

X-Series

WITTIG Rotary Vane - Air



Rotary vane compressors, vacuum pumps and pump sets



X-RO topline WITTIG

Circular oil lubricated rotary vane compressors

X-RO WITTIG and X-RO topline WITTIG

Our single-stage, circular oil lubricated rotary vane compressors with flow rates from 253 to 6,000 m³/h are based on a proven principle whose technology is tailored to current market requirements. They are the first choice for applications in which the operator places a high value on reliability, long service life and low maintenance.

Advantages at a glance

- 253 to 6,000 m³/h
- Low maintenance
- Low pulsation
- Little oil carry over
- Low life-cycle costs
- Direct driven
- Low speed
- Available with micro-processor monitoring and control systems
- Microprocessor control Wittig MPC 3010 as standard



X-RO WITTIG
Circular oil lubricated rotary vane compressors

Rotary vane vacuum pumps

X-WPSO WITTIG

These rotary vane vacuum pumps with an effective suction capacity of up to 4,450 m³/h are primarily used to extract air and non-abrasive gases. Even under unfavorable operating conditions, the X-WPSO WITTIG vacuum pumps are highly efficient. They can be driven by electric motors via flexible coupling.

Advantages at a glance

- Up to 4,450 m³/h
- High efficiency
- Low maintenance
- Easy to service
- Robust construction
- Few moving parts
- Microprocessor control Wittig MPC 3010 as standard
- Low speed



X-WPSO WITTIG
Rotary vane vacuum pumps

Vacuum pump sets

X-WKP-WPSO WITTIG

Our pump sets with effective suction capacities of up to 18,000 m³/h are particularly suitable for generating operating vacuums below 100 mbar. These pumps consist of a combination of a rotary lobe pump and a rotary vane pump as backing pump.

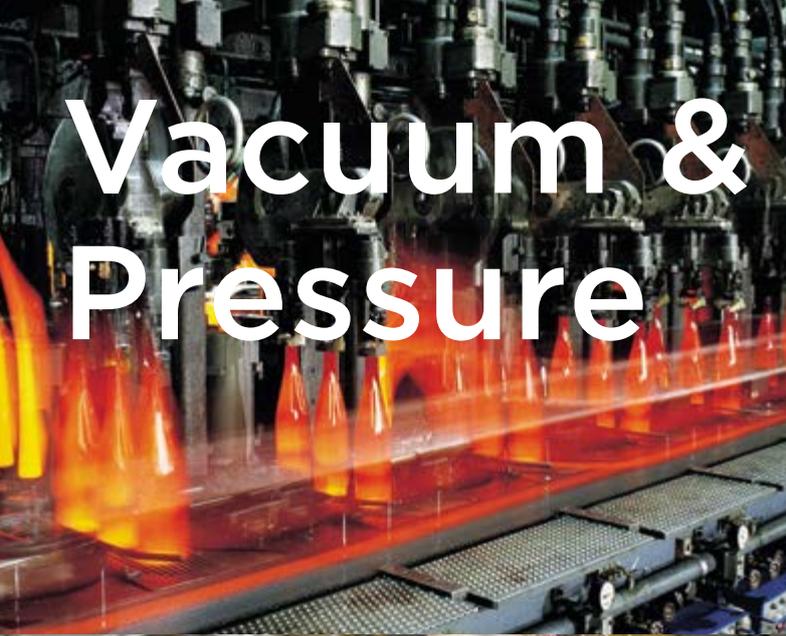
Advantages at a glance

- Up to 18,000 m³/h
- Low power requirement
- Small footprint
- Low purchase costs



X-WKP-WPSO WITTIG
Vacuum pump sets

Vacuum & Pressure



Applications

Rotary vane compressors

- Automotive industry
- Cement industry
- Ceramics industry
- Chemical industry
- Construction industry
- Forges
- Foundries
- Glass industry
- Metal industry
- Mining industry
- Paper industry
- Plastics industry
- Pneumatic conveying
- Power stations
- Process industry
- Shipyards
- Water supply systems
- Woodworking industry

Rotary vane vacuum pumps and pump sets

- Electrical industry
- Glass industry
- Mining industry
- Plastics industry
- Power stations
- Pneumatic conveying
- Process industry
- Shipyards
- Textile industry
- Water supply systems
- Woodworking industry



Product overview

Circular oil lubricated rotary vane compressors

X-RO WITTIG

Flow rates from 1,052 to 6,000 m³/h, operating pressure up to 10 bar (g), power from 90 to 630 kW. The rotary vane compressors are mounted on a robust base frame as compact unit, supplied fully wired (ready to connect) and with air or water cooled oil cooler and compressed air after-cooler as well as electric motors.

X-RO topline WITTIG

Flow rates from 253 to 946 m³/h, operating pressure up to 10 bar (g), power from 30 to 90 kW. Thanks to an innovative and flexible oil separating system, the X-RO topline WITTIG compressors are mounted standing up, which means less space is needed.

A 37 kW compressor, for example, requires less than 1 m².

Rotary vane vacuum pumps

X-WPSO WITTIG

Effective suction capacities from 720 to 4,450 m³/h, maximum operating pressure 200 mbar (abs.), power from 24.5 to 82 kW. The X-WPSO WITTIG pumps are equipped with water cooling and are using a microprocessor control system. They provide exactly the amount of air needed by an application.

Vacuum pump sets

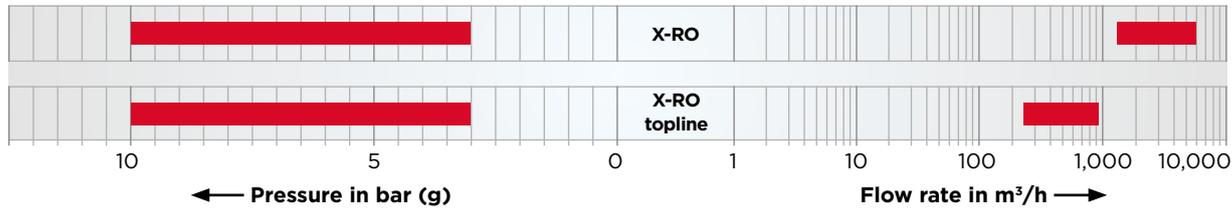
X-WKP-WPSO WITTIG

Effective suction capacities from 2,000 to 18,000 m³/h, operating pressure 10 to 100 mbar (abs.), power from 57 to 111 kW. The X-WKP-WPSO WITTIG use a microprocessor control system to provide exactly the amount of air needed by an application.

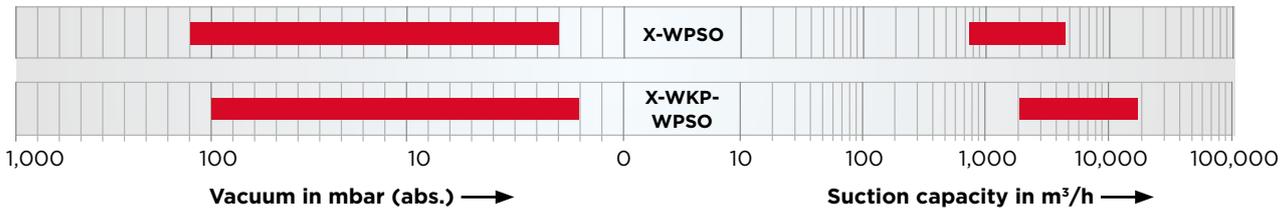
Technical specifications

Performance

Pressure



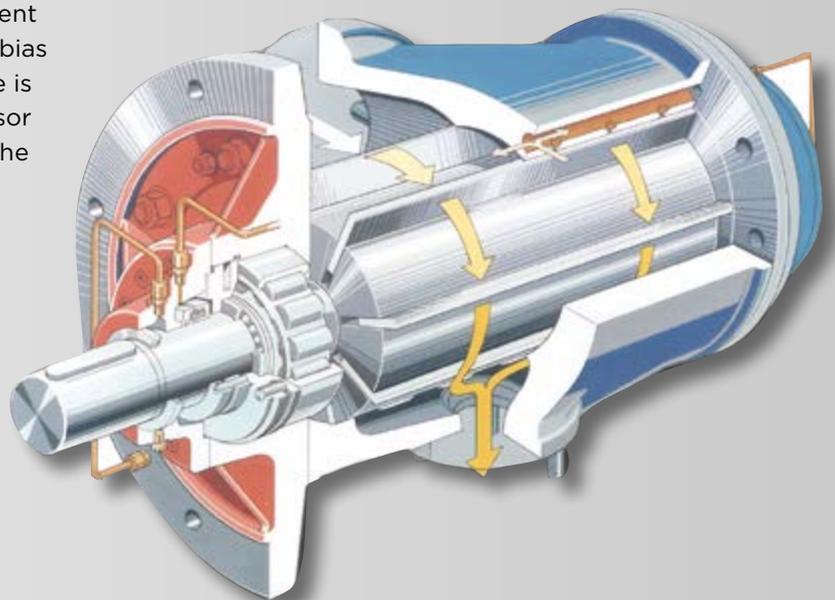
Vacuum



Operating principle

Vanes, separating the crescent-shaped working space into cells of varying volume, are pressed outwards against the wall of the compression space by the air being handled and centrifugal forces. The air is drawn in, compressed and discharged. At the same time, the rotating vanes have a sealing function: While they are pressed towards the wall by mass and centrifugal forces, the pressure - from the rotor slot under the vane - provides a constant efficient seal. This is called active sealing, similar to the spring bias of a piston ring. The essential feature of this principle is that the vane has no direct contact with the compressor housing. Instead, it moves on a hydrodynamic film. The oil is thrown against the compressor housing and

forms a cushion of oil in front of the vane. This creates a dynamic lubricating film which prevents contact between the housing and the vanes (aquaplaning effect). As a result no wear occurs.



Microprocessor control (accessories)

Wittig MPC 3010

With the aid of a Wittig MPC 3010 monitoring and control system, which takes care of continuity and maintains optimal capacity utilization, the data relating to the operating status of a compressor is available at any time. Programming takes place in accordance with customs parameters. This eliminates prolonged no-load periods and stop/go operation.

The status of the operating and load hours, the latest maintenance or fault messages can be accessed every time. An integrated time switch can control the automatic start and stop of the compressor by the Wittig MPC 3010 at the beginning or end of a shift. Optionally, operation control and monitoring are available and all operating states and analog values can be read out via profibus DP. The same applies to GLW and interconnected control.

Wittig MPC 3010 (base load change)

This system is supplied with full hardware and software and guarantees optimal capacity utilization of up to 5 compressors. The units are automatically started and stopped in varying sequences. When more air is required, the base load change system starts more compressors in a cascade.

Wittig MPC 3010-8/-16 (integrated control system)

With this system, up to sixteen compressors can be chosen in accordance to the compressed air demand. The Wittig MPC 3010-8/-16 calculates the air consumption on the basis of the pressure profile and the delivery volume and coordinates the start and stop of each compressor if the defined pressure band goes out of range. If compressors of different rating are in the cascade, the most powerful takes care of the base load and the smaller ones cover the peaks. If all compressors are of the same rating, the Wittig MPC 3010-8/-16 coordinates the run hours so that all compressors share the same work load.

This integrated control system can be programmed for different time windows (e.g. nighttime or weekends), priorities can even be set for individual compressors. The system's display software offers remote monitoring and control via internet.



Compressed air dryers (accessories)

Refrigeration dryers

A microprocessor based control device is an advanced solution for drying compressed air. Compressed air is fed into the dryer and pre-cooled in the air-to-air heat exchanger by the cold compressed air. The pre-cooled air passes through the refrigerant-to-air heat exchanger where it is further cooled to the required pressure dew point. The moisture in the compressed air condenses and is collected and discharged automatically. Finally, the cold discharged air is re-warmed by the incoming compressed air. This saves energy and prevents any moisture from forming downstream of the dryer in the compressed air system.

Advantages at a glance

- Multi-functional display
- Load controlled energy consumption; reduction down to 10% of nominal energy consumption
- Load controlled drain
- Low voltage monitoring
- Optional dry contact for alarm signal and analog signal 0-10 V for dew point temperature
- Maximum operation parameters: inlet temperature 60° C, ambient temperature 50° C for the whole series
- One component refrigerant R 134a, ozone factor zero
- Compact and easy to install cabinets

Adsorption dryers

Purifying compressed air on demand, free of particles and condensate, helps decrease running costs. Equipment consisting of integrated pre- and after-filters and an electronically level-controlled drain ensure pure, dry and oil-free compressed air with no loss of compressed air from condensate drainage.

Economical drying is guaranteed by an integrated microprocessor, which controls the adsorption and regeneration cycles.

Heat regenerative driers can be offered with the following options:

- Explosion proof version
- Pressure dew points of -70° C
- Steam regeneration systems and dryers for higher pressures and higher flow rates
- All functions, sequences, operating states and faults are displayed by LEDs on flow charts and they are monitored continuously
- Control of the air recovery temperature



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