Atlas Copco Tools & Assembly Systems

Air Line Accessories

Optimizers - FRL
MIDI Optimizer FRL

- Why use an Atlas Copco FRL?
  - Atlas Copco filters, regulators, and lubricators are designed to help you get maximum productivity from your assembly tools.
    - Ensure minimal pressure drop and thus
    - Minimize energy losses in the air distribution system
      - benefiting the environment and cutting your operating costs
    - Extend the life of your tools
      - Lower repair costs and less downtime.
MIDI Optimizer FRL

- **Productivity**
  - Superior flow characteristics
  - FRD units up to 116 cfm
  - Minimal pressure drop
  - Lubricator
    - Increase output 10-15% in vane motors
    - Extend service intervals 2-3 times

- **Energy efficiency**
  - Prevents unnecessary consumption of air
  - Correct air flow for tool
  - Extend tool lifetime
MIDI Optimizer FRL

- General information
  - Polymer housing
  - NBR diaphragm
  - NBR sealings.
    - In comparison to silicone rubber, NBR seals have lower temperature resistance. They are mainly suitable for air, gas and oil at low temperatures.
  - Polymer bowl with plastic insert
  - Operating temperature -40°F to +140°F
  - Operating pressure inlet 0-232 psi
  - Operating pressure outlet 7-116 psi
    - On request outlet pressure 7-217 psi
MIDI Optimizer FIL

- Filter – FIL
  - Water and dirt in your compressed air system will cause extensive corrosion, damage, and wear.
  - Productivity
    - Atlas Copco filters are equipped with a cyclone system, this separates out a high percentage of the heavier solid water particles to ensure that the amount of dirt entering your tool is kept to a minimum. This means longer working cycles for the tools and minimum service time.
MIDI Optimizer FIL

- **FIL - water separator**
  - 248 cfm maximum air flow
    - Supply pressure 116 psi, pressure drop is equal to 14 psi
  - Cyclone system
    - Centrifugal force to separate the heavier solid water particles
  - Standard filter 30 µm, 5 µm optional
  - Water separation efficiency >90%
  - Sight glass for maximum condensate level (60cm³)
  - Two versions for drain valve
    - manual/semiautomatic
    - Fully automatic
MIDI Optimizer FIL

- **Drainage system**
  - Combined manual and semiautomatic drain
    - Opens when operated manually
    - Opens if bowl pressure < 3 psi
    - Closes again if pressure > 12 psi
MIDI Optimizer FIL

- **Drainage system**
  - Fully automatic drain controlled by floater
    - Includes semi-automatic drain function
  - Pressure range
    - Semi-automatic 12 – 290 psi
    - Automatic 22 – 290 psi
  - Opens as soon as the condensate reaches a preset level
  - Opens when operated manually
  - Opens if bowl pressure < 3 psi
  - Closes again if pressure > 12 psi
  - Temperature range: 35°F to 140°F
MIDI Optimizer FIL

- FIL – water separator
  - Water separation efficiency > 90%

Water separation efficiency at p1 = 6,3bar

Air flow [ l/min ]
MIDI Optimizer REG

- **Regulator – REG**
  - Ensure optimal flow at the specific flow rates required by Atlas Copco tools, or other pneumatic tools.
    - **Energy efficiency**
      - By installing a regulator you will ensure that there will not be any unnecessary consumption of compressed air. The regulators reduce a variable primary pressure to a practically constant secondary pressure with a minimum of pressure drop.
    - **Productivity**
      - The regulator will optimize the performance of your tool, ensure torque accuracy and boost productivity.
MIDI Optimizer REG

- Regulator
  - Interchangeable with MIDI C
  - Innovative design
  - Excellent standard performance with a start up pressure drop of max 0.3 bar
  - High flow capacity 206 cfm
    - Supply pressure 116 psi, regulator set pressure at 91 psi (static no flow) and pressure drop 14 psi
  - Different outlet pressure ranges available
MIDI Optimizer REG

- **Productivity**
  - Best air flow characteristics on the market
  - Optimized flow at the specific flow rates required by Atlas Copco tools
  - Ensure torque accuracy in pulse tools
  - Minimal pressure drop
    - 14 psi pressure drop from 91 psi means 20% lost efficiency
MIDI Optimizer REG

- Lockable regulator
  - 3-times lockable
  - Customer friendly output pressure limitation
  - The mechanical block consisting of a hexagonal screw and nut is easy to adjust to the desired pressure limit
MIDI Optimizer DIM

- **Lubricator – DIM**
  - Atlas Copco oil lubricators ensure a long, efficient and trouble-free life for your pneumatic tools and components.
  
  - **Productivity**
    - The use of a lubricator will increase the power in vane motors by about 10-15%.
  
  - **Energy efficiency**
    - With the use of a lubricator you will prolong the lifetime of a vane motor up to three times and the motor will work much more efficiently, and with less friction.
MIDI Optimizer DIM

- **Energy efficiency**
  - Ensure the correct amount of oil at all flow rates
    - Self regulating nano lubricator
      - First time the oil feed adjusts automatically to the flow demand (constant oil/air mixture)
      - Minimal lubrication
    - Prolong the lifetime of vane motors up to three times
    - More efficient motor with less friction

- **Productivity**
  - Increase the power of the tool by about 10-15%
MIDI Optimizer DIM

- MIDI lubricator
  - Innovative design
    - Laskin principle and vaporisation
    - Patent pending
  - Nano oil mist
    - Particle size 200 nm
    - Oil admixture approx 50 mg/Nm³
    - Nano oil mist transported by the air stream up to 40 m
    - No oil in hose
    - No Direct lubrication needed
  - Refill during operation
  - Sight glass for minimum and maximum oil level (90 cm³)
MIDI Optimizer DIM

- **Lubricator**
  - The principle
    - An oil particle generator system
    - Use compressed air to generate particles of the oil in the lubricator.
    - Creates an aerosol mist of the oil particles and the compressed air.
    - The oil particles in the mist will not fall out under 1 sec and therefore the oil can be transported in a hose up to 40 m without sticking to the hose.
MIDI Optimizer DIM

- Checking the lubricating function in sight glass
MIDI Optimizer DIM

- Main benefits
  - Permanent readjustments of oil droplets is avoided
  - No more misadjustments by the operator
  - No baffle plate is necessary for oil vaporization, to provide the best efficiency for the tool
  - Nano oil mist is transported up to 40 m within the air line system
  - Extended refill periods by most economical oil consumption
MIDI Optimizer DIM

- Flow characteristics (green) and oil ratio (red)
MIDI Optimizer F/R

- Interchangable with MIDI C
- Excellent standard performance with a start up pressure drop of max 4.3 psi
- High flow capacity 190 cfm
- Different pressure ranges available
  - Inlet pressure 0-232 psi
  - Outlet pressure 7-116 psi
    - Standard spring for 116 psi
    - Optional spring 232 psi
- Standard filter 30 µm
- Either with combined manual / semiautomatic condensate drain valve or with automatic condensate drain valve
- Sight glass for max condensate level
- Lockable regulator on request
MIDI Optimizer F/RD

- Filter/regulator + lubricator
  - Interchangable with MIDI C
  - Excellent standard performance with a start up pressure drop of max 4.3 psi
  - High flow capacity 116 cfm
  - Different pressure ranges available
    - Inlet pressure 0-232 psi
    - Outlet pressure 7-116 psi
      - Standard spring for 116 psi
      - Optional spring 232 psi
  - Standard filter 30 µm
  - Either with combined manual / semiautomatic condensate drain valve or with automatic condensate drain valve
  - Sight glass for max condensate level
  - Sight glass for max / min oil level
  - Manual oil refilling – also during operation
  - Lockable regulator on request
MIDI Optimizer FRD

- Filter + regulator + lubricator
  - Interchangable with MIDI C
  - Excellent standard performance with a start up pressure drop of max 4.3 psi
  - High flow capacity 116 cfm
  - Different pressure ranges available
  - Different pressure ranges available
    - Inlet pressure 0-232 psi
    - Outlet pressure 7-116 psi
      - Standard spring for 116 psi
      - Optional spring 232 psi
  - Standard filter 30 µm
  - Either with combined manual / semiautomatic condensate drain valve or with automatic condensate drain valve
  - Sight glass for max condensate level
  - Sight glass for max / min oil level
  - Manual oil refilling – also during operation
  - Lockable regulator on request
We are committed to your superior productivity through interaction and innovation.