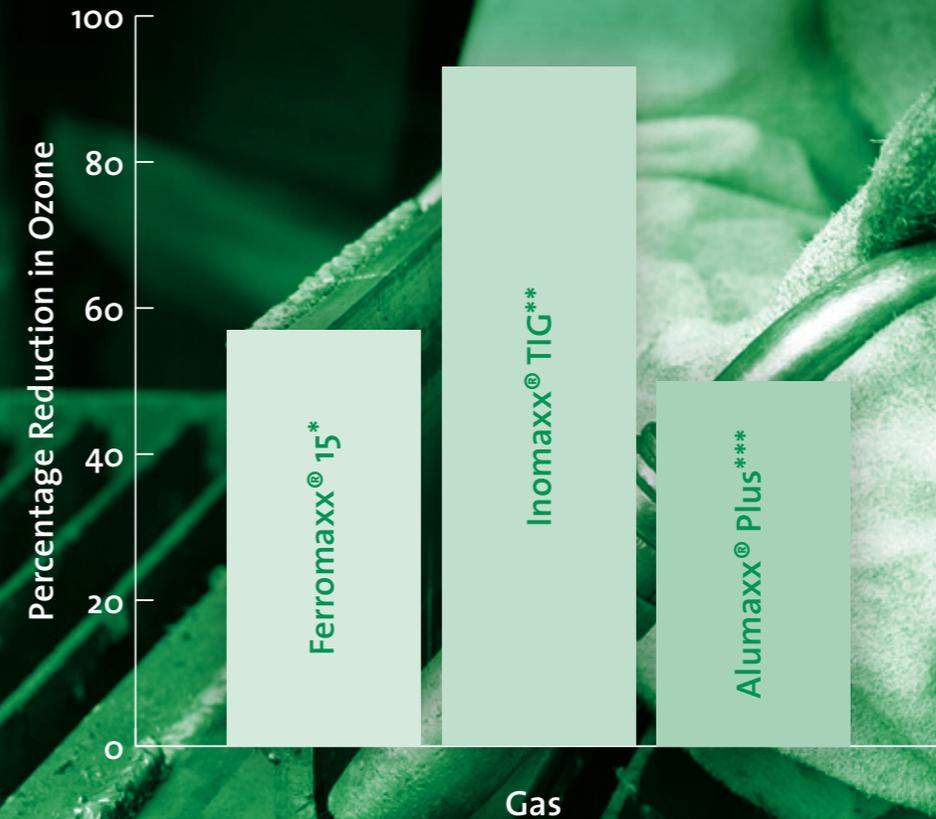
- No need to buy, repair or replace regulators with the built-in regulator
- No tools required to connect cylinder

Time is money – on average, 75% of a welding cost is labour. Eliminating any time spent on non-productive activities has a direct positive impact on profit.

- Integra[®] cylinders are 30% quicker to change over than conventional cylinders* and often last longer thanks to our innovative IFO.
- Cylinder packs are a good solution for medium to high volume gas requirements, whilst reducing cylinder handling costs.
- Our liquid solutions are available in 2,000 to 60,000 litre tanks and piped directly to point of use to eliminate all handling activities.

* 200 bar, 47 litre cylinders

% Average reduction in Ozone exposure vs. conventional welding gases (ppm)



* MAG welding of carbon steel plate (spray transfer)
** TIG welding of stainless steel plate
*** MIG welding aluminium 5% magnesium alloy plate (spray transfer)

Maxx[®] gases are developed to produce low ozone exposure levels, a dangerous health hazard which cannot always be removed by fume extraction equipment. The result - gases that provide a better working environment as well as improved productivity and fewer rejects.

Services

Our team of qualified Welding Specialists can conduct welding demonstrations and tests in your workspace. Seeing opportunities come to life on your process with your staff is compelling.

There is no need to envisage theoretical benefits – instead, you can see how practical steps can be taken to drive real improvements.



Relate
to your
industry

Review
end-to-end

Recommend
process
improvements

More than just a gas supplier. We go the extra mile to improve safety and optimise your welding operation.

Safety
training

Optimise
welding
output

Equipment
audits

See the bigger picture with Maxx[®] gas

There's never a bad time to ensure that your welding operation is performing at maximum efficiency. If your company could benefit from FREE expert advice on any aspect of your welding or cutting operations, get in touch with us today.



Ferromaxx[®]

Ferromaxx[®] weld process gas is purpose designed for MAG welding **carbon, carbon manganese and low alloy steels**, giving superb weld quality and excellent penetration, together with minimal spatter and low fume levels.



Inomaxx[®]

Inomaxx[®] weld process gases have been developed to give high quality welds in **stainless steel** which have excellent surface finish and superb corrosion resistance.



Alumaxx[®]

Alumaxx[®] Plus weld process gas has been specifically designed as the only gas that you need for high quality MIG and TIG welding of **aluminium and its alloys** across all material thickness.

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