

BAUER/JORDAIR TECHNICAL COMPRESSOR DESIGN

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The Bauer Group commenced a phase of major technical improvements to the compressors blocks in 2003 as part of their commitment as the world leader in quality high-pressure block technology. For over 65 years the Bauer commitment to research and development combined with 40 years of Jordair experience packaging Bauer products, continues to provide Jordair's customers with the very best in reliability and safety in high-pressure compressor system design.

Jordair provides a full two-year warrantee on all Jordair units sold in the MINI-KAT, AIR-KAT, FIRE-KAT and INTEGRA lines. A 5-year limited block warrantee is also provided for these units which have a Jordair approved installation and system maintenance program. These extended warranty's apply to the Fire Service.

Jordair and Bauer compressors provide the customer with the following features, which ensure the highest level of safety and reliability in a compressors system:

- The Bauer compressor drive gear has a rated operating life of up to 30,000 running hours for all blocks commencing with the IK100-V07 series. This life rating is valid for either mineral or synthetic oils.
- Only Bauer blocks are supplied as standard with the plasma-nitrate cylinder hardening process, this provides up to 10,000 hours of cylinder operating life. The hardening of the cylinders and synthetic rings result in a major reduction in oil consumption.
- Bauer uses high quality long life synthetic rings for low cylinder wear. The use of this type of ring requires very little lubrication and provides less blow-by for higher compression efficiency.
- Oil carryover on Bauer blocks is substantially less than competitors units, which extends filtration cartridge life, provides the best quality of breathing air possible and reduces the operating costs.
- The aluminium one-piece crankcase casting creates design stability with rapid heat dissipation so the operating oil temperature is lower for longer unit service life on Bauer blocks.
- Bauer blocks operate effectively on normal mineral oil with up to 1000 hour between changes. Oil changes are recommended annually regardless of the hours reached to avoid any corrosion of the drive gear.
- Mineral oil compatibility of the Bauer blocks reduces service costs and eliminates the use of very expensive synthetic oils. Synthetic oils should be used in high temperature or continuous duty cycle applications.
- A clear sight lens easily identifies the oil level and the filling port allows easy oil filling. On the larger IK15.1 to IK18.1 series units, the unit cannot be over filled with oil due to the unique design of the oil filling and oil level sight assembly.

- A full flow replaceable oil filter assures clear contaminate free oil through out the standard service cycle between oil changes.
- The compressor blocks on all Bauer models are balanced both mechanically and thermally to avoid excess heat in any stage providing almost perfect thermal loading across the compressor and the lowest possible discharge temperatures. This ensures a low cost, long trouble free compressor operating life cycle and extends filtration cartridge life.
- Design standard since 2008 on the IK100-V07 to IK18.1-V06 series Bauer blocks is oil cooling of the final stage. The final stage head and piston assembly is oil cooled by a series of internal cooling ports in the cylinder and valve head. The cooling oil, which is force-fed by the crank case oil pump, reduces the final stage discharge temperature substantially below competitors units.
- The Bauer higher air flow cooling fans for the blocks insures cooler operation and longer filter life due to the lower discharge temperature and provides cost effective air compression.
- Thermal balancing provides the lowest possible temperature in each stage and reduces or eliminates carbon deposits in the valve heads and coolers.
- Stainless steel inter-stage and after-coolers provide corrosion free service life with excellent heat dissipation and trouble free mechanical stability.
- Jordair provides added safety with A.S.M.E grade A106 nickel-plated steel filter chambers; lifetime rated with 5100 PSIG, 6300 PSIG and 7200 PSIG design pressures. All Jordair filtration components are CRN registered in all Provinces in Canada with a full 4:1 A.S.M.E code safety factor.
- The compressor block and drive motor are mounted on a sub-frame with rubber isolators for smooth operation and to provide vibration protection to the electrical components of the system.
- The complete compressor system is vibration isolated in a formed satin finished and baked powder coated frame assembly, which resists chipping and rust. This provides for an attractive unit far into the future.

The Bauer commitment is for ongoing improvement in compressor block and system design. This Bauer commitment increases service life, lowers maintenance costs and provide state of the art design.

The Jordair service network and technical training program support the customer with the very best equipment for safe recharging of SCBA and SCUBA breathing air cylinders. Jordair is committed to a program of ongoing product improvement and developing safe efficient systems for the breathing air market.