

# F-DRIVE SCREW COMPRESSOR











# QUALITY AND INNOVATIONS MADE IN GERMANY.

## Decades of experience and excellent performance

ALMiG is one of the leading compressed air technology system providers and has decades of experience delivering premium products in the compressed air sector. Companies all around the world trust in our customer focused solutions, our quality, innovation and flexibility. Our advanced compressor technologies combine excellence with the quietest possible running performance, optimal energy efficiency and particularly careful conservation of resources.

## Ongoing development and comprehensive industry knowledge

Constant research and development form the essential foundation for the efficiency of every system manufactured by ALMiG. Only these constant enhancements and improvements enable us to react quickly and flexibly to individual customer wishes. This attitude is complemented by a comprehensive understanding of the sector: we understand the challenges that our customers are faced with and the requirements that arise as a consequence. ALMiG offers effective solutions for a wide range of applications – from small craft workshops to medium-sized companies to big industry.

## Complete service and maximum availability

The highest quality technological solutions deserve an equally high level of service. The ALMiG service provisions offer our customers a complete service programme: from providing comprehensive advice to ensuring availability, improving cost-effectiveness and developing energy-saving potential. As an expert partner, ALMiG offers its customers advice and support on all issues. Our goal is to contribute to your economic success with our service offerings.

### **ALMiG:** **Compressor Systems** **Made in Germany**

Piston compressors

Screw compressors

Turbo compressors

Scroll compressors

Special installations

Controllers

Compressed air treatment

Services

# F-DRIVE

## Vertical efficiency for the smallest footprint

Energy- and space-saving at the same time, that doesn't have to be a contradiction in terms. Quite the opposite. We at ALMiG have been proving for more than ten years that the concept of a vertical arrangement of motor and compressor unit is the key to success, both in terms of energy efficiency and installation space.

Energy-saving speed control by means of an oil-cooled permanent magnet motor, a highly efficient compressor stage combined with the most intelligent control technology and the lowest possible noise level are our response to the increasingly demanding requirements of the future.

The speed-controlled, direct-driven compressors of the F-Drive series are used wherever compressed air is to be generated by a small, compact and extremely quiet system.

The oil-cooled permanent magnet motor has decisive advantages over standard motors:

- the energy efficiency is comparable to IE4 or better,
- the motor cooling is independent of the speed,
- drive motor's heat dissipation can be recovered via heat recovery.

As an option (from F-Drive 18), integrated plate heat exchangers are used in so-called heat or energy recovery to recover the heat energy generated by compression. This can then be used to heat e. g. service or process water. Existing oil or gas heating systems can be supported or even partially replaced. For the F-Drive, this means that previously unattainable values can now be achieved in energy recovery!

### With ALMiG SCD technology you achieve energy savings of up to 35% through

- Speed control
- constant mains pressure, infinitely variable from 5 to 13 bar
- extremely good system efficiency
- no start-up changeover power peaks
- no expensive downtimes

#### Application

#### Industry

#### Power output

5.5 - 75 kW

Volume flow acc. to ISO 1217  
(Annex C-2009)

0.33 - 14.17 m<sup>3</sup>/min

#### Operating pressure

5 - 13 bar

#### Cooling

Air-cooled

#### Drive

Direct and speed-controlled

#### Motor

Permanent magnet motor



- + Motor efficiency corresponds to IE4 or better
- + Heat recovery optionally available incl. use of engine waste heat!
- + Air Control P as standard compressor control system
- + Smallest footprint
- + Easy access and maintenance

**SCD frequency converter**  
for the exact adjustment of  
the delivery quantity

**Direct drive**  
for loss-free power  
transmission

**Air Control P**  
Smart controller that monitors, visualises  
and documents

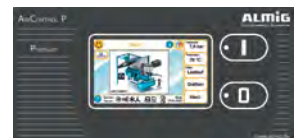
**Oil check valve**  
prevents recirculated oil from getting  
into the filtered compressed air when  
switching off, incl. sight glass

**Easily accessible  
coolers**



Suitable controllers:

#### AIR CONTROL P



Standard

#### AIR CONTROL HE



Optional

**Space-saving design**  
for a small footprint

**Vibration damper**  
for decoupling the  
motor/airend unit

**Additional internal  
system pressure  
display**

**High efficient permanent magnet  
motor**  
Optimally cooled at any speed by oil cooling

**Sight glass for easy  
filling quantity control**



# F-DRIVE



F-Drive 6-37



F-Drive 45-75

| 50 Hz   |                        |                                                 |        |                   |        |       |        |
|---------|------------------------|-------------------------------------------------|--------|-------------------|--------|-------|--------|
| F-Drive | Operating overpressure | Volume flow<br>acc. to ISO 1217 (Annex C-2009)* |        | Rated motor power | Length | Width | Height |
|         |                        | min.                                            | max.   |                   |        |       |        |
| Model   | bar                    | m³/min                                          | m³/min | kW                | mm     | mm    | mm     |
| 6       | 5 - 13                 | 0.33                                            | 0.94   | 5.5               | 660    | 690   | 1586   |
| 8       | 5 - 13                 | 0.23                                            | 1.21   | 7.5               | 660    | 690   | 1586   |
| 11      | 5 - 13                 | 0.23                                            | 1.84   | 11                | 660    | 690   | 1586   |
| 15      | 5 - 13                 | 0.23                                            | 2.38   | 15                | 660    | 690   | 1586   |
| 18      | 5 - 13                 | 0.42                                            | 3.52   | 18.5              | 790    | 800   | 1757   |
| 22      | 5 - 13                 | 0.42                                            | 4.11   | 22                | 790    | 800   | 1757   |
| 30      | 5 - 13                 | 0.93                                            | 6.00   | 30                | 940    | 850   | 1805   |
| 37      | 5 - 13                 | 0.93                                            | 6.98   | 37                | 940    | 850   | 1805   |
| 45      | 5 - 13                 | 0.88                                            | 8.34   | 45                | 1305   | 1105  | 1890   |
| 55      | 5 - 13                 | 1.55                                            | 10.77  | 55                | 1395   | 1155  | 2000   |
| 75      | 5 - 13                 | 1.56                                            | 14.17  | 75                | 1395   | 1155  | 2000   |

\* related to operating overpressure 7 bar at 50 Hz; status 05/2022; subject to alterations and errors.

## F-Drive: Efficient and well thought-out in every detail

### Intelligent control systems

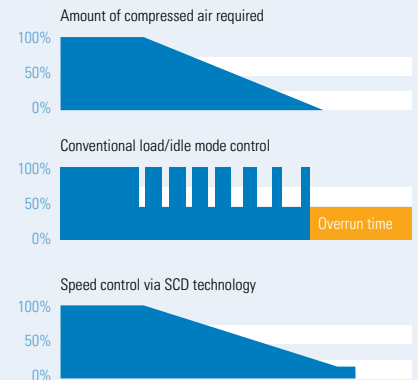
- Optimal control, management and monitoring of your entire compressed air supply.
- Maximum reliability in the supply of compressed air and maintenance planning ahead of time.
- Optimum operating convenience and outstanding cost-effectiveness.



### Speed control

#### Saving costs through:

- Precise adaptation of delivery volumes
- Fewer idle times
- Less load shedding
- Constant line pressure
- Direct drive
- Fewer leakages



### Heat recovery

ALMiG compressor  
with integrated or  
retrofitted heat recovery



up to **96%**  
usable thermal energy

- > 76% from the oil cooler    4% unusable thermal energy
- > 14% from the aftercooler    ---> 2% in compressed air
- > 6% from the electric motor    ---> 2% radiated heat

**Electrical energy**  
is converted almost  
entirely to heat

Via exhaust air  
ducting systems  
**up to 96%**  
usable thermal  
energy with  
ALMiG F-Drive

#### Warm air for space heating

Possible temperature level:  
20 – 25°C above the ambient  
temperature

#### Warm water for heating purposes

Possible water temperature  
up to 70°C

#### Heat for industrial process water

Possible water temperature  
up to 70°C

Via heat exchangers  
**up to 82%\***  
usable thermal  
energy with  
ALMiG F-Drive

\*The ALMiG F-Drive not only uses energy from the oil cooling circuit, but thanks to the oil cooling of the electric motor this energy can also be recovered.



**High energy cost savings per compressor possible!**

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