

motralec

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Worthington
Creyssezac



AIR COMPRESSORS WIS®

1 500-2000-2500-3000

WIS®: A QUALITY FOR PURE AIR



In some manufacturing applications, compressed air needs to be absolutely free of oil in order to comply with quality and purity requirements of specific industrial processes.

Only oil free compression technology can guarantee 100% oil free air to satisfy these strict requirements. The WIS® series satisfies these requirements with its patented water injection technology with the added benefit of superior energy efficiency.

WATER REPLACES 3 FUNCTIONS OF THE OIL:

Lubrication, sealing and cooling of the screw element.

Using water in the compression process has many benefits: compressed air is not polluted by oil, condensate does not need any specific treatment and downstream filtration

system is not necessary which eliminates associated pressure drops and energy consumption.

WIS®

OIL INJECTED

0 mg/m³

Residual oil quantity
at the compressor outlet

3 mg/m³

With a lubricated compressor and filters it is possible to achieve low levels of residual oil but with a high cost of replacement filters. However if a filter fails then oil will pass into the downstream network causing contamination of the process and product.

0 filter

Number of filters installed
on the network for the oil
capture

2 filters & more

Network filters and their regular element change result in high service and maintenance costs. In addition energy costs dramatically increase as blocked filters cause a pressure drop of typically 0.5 bar per filter.

0 bar

Typical pressure drop
due to network filters

1 bar

0 %

Typical additional
energy consumption

+ 7 %

Legislation in many countries and norm ISO 14000 make condensate treatment compulsory before condensate discharge is allowed. To comply with this, with an oil lubricated compressor it is necessary to install expensive condensate treatment equipment with the further problem of disposal of recovered oil.

The high cooling efficiency of water combined with single stage asymmetric screw technology ensures **optimum efficiency:**

- 29 % higher than oil lubricated technology due to water's high cooling efficiency.
- 15 to 26% higher than most other oil free technologies: water improves compression efficiency and combined with a single stage screw, avoids the use of extra components needed with double stage technology: intermediary cooler, synchronisation system.

Isothermal compression. Compressed air outlet temperature is only 10 to 15°C above air inlet temperature, and temperature inside the canopy never exceeds 60°C.

Wear on internal components (such as motor, air-end, bearings) is eliminated and the presence of an after cooler is not required.

Energy savings linked to the high efficiency of the WIS® and the elimination of the installation and maintenance costs of filters ensures a realistic payback on your oil free investment.

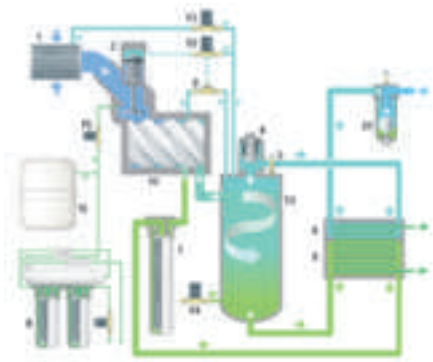
WIS® 1500-3000: AIR COOLED OR WATER COOLED



WATER COOLED VARIANT (WIS® W) When the air and water cooling flow can be fed by a continuous water cooling supply, WIS® W (Water version) equipped with air/water and water/water exchangers is a space saving solution (about 1.5 m²) to provide oil free air.



AIR COOLED VARIANT (WIS®) For installations that do not have continuous water cooling supply, WIS® (Air version) is built with a larger canopy that integrates air/air and air/water exchangers. Footprint (2.3 m²) remains extremely low, considering that no external cooling device is required.



- | | |
|---------------------------|--|
| 1 Air inlet filter | 9 RO system |
| 2 Inlet valve | 10 RO storage tank |
| 3 Pneumatic valve | 12 Compression element |
| 4 Minimum pressure valve | 13 Water separator vessel |
| 5 Safety valve | 14 Fan |
| 6 Air after cooler | 21 Condensate separator (except T version) |
| 7 Water filter | |
| 8 Cooler (heat exchanger) | |



QUALITY COMPONENTS

Corrosion proof components

In order to avoid corrosion risks, all the components of the WIS® 1500-3000 have been selected for their specific properties:

- Rotors are polymerised ceramic
- Element housing is an aluminium/bronze alloy
- Stainless steel water separation vessel
- Brass couplings and connections



Water quality

Life time of a water injected compressor is linked to the quality of the water used. An integrated reverse osmosis system is fitted with carbon and sediment filters for water purity. This eliminates any risk of contamination in the water flow of the WIS®.



Electronic control

Real time control of your compressor guarantees efficient management of your air production. The controller can display in many languages, controls the running parameters (including dryer ones for WIS® T), displays fault history and can be connected to a remote control system.



Belt drive

V-belts are fully adjustable and guarantee quality and longevity of the drive. A belt guards protects the drive assembly which is mounted on antivibration pads. An IP55, class F motor is fitted as standard.

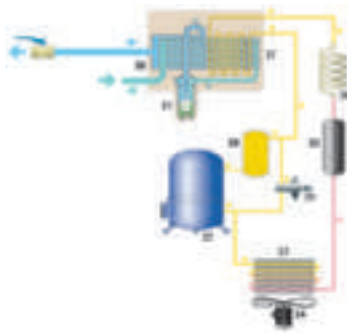


WIS® 1500-3000 T: INTEGRATED DRYER



Integration of an optional refrigeration dryer can ensure capture and elimination of residual water, thus avoiding corrosion in the network and costly damage to pneumatic equipment.

Integration of a dryer (T) in WIS® 1500-3000 AIR or WATER cooled dramatically reduces installation costs and allows installation close to the point of use.



- 21 Condensate separator
- 22 Refrigerant compressor
- 23 Refrigerant condenser
- 24 Fan
- 25 Liquid refrigerant dryer/filter
- 26 Capillary tube
- 27 Air/refrigerant heat exchanger
- 28 Liquid separator
- 29 Hot gas by-pass valve
- 30 Air/air heat exchanger

SIMPLIFIED INSTALLATION

Elimination of expensive installation costs:

- Small footprint
- Dryer already fitted:
 - No additional pipes or hoses required
 - No risk of leakage
 - No installation cost
- Dryer by-pass and auto-drain options
- Simplified maintenance:
 - dryer accessible through a trap
 - no oil refill, no condensate treatment
 - Environmental friendly
- Peace of mind

WIS® 3000V (T): VARIABLE SPEED

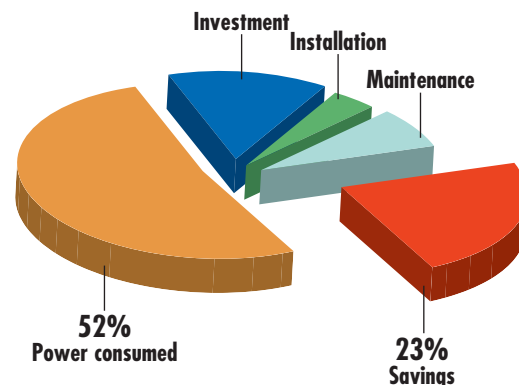


Available in AIR and WATER versions, WIS® 3000 V (30hp) has an energy consumption directly proportional to the quantity of air consumed. Motor speed is proportional to the demand and FAD adjusted automatically with constant outlet pressure and reduced energy consumption.

- Air production constantly adjusts to the demand
- Constant running pressure
- Elimination of off load cycles
- Progressive start and elimination of intensity peaks
- Reduced energy consumption

ENERGY SAVINGS

The most important part of compressed air related costs over 5 years is energy: for every Euro invested in a compressor, 6 will be consumed in energy. For that reason, return on investment in a variable speed solution is usually less than 2 years. Nowadays variable speed is the most economic way to reduce operational costs of your air production and to optimize your manufacturing efficiency.



TECHNICAL SPECIFICATIONS

Model		Pressure bar	Débit aux ⁽¹⁾ conditions de référence		Motor power		Noise ⁽²⁾ level dB(A)	Cooling air flow (AIR version)	Cooling water flow (DT=15°C)	Outlet ⁽³⁾ diameter (compressed air)	Weight ⁽⁴⁾ WIS®/with dryer
			m³/h	cfm	kW	hp		m³/h	m³/h	"	kg
WIS 1500	A	7.5	109	64	11	15	69	9252	0.6	1	655/707
	B	10	92	54							
WIS 2000	A	7.5	152	89	15	20	69	9252	0.83	1	673/725
	B	10	131	77							
WIS 2500	A	7.5	187	110	18.5	25	70	9252	1.03	1	697/765
	B	10	164	96							
WIS 3000	A	7.5	213	125	22	30	71	9252	1.19	1	745/813
	B	10	188	111							
WIS 3000V	Mini-Maxi 4-10	Mini-Maxi 47-211	28-124	22	30	70	9252	1.19	1	812/874	

(1) ISO 1217: 1996

(2) ISO 2151 (+/- 3 DB(A))

(3) THREAD M

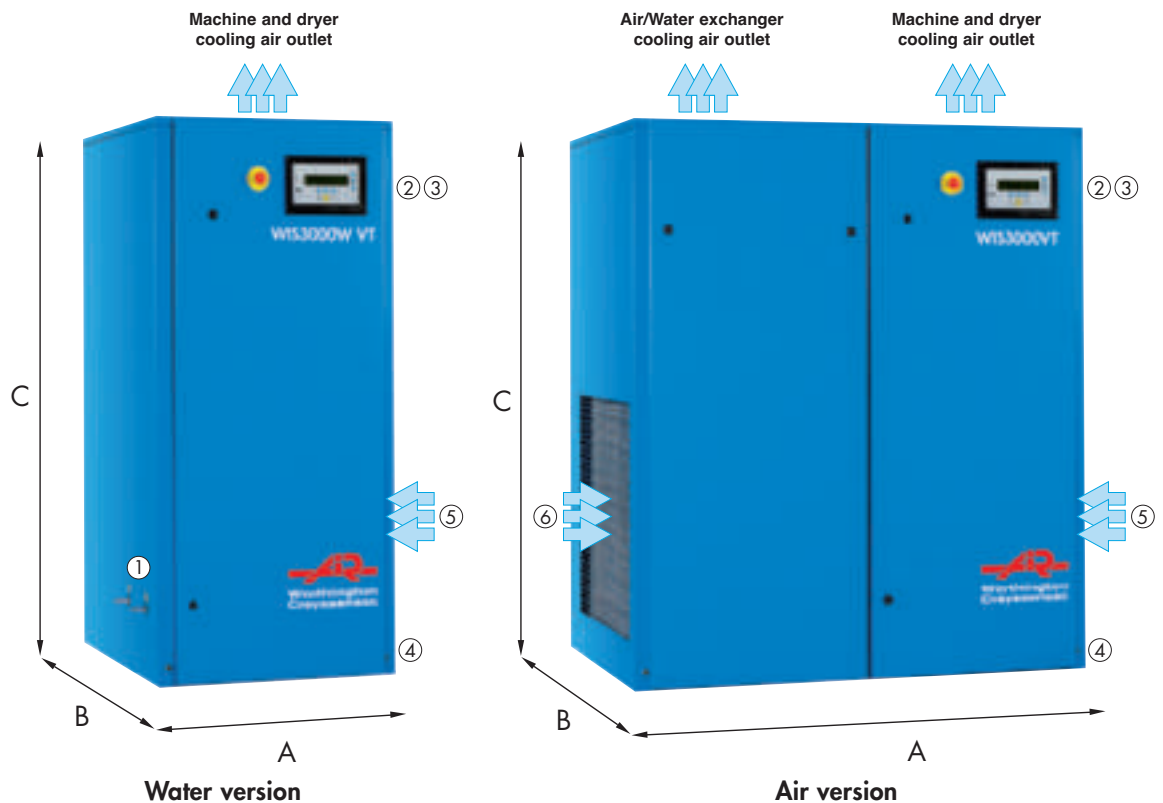
WIS® W: -70KG

DIMENSIONS

WIS® 1500-2000-2500-3000		
Ref. Marks	WATER	AIR
A	843	1523
B	1105	1105
C	1795	1795

Dimensions in mm

- ① Inlet/Outlet of cooling water (secondary water circuit)
- ② Power supply
- ③ Compressed air outlet
- ④ Drains and water supply
- ⑤ Machine and dryer air inlet
- ⑥ Air/Water exchanger cooling air inlet



SHARING OUR VALUES



PARTNERSHIP

Close working partnerships form the foundation of our corporate culture. This identity has grown from our strength in developing long term partnerships with our distribution and sales networks that have local knowledge and experience to provide a total compressed air solution service, tailored specifically to our customers' requirements.

Our business approach has earned us a reputation of trust and loyalty committed to achieving success through partnership.

COMPETENCE

Personnel skill development is a vital part of our success: by a continuous improvement process we improve the ability of our personnel to maintain and improve the service to our customers.

We carry this process through to our partner distributors to ensure that we create a motivated and enthusiastic team working together for the benefit of our customers.

EVOLUTION

Our strategy in product and service development is based on continuous improvement of our products and services in order to meet the requirement of the market and our customers. Continued investment in the design of new products and the use of innovating technologies keep our compressed air solutions amongst the most competitive in the industry. This is our mission to guarantee the satisfaction and trust of our customers.



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