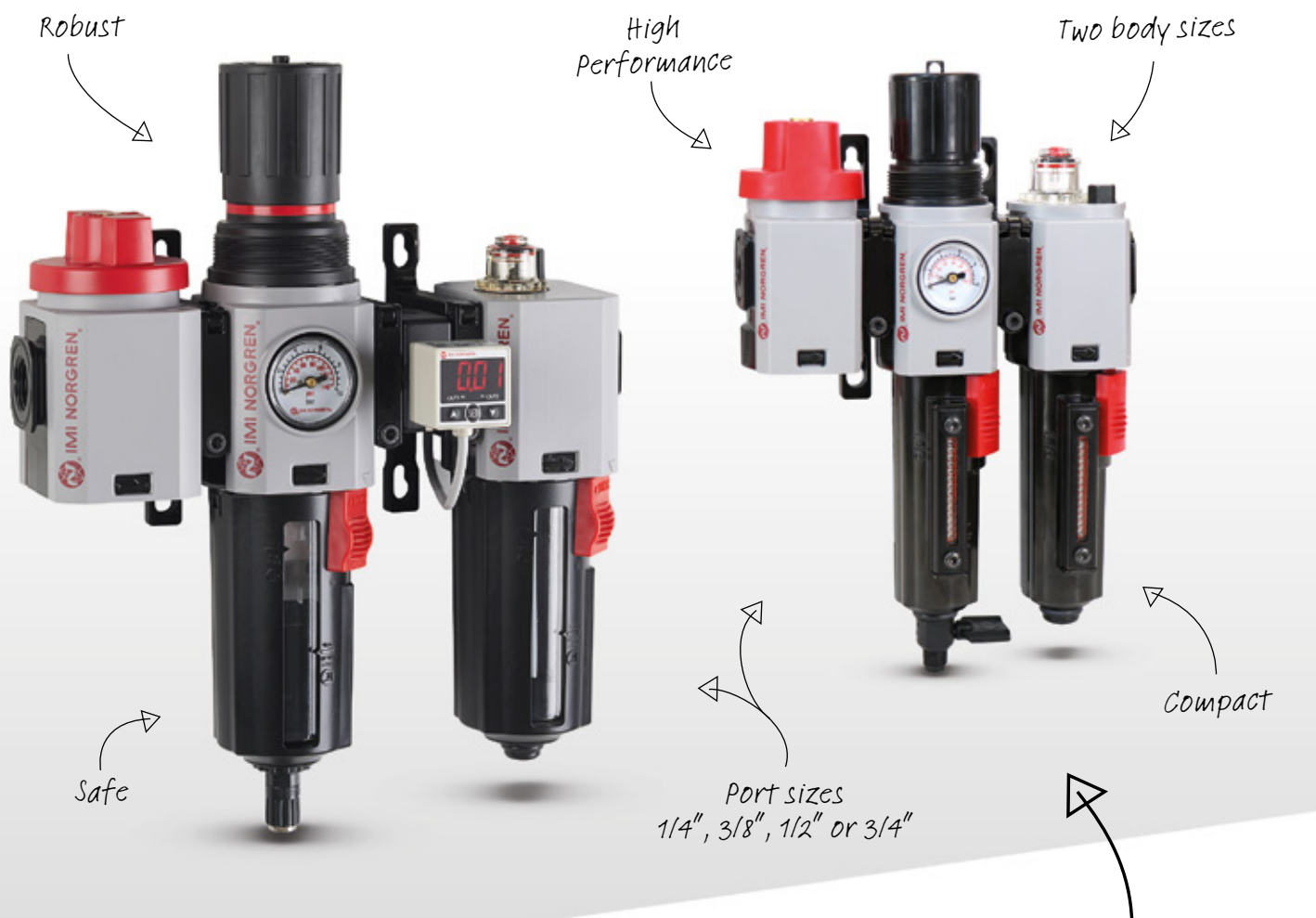


Excelon® Plus

Modular Air Preparation

for All Industrial Applications



Engineering
GREAT Solutions

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Innovation,
products
and service



Engineering GREAT solutions through people, products, innovation and service

IMI Precision Engineering is a world-leader in fluid and motion control. Building close, collaborative relationships with our customers, we gain a deep understanding of their engineering needs and then mobilise our resources and expertise to deliver distinctive products and solutions.

Wherever precision, speed and engineering reliability are essential, our global footprint, problem-solving capability and portfolio of high performance products enables us to deliver GREAT solutions which help customers tackle the world's most demanding engineering challenges.

> **Reliability**

We deliver and support our high quality products through our global service network.

> **High performance products**

Calling on a world-class portfolio of fluid and motion control products including IMI Norgren, IMI Buschjost, IMI FAS, IMI Herion and IMI Maxseal. We can supply these singly, or combined in powerful customised solutions to improve performance and productivity.

> **Partnership & Problem Solving**

We get closer to our customers to understand their exact challenges.



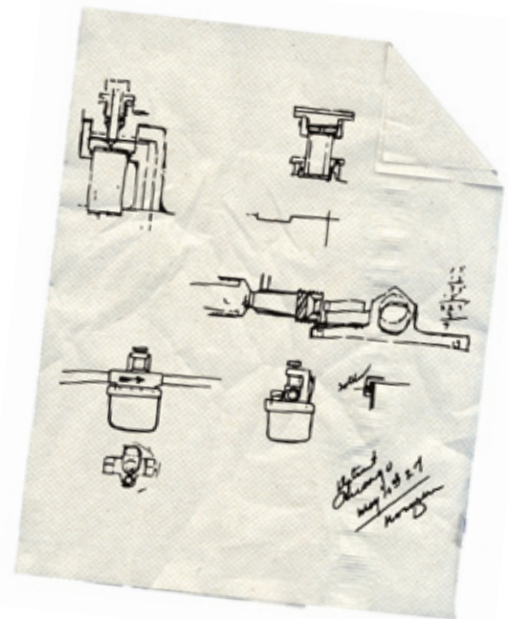


Air Preparation

Compressed air is used in almost every industry, from building cars to opening bus doors, from food processing to mining and shipbuilding. IMI Norgren Excelon® and Olympian® air preparation have been providing clean controlled compressed air to these industries and more for over 40 years.

In 1925, when Carl Norgren invented the automatic airline lubricator, he effectively began the practice of air preparation - delivering air of the right quality to a pneumatic device to enable that device to run at its optimum efficiency for the longest possible time, keeping life costs to a minimum.

We have continued developing world class air preparation products ever since. Today, IMI Norgren air preparation products are used globally, and are founded on a best-in-class reputation based on quality, reliability & robustness.



*Automatic airline lubricator
invented in 1925*



Compressed Air Systems

Compressed air is a safe and reliable source of energy provided it is used and treated correctly.

Compressed air is often wrongly assumed to be a cheap or even 'free' source of power. At point of use, compressed air is approximately the same cost as natural gas, that's why it's vital to install the correct equipment to condition and control the air supply.

Safety

As soon as air is pressurised it has the potential to cause damage to equipment or personnel, so controlling that pressure using shut off valves and regulators, which can be fixed and locked is paramount.

Containing the air in the reservoirs for air treatment also needs to be done safely. Correct assembly of the filters and lubricators after service is also paramount as a loose bowl can be very dangerous even at the lowest pressures.

Safety should always be the first consideration when designing compressed air systems.



Cost reduction

A well designed air preparation assembly ensures costs are optimised by:

- > Keeping leaks to a minimum
- > Including isolation valves for rarely used parts of a system
- > Correct use of pressure regulators - only use the pressure needed for the job
- > Using appropriate levels of filtration – over filtering costs money!
- > Simplifying circuits - reducing pressure losses
- > Correctly sizing air preparation – reducing pressure losses

Maximising Up-time

Correct application of lubricators ensures the system runs efficiently for longer. Correct application of oil can extend the life of an actuator by up to 5 times, however they need to be specified correctly and regularly maintained.

Filters need to have effective draining systems and need to be maintained regularly to ensure downstream air is free from contamination. Excess liquid water is the biggest cause of failure in systems which do not have large plant dryers. Most bulk water as well as coarse particles can be removed with

a general purpose filter. However these filters need to be maintained regularly and have effective condensate drain mechanisms to ensure downstream air remains free from contamination.

Correctly specified, well maintained air preparation is essential to the effective operation of any compressed air system. Whether a large factory air supply, or a small high speed processing machine air preparation equipment are the tools to make it safe, optimise the running costs and keep the machines running.

Introducing Excelon® Plus

Excelon® Plus is the latest generation of IMI Norgren Air Preparation equipment developed to meet the needs of today's customer. It offers exceptional performance, is compact and light-weight with no compromise on robustness, and is suitable for all industrial applications.

Excelon® Plus has been designed with safety in mind, offering built in, tamper proof features and a unique double lock mechanism on the bowls. Maintenance of the unit is simplified with the new system where the element assembly is removed together with the bowl.

The innovative family of IMI Norgren Excelon® Plus products can be used where both stand alone units or modular assemblies are required thanks to the slim line Quikclamp system. The one piece Quikclamp assembly with integrated brackets allows installation and removal of the units without breaking a pipe connection.

General Specifications

- > Two body sizes: 1/4", (82 series) and 1/2" (84 series)
- > Port sizes 1/4", 3/8", 1/2" or 3/4"
- > Thread type ISO G or NPT
- > Fluid: Compressed air
- > Maximum inlet pressure:
 - > Guarded polycarbonate bowl 10 bar
 - > Metal bowl 20 bar (17 bar for 1/4" range)
- > Maximum temperature:
 - > Polycarbonate bowl 60°C
 - > Metal bowl 65°C
- > All internal and external surfaces are protected with an electrophoretic paint coating providing excellent corrosion and chip resistant protection



Rotating Safety Shut-off Valve

Quarter turn easy to operate
full flow device
Easy to isolate system with no
reduction in performance

Tamper proof options built in

Padlock features on both
shut-off valves and regulator
Guarantees safe isolation of machines

NO compromise on Robustness

Metal construction - where
it matters most
Quality synonymous with
IMI Norgren brand

**Flush mounted
integrated gauge**

Easy to read
Less vulnerable to damage
Dual scale

Double safety lock on bowl

Bowl clip that clicks, plus safety
detent when pressurised
Impossible to remove
the bowl when in use

Easy filter maintenance system

Element is removed together
with the bowl for faster
and cleaner servicing
Best in the market with only
25mm bowl clearance required¹

Compact size and optimised weight

Maximises machine real estate
Smaller and lighter than
its predecessor

**Class 8 water extraction
according to ISO 8573-1**

Better than 95% @ 100% flow

¹ The nearest market equivalent is 40mm

Filtration

General Purpose Filters – (Water and particle removal)

The Excelon® Plus general purpose filter offers 5µm or 40µm particulate removal, with water extraction levels of >98 % (84 Series) and >95 % (82 Series).

Maintenance of these units is quick and easy, as the filtration cartridge remains inside the bowl when it is removed. The cartridge then simply unclips allowing for clean and efficient disposal, and replacement with a new cartridge.

This filter maintenance system also means that the clearance needed below the unit for maintenance is a maximum of 25 mm, reducing the space envelope needed on any machine.

Our general purpose filters are available with lightweight polycarbonate bowls with guards for in bowl visibility, or alternatively with full metal bowls incorporating unique prismatic liquid level indicators for more challenging applications.

All bowls incorporate a unique double lock feature in the design. The bowl has an easy to use release clip to enable the bowl to be removed. This large clip has an audible click feature once the bowl is reassembled, ensuring the bowl is in the correct position for use. A detent in the assembly also engages when the unit is pressurized ensuring that the bowl cannot be rotated whilst in use. This unique double lock feature makes Excelon® Plus the safest filter on the market.

Filters are offered with either a ¼ turn “Q” manual drain or the new lever assisted fast acting float type auto drain which minimizes air wastage during operation.

Class 8 water extraction according to ISO 8573-1



Filter maintenance system



Only 25mm clearance required to remove filter element

Coalescing Filters – (Oil aerosol removal)

The Excelon® Plus Coalescing filter removes oil down to levels no greater than 0.01mg/m³ - 0.01 micron particulate removal. The pleated element design means this can be achieved in a compact envelope, whilst still keeping pressure drop to a minimum.

The Excelon® Plus coalescing filters have an integrated pressure drop indicator which changes colour, to indicate when service is needed.

The coalescing filters are offered with the same bowl and drain options as the general purpose filters, and also include in bowl cartridge removal and double safety lock.

Activated Carbon Filters – (Oil vapour removal)

The Excelon® Plus carbon filter ensures all traces of oil vapour (odour) are removed from the compressed air supply (0.003mg/m³ remaining oil).

Our carbon filters are offered with guarded polycarbonate bowls and metal bowls, and include the in bowl cartridge removal and double safety lock. These filters do not include drains as vapour contamination is retained in the carbon element.

When used together the coalescing and activated carbon filters ensure any compressed air system can be used for most critical Industrial Automation applications, and deliver air purity to class 0 according to ISO 8573-1.



Regulation

General purpose regulator

With primary pressure up to 20 bar (300 psig) Excelon® Plus regulators offer outlet pressure ranges - 4 bar (60 psig), 10 bar (150 psig) and 17 bar (250 psig).

The non-rising adjustment knob shows a red band whilst pressure is being adjusted. This disappears once the desired pressure is reached and the knob is pushed down into the fixed position. This action also reveals a padlock hole allowing the regulator to be locked very simply and cost effectively.

The 17 bar version has a metal bonnet and a T bar adjustment. This is necessary to ensure easy operation and accurate pressure control at these higher pressures.

Both versions are supplied with an integrated pressure gauge as standard. This high visibility gauge fits inside the main body of the regulator, significantly reducing the risk of damage to the gauge, which has long been the most vulnerable part of the FRL assembly.

General purpose filter regulator

The Excelon® Plus Filter/regulator ('B' unit) combines all the features of the general purpose filters and regulators including built in padlock feature, in bowl filtration cartridge removal and bowl double safety lock.



Lubrication

Micro-fog® lubricators

The Excelon® Plus Micro-fog® lubricator has a unique micromist fog generator built in to the unit creating very fine mist particles – less than 2 micron. These particles are suspended in the air line and can travel very long distances and lubricate very complex air pathways. They allow very fine control, ensuring that the systems are not over lubricated – a common problem with intricate pneumatic circuits, and are perfect for small rapidly moving applications.

This Micro-fog® technology is the best in the industry after more than thirty years.

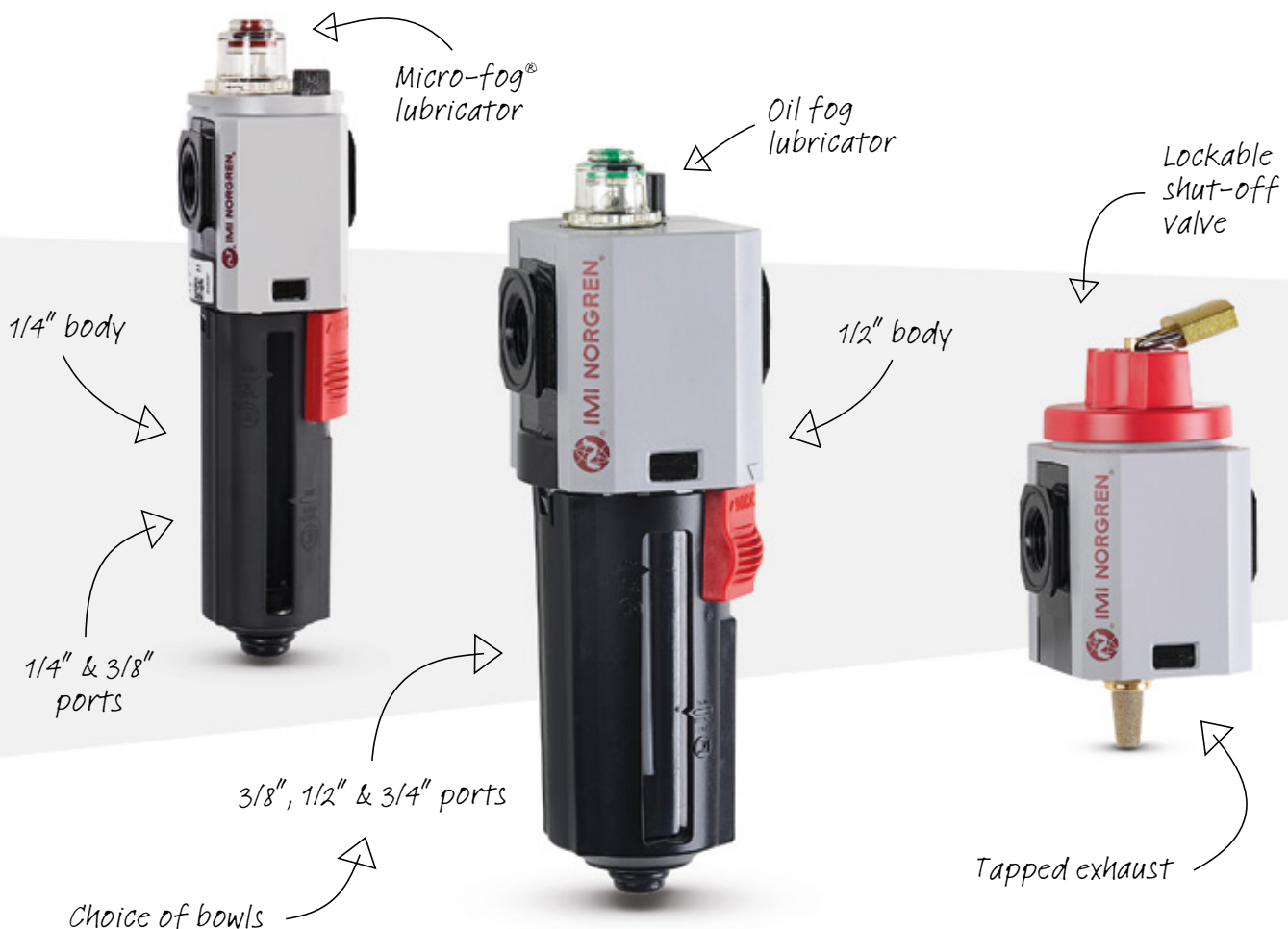
Oil fog lubricators

The Excelon® Plus oil fog lubricator generates a fairly coarse mist - around 100 micron. This lubricator is most commonly used in heavy actuation applications and is best used close to the area requiring lubrication. One benefit of this type of lubricator is that it does allow for the oil reservoir to be filled whilst the system is running.

Both Micro-fog® and oil fog lubricators are offered with guarded polycarbonate or full metal bowls, the prismatic sight glass and the double lock safety feature. Bowls for lubricators do not offer any drain feature.

Shut off valves

The Excelon® Plus lockable shut-off valve is available in a 3/2 configuration with threaded exhaust and red knob. It is a full flow rotating ball valve and the restricted 1/4 inch exhaust port is threaded to allow fitting of a noise reducing silencer or pipe away exhaust air. The valve has a 'pop up' padlock feature allowing the valve to be locked in the closed position for safety.



Accessory Range

Pressure sensing block and 51D or 54D pressure switch

The modular Quikclamp system includes a pressure sensing block which enables pilot or auxiliary signals feeding other parts of the pneumatic circuit.

The block can be used to provide an additional port for remote sensing or to directly mount a pressure switch such as the IMI Norgren 51D or 54D.

The 51D electronic pressure switch can be either back mounted at the front of the assembly, or bottom mounted on the top of the assembly. It is compact and easy to use, has a clear digital pressure display with units which are user selectable and has intuitive programming. It has an LED switching status indicator and either 2 x PNP or 2 x NPN digital outputs. It has high accuracy and resolution with vibration resistance 10 – 55 Hz and is rated to IP65.

The 54D electronic pressure switch can be adapted to fit Excelon® Plus. Available with three pressure ranges from vacuum to 16 bar, it is Industry 4.0 Ready, with Digital, Analogue and IO-Link outputs. There is a differential pressure option, two pneumatic inputs, M8 x 4 pin electrical connection and G1/8 port. This switch is lightweight, robust and ideally suited to robotic applications.

Pressure sensing block and 18D pressure switch

The Excelon® Plus accessory range also includes a porting block which has a face for direct mounting of the IMI Norgren 18D pressure switch. This is an electro mechanical switch and is widely used in the Industrial Automation market.

The 18D micro switch is suitable for high cycling applications and can be used in intrinsically safe environments. It is IP 65 rated.

Full Flow Porting Blocks

This porting block allows full flow to be diverted from the main system quickly and effectively. The block can be mounted in either rotation and is useful when only one part of the system requires high levels of filtration for example. Available in two body sizes, 1/4" and 1/2".



Standard Combination Units

- > Pre-assembled and ready to install
- > Everything you need for “best practice air preparation”
- > One part number

Standard options are available or you can configure to your specific requirements online.

Online Configurator

- > Live visualisation of your configuration
- > Download your configuration in your native CAD format. We support 60+ native CAD formats including AutoCAD, SolidWorks, Pro/Engineer, NX and Catia.
- > Save your configurations for a later date and view your history anytime
- > Order your configuration instantly online



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