Worthington Creyssensac


PURE AIR

# AIR COMPRESSORS WIS®

## 40-50-60-75

# WIS®40-75: AIR IN ITS PUREST FORM

***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.***

**Adding filters on an oil injected solution does not guarantee your system will be free of contamination in case of high oil load or filter failure.**
**Only oil free compression technology can guarantee 100% oil free air production to satisfy these strict requirements.**
**The WIS® 40-75 series is the best solution to satisfy these requirements with its patented water injection technology, the added benefit of superior drive efficiency, and a large choice of models. It complies with the most stringent standard for purity classes (ISO 8573-1 class 0) which insures no traces of oil can be found in the network even when using the "full-flow" measurement method.**

## AIR PRODUCTION 100% FREE OF OIL

WIS® technology uses water rather than oil to provide lubrication, sealing and cooling of the screw element. This has many benefits: compressed air is not polluted by oil, condensate does not need any specific treatment and downstream filtration system is not necessary, eliminating associated pressure drops, additional running costs and energy consumption.

| WIS® (OIL FREE) | | OIL INJECTED |
|---|---|---|
| RISK FREE | | CONTAMINATION RISK |
| 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, and risk: if a filter fails, oil will pass into the downstream network causing contamination of the process and products.

| | | |
|---|---|---|
| LOW MAINTENANCE | | FILTER MAINTENANCE COST |
| 0 filter | Number of filters installed on the network for the oil capture | 2 filters & more |
| ENERGY EFFICIENCY | | ENERGY WASTED IN FILTER PRESSURE DROP |
| 0 bar | Pressure drop linked to network filters | 1 bar |

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.

| | | |
|---|---|---|
| ENVIRONMENTAL FRIENDLY | | COST OF CONDENSATE TREATMENT |
| 0 % | Additional energy consumption | + 7 % |

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

## EFFICIENT ELECTRONIC CONTROL

Real time control of your compressor guarantees efficient management of your air production. The WIS® controller can display in many languages. It also controls the running parameters including the precise pressure control, displays fault history and has a facility to connect to a remote control system. Software is dedicated to the WIS® solutions, which for instance enables a weekly flushing of the RO system to protect the membrane by keeping it wet, or will detect any pressure drop at element water inlet. Multilogic® option is available to connect up to 4 compressors, including a variable speed compressor. Other options are available giving the controller increased communication possibilities.


## GUARANTEED OIL FREE TECHNOLOGY

**SUPERIOR DRIVE EFFICIENCY**

The WIS® compression process is almost iso-thermal thanks to water injection which allows optimum energy efficiency and low running temperature.

- Asymmetric screw
- IP55, eff1 motor
- Direct drive

**TOTAL WATER QUALITY**

A standard Reverse Osmosis system is integrated and allows automatic refill of the primary water circuit with RO water generated from a standard mains supply. Free of minerals and sediments, RO water protects the unit and avoids bacteria growth.

**HYDRODYNAMIC AND HYDROSTATIC BEARINGS**

Grease-free bearings, encapsulated by water ensures smooth element rotation. The bearings are maintained under a constant pressure at all times, maximising the lifespan.

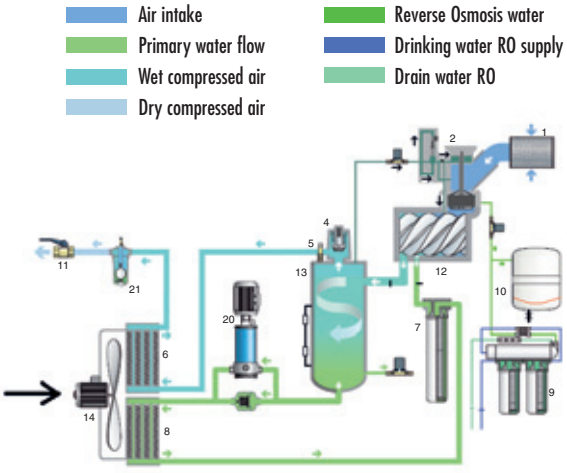
**NON-CORROSIVE SPECIFIC QUALITY COMPONENTS**

are used to avoid premature wear due to water contact.

- Polymerised ceramic rotors
- Aluminium/bronze alloy element housing
- Brass couplings and connections
- Stainless steel water separation vessel
- Stainless steel water filter housing

# WIS® 40-75: AVAILABLE IN TWO COOLING VARIANTS

## AIR COOLED




1 Air intake filter
2 Suction valve
4 Minimum pressure Valve
5 Safety valve
6 Air/Air exchanger
7 Water filter
8 Water/water cooler (Water cooled) or Air/Water cooler (Air cooled)

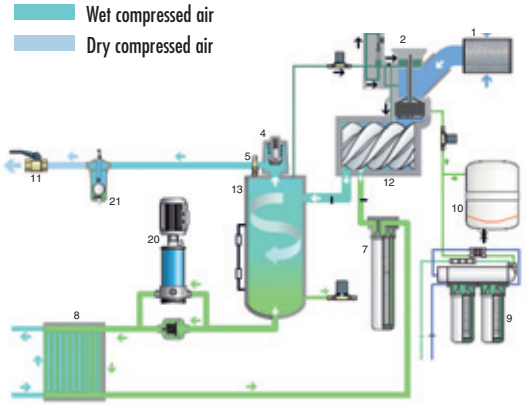
For installations that do not have continuous water cooling supply, the air cooled WIS® 40-75 series integrates air/air and air/water stainless steel heat exchangers. The footprint remains extremely low (2.35m²) compared to any external cooling device, and installation costs are reduced compared to the addition of external roof coolers. Coolers can be cleaned regularly by simply removing of the side panel. Cooling air outlet is located on the roof for easy ducting.
Use of a turbine with low rotation speed limits the noise level to an average of 70 dB(A), enabling installation in the workplace.

# AIR COOLED TECHNICAL SPECIFICATIONS

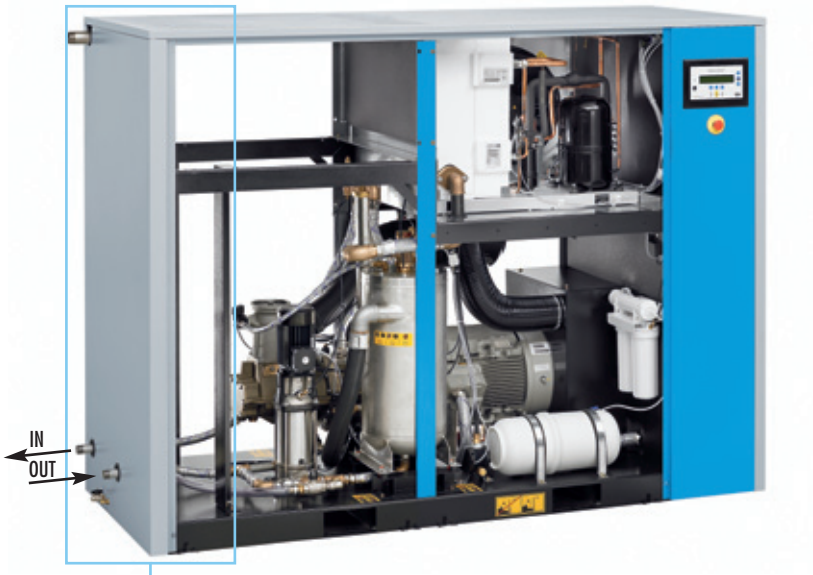
| Model | Pressure | FAD at ref. conditions | | Motor power | | Noise level | Cooling air flow | Outlet diameter (compressed air) | Weight Standard / with dryer |
|---|---|---|---|---|---|---|---|---|---|
| | bar | m³/h | cfm | kW | hp | dB(A) | m³/h | " | kg |
| **WIS 40A** | 7,5 | 306 | 180 | 30 | 40 | 68 | 11160 | 1,5 | 1226/1320 |
| **WIS 40B** | 10 | 246 | 145 | | | | | | |
| **WIS 40C** | 13 | 191 | 112 | | | | | | |
| **WIS 50A** | 7,5 | 367 | 216 | 37 | 50 | 69 | 11160 | 1,5 | 1298/1395 |
| **WIS 50B** | 10 | 311 | 183 | | | | | | |
| **WIS 50C** | 13 | 249 | 147 | | | | | | |
| **WIS 60A** | 7,5 | 437 | 257 | 45 | 60 | 71 | 15120 | 1,5 | 1321/1416 |
| **WIS 60B** | 10 | 353 | 208 | | | | | | |
| **WIS 60C** | 13 | 296 | 174 | | | | | | |
| **WIS 75A** | 7,5 | 501 | 295 | 55 | 75 | 72 | 15120 | 1,5 | 1378/1497 |
| **WIS 75B** | 10 | 425 | 250 | | | | | | |
| **WIS 75C** | 13 | 354 | 208 | | | | | | |

# WATER COOLED

Air intake
Primary water flow
Secundary water flow
Wet compressed air
Dry compressed air
Reverse Osmosis water
Drinking water RO supply
Drain water RO




9 RO filters
10 RO tank
11 Drain valve
12 Screw element
13 Water separator vessel
14 Turbine
20 Water pump
21 Condensate separator



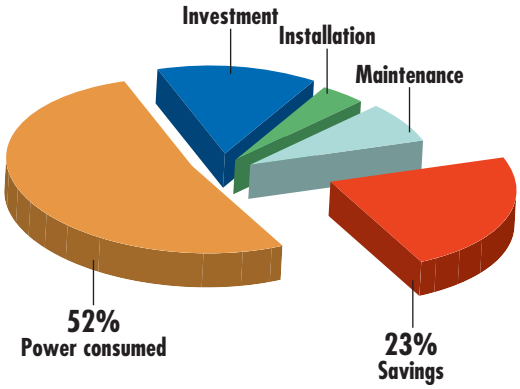

When the air and water cooling flow can be fed by a continuous water cooling supply, the water cooled WIS® 40-75 series is the most efficient solution. The plate water-water exchanger allows low delta of water temperature, and less pressure drop than air cooled units due to a simpler piping system and lower operation temperature. Free air delivery is hence 10% higher while noise level is on average 3 dB(A) less with an average of 67dB(A). A booster option is available for installation where the water network is below 3 bar. Secondary cooling system remains an available option.

# WATER COOLED TECHNICAL SPECIFICATIONS

| Model | Pressure | FAD at ref. conditions | | Motor power | | Noise level | Cooling water flow (DT=15°C) | Outlet diameter (compressed air) | Weight Standard / with dryer |
|---|---|---|---|---|---|---|---|---|---|
| | bar | m³/h | cfm | kW | hp | dB(A) | m³/h | " | kg |
| WIS 40A | 7,5 | 319 | 188 | 30 | 40 | 65 | 2,16 | 1,5 | 1121/1215 |
| WIS 40B | 10 | 256 | 151 | | | | | | |
| WIS 40C | 13 | 198 | 117 | | | | | | |
| WIS 50A | 7,5 | 386 | 227 | 37 | 50 | 66 | 2,7 | 1,5 | 1193/1290 |
| WIS 50B | 10 | 328 | 193 | | | | | | |
| WIS 50C | 13 | 262 | 154 | | | | | | |
| WIS 60A | 7,5 | 463 | 272 | 45 | 60 | 67 | 3,3 | 1,5 | 1216/1313 |
| WIS 60B | 10 | 389 | 229 | | | | | | |
| WIS 60C | 13 | 324 | 190 | | | | | | |
| WIS 75A | 7,5 | 550 | 324 | 55 | 75 | 68 | 4,02 | 1,5 | 1273/1392 |
| WIS 75B | 10 | 472 | 278 | | | | | | |
| WIS 75C | 13 | 392 | 231 | | | | | | |

# WIS® 50 & 75 V(T): VARIABLE SPEED CONTROL

## *Two models that optimise your operations costs*




## ENERGY SAVINGS

Air demand is not usually constant. Whenever the air profile shows fluctuations, there is room for energy savings. Over 5 years, operational energy costs represent 6 times more than the original investment in the compressor.
For that reason, a variable speed compressor can usually be paid back in less than 2 years. In fact, up to 30% energy savings are possible with this technology, making it the most economic way to reduce operational costs and to optimise manufacturing efficiency.

Available in air and water cooled versions, WIS® 50V and WIS® 75V have an energy consumption directly proportional to the quantity of air consumed.
V models are equipped with a one to one drive: absence of gears ensures the units are free of any oil. Inverters have a state of the art design and their electronic components of latest technology ensure optimum efficiency.

**V BENEFITS:**

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

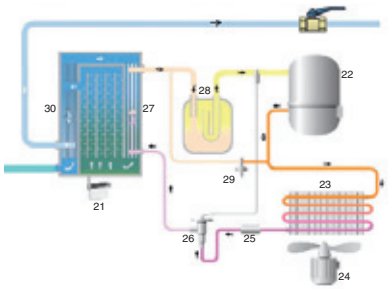
## WIS® V TECHNICAL SPECIFICATIONS

| AIR COOLED | Pressure | FAD at ref. conditions min | | FAD at ref. conditions max | | Motor power | | Noise level | Cooling air flow | Outlet diameter (compressed air) | Weight Standard / with dryer (T) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | bar | m³/h | cfm | m³/h | cfm | kW | hp | dB(A) | m³/h | " | kg |
| WIS50V | 4 | 166 | 97 | 389 | 229 | 37 | 50 | 69 | 11160 | 1,5 | 1195/1306 |
| | 7 | 151 | 89 | 374 | 220 | | | | | | |
| | 9,5 | 184 | 108 | 320 | 189 | | | | | | |
| | 12,5 | 223 | 131 | 256 | 150 | | | | | | |
| WIS75V | 4 | 164 | 96 | 577 | 339 | 55 | 75 | 72 | 15120 | 1,5 | 1195/1314 |
| | 7 | 152 | 90 | 558 | 328 | | | | | | |
| | 9,5 | 186 | 110 | 487 | 286 | | | | | | |
| | 12,5 | 218 | 128 | 393 | 231 | | | | | | |

| WATER COOLED | Pressure | FAD at ref. conditions min | | FAD at ref. conditions max | | Motor power | | Noise level | Cooling water flow (DT = 15°C) | Outlet diameter (compressed air) | Weight Standard / with dryer (T) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | bar | m³/h | cfm | m³/h | cfm | kW | hp | dB(A) | m³/h | " | kg |
| WIS50V | 4 | 162 | 95 | 400 | 235 | 37 | 50 | 66 | 2,7 | 1,5 | 1090/1201 |
| | 7 | 151 | 89 | 389 | 229 | | | | | | |
| | 9,5 | 187 | 110 | 331 | 195 | | | | | | |
| | 12,5 | 234 | 138 | 266 | 157 | | | | | | |
| WIS75V | 4 | 162 | 96 | 588 | 346 | 55 | 75 | 68 | 4,02 | 1,5 | 1090/1209 |
| | 7 | 151 | 89 | 579 | 341 | | | | | | |
| | 9,5 | 187 | 110 | 512 | 301 | | | | | | |
| | 12,5 | 235 | 138 | 421 | 248 | | | | | | |

# WIS® 40-75 T: INTEGRATED DRYER

## *Quality Air and Space saving*




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

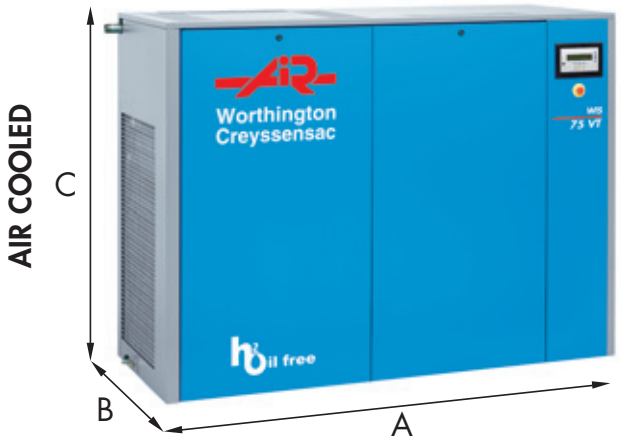
Refrigerant gas/liquid mix
Low pressure cool refrigerant gas
High pressure hot refrigerant gas
High pressure refrigerant liquid
Low pressure refrigerant liquid

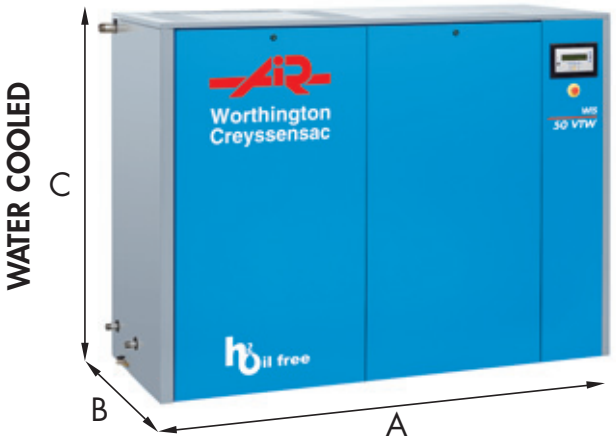
Integration of an optional dryer can ensure capture and elimination of residual water, thus avoiding corrosion in the network and costly damage to pneumatic equipment.
This variant is available on any version: air cooled or water cooled, fixed speed and variable speed models.
Refrigeration dryer integration in the canopy is space saving and allows easier installation close to the point of use.

**SIMPLIFIED INSTALLATION:**

- No interconnecting pipe work between dryer and compressor
- Same footprint as standard WIS®
- Factory fitted integral dryer:
  – no extra hoses required
  – no risk of leakage
- Auto drain as standard
- By-pass option available
- Environmentally friendly refrigerant
- Easily accessible dryer

## DIMENSIONS




**WIS® 40-50-60-75 (VT)**
**AIR OR WATER COOLED**

| Ref. Marks | |
|---|---|
| A | 2435 |
| B | 965 |
| C | 1840 |

Dimensions in mm

# 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 though 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.


**UK**

**Worthington Creyssensac**
**Air Compressor Products Ltd.**
Unit 10 Ravenhurst Court,
Risley Road
Birchwood, Warrington
Cheshire WA3 6PN
Phone: 01925 817 803
Fax: 01925 850 186

**Export**

**Worthington Creyssensac**
Zone Industrielle 4 rue Émile Zola
B.P. 80419 60114 Méru France
Tél.: 33 (0)3 44 52 67 31
Fax: 33 (0)3 44 52 67 35
wce.info@airwco.com


**YOUR DISTRIBUTOR**

**www.airwco.com**