AIR COMPRESSORS

ROLLAIR®
40-50-60-75

R E L I A B I L I T Y

P E R F O R M A N C E

C O L D

P U R I T Y

ROLLAIR® T : with integrated dryer

ROLLAIR® V : with variable speed

ROLLAIR V

Worthington Creyssensac

ROLLAIR® 40-50-60-75
Benefits of experience

The new ROLLAIR® 40-75 range is the result of more than 30 years of continuous product development.

Our design and manufacturing policy is to produce a Quality product combining reliability, low maintenance and energy efficiency, which will give our customers total confidence in their investment.

Reliability : our primary concern

State of the art design, production and testing techniques ensure product reliability, and reduce downtime and costly repairs.

ROLLAIR® 60 T with integrated dryer

ROLLAIR® 50 V
with variable speed compressor

Compact design : no compromise on maintenance accessibility

In a footprint less than 1.7 m², we combine all the elements of a state of the art air unit :

- high efficiency oil injected screw compressor,
- latest inverter drive technology built in (option),
- fully integrated refrigerant dryer (option).

With a reduced width, **ROLLAIR® 40-75** can pass through a standard industrial door, forklift openings in the frame allow easy handling. Doors and removable panels allow unobstructed access for quick maintenance.

Low sound level : protection of the environment

High quality components and soundproofing material are utilised to dramatically reduce noise levels, a major concern in today's industry.

With a noise level between 65-68 dB(A) our compressor can be installed closer to the workplace.

Built-in refrigeration dryer : superior air quality

Possible addition of a dryer and water separator ensure high quality, clean and dry compressed air :

- risk of corrosion to the air distribution system is eliminated,
- risk of damages to pneumatic tools and equipment is reduced,
- longer operational life for equipment,
- reduced air leaks,
- less product contamination.

Built-in quality : low maintenance

The **ROLLAIR® 40-75** is a combination of high quality components coupled with 30 years of experience in product design and operation. The result is a product with minimum service requirements and shorter payback of your investment.

ROLLAIR® 40-50-60-75 V

Designed for optimum energy savings

**The ROLLAIR® V is a product designed to achieve optimum efficiency.
Built on the design of the ROLLAIR® 40-75, the V range uses a maximum of standard components in order to achieve the maximum operating simplicity and reliability.**

Optimum design for superior reliability

The large turbine placed above the standard IP 55 motor overcomes the cooling requirements of the motor during long period of running at low motor speed, and prevents the built up of motor temperature, increasing both reliability an energy efficiency. This protects the motor against high operating temperature, expanding its life time to preserve your investment.

High efficiency inverter

The **ROLLAIR® V** is fitted with an inverter which complies with the highest industrial standards but maintains its ability to be very user friendly. Inverter technology is used in many different applications in industry today.

The inverter controls the speed of the motor. The VCI 07 monitors service requirements and displays unit status and warning indications on a comprehensive digital panel, resulting in high reliability of your **ROLLAIR® V**.

It is fitted upstream with an RFI (Radio Frequency Interference) filter that protects the main electrical components. Its integration and features are essential to satisfy EMC (Electro Magnetic Compatibility) norms of the **ROLLAIR® V**.

Large air-end for superior performances

The free air delivery band of an inverter drive compressor is directly related to the correct air-end size and gears selection.

By selecting the most efficient gears, we have optimised the free air delivery within the most frequently used frequency band, resulting in the highest potential energy savings achievable.

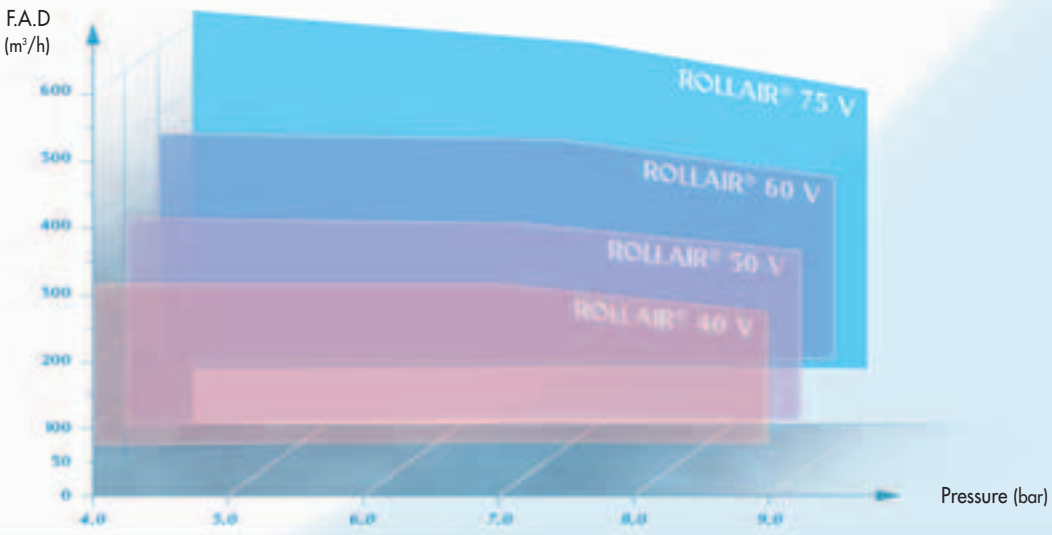
This results in **ROLLAIR® V** being one of the most efficient variable speed compressor available today.

Designed for minimum operating costs

The **ROLLAIR® V** inverter is supplied pre programmed with our specially developed energy saving software to match power consumption to individual system requirements, eliminating off load running cycles, and optimising the specific energy of the package according to the set pressure.

Technical specifications

Large range with integrated inverter to match your air demand fluctuations for maximum flexibility



ROLLAIR® 40-50-60-75 M/X

High quality design for superior performance

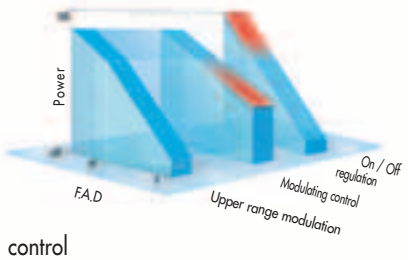
High filtration quality

The 2 micron pleated air filter is designed to give maximum protection for the air/oil circuit while maintaining surface area for unobstructed airflow.

Oil, oil filter and oil separator are preserved against dust contamination, extending component life and reducing the operating cost of the **ROLLAIR®**.

The pre-cyclonic filtration of the **ROLLAIR® X** captures large dust particles before passing through the filtration media, extending the life of the filter element.

Modulating control for superior regulation



The **ROLLAIR® X** uses conventional pressure sensor, but has the unique ability to allow upper range modulation. This system allows three different control methods to increase energy efficiency and operating flexibility :

- **Full load / No load control**

Classical control method - between a set pressure band, most efficient for intermittent air demand.

- **Modulating control**

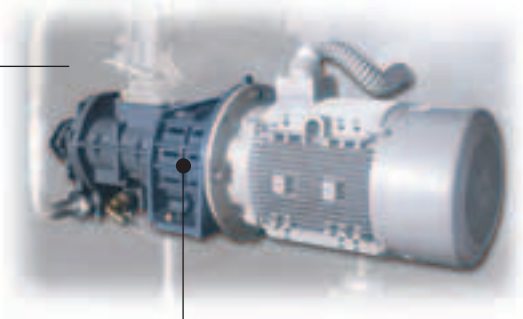
This system varies the amount of air entering the compressor, matching output to demand while maintaining a constant pressure within the network.

This method is the most efficient form of regulation when the air usage is above 70 % of the compressor output, reducing power consumption and lowering mechanical wear of the major components.

- **Upper range modulation**

The compressor control automatically changes its regulation as air usage patterns change, combining the best features of load/no load and modulating control.

Direct driven for higher performances and lower service cost



Elastic coupling for superior drive efficiency

Direct drive combined with a unique elastic coupling provide the most reliable transmission system for screw compressors compared to belt drive systems.

A bell housing is fitted to guarantee perfect alignment between the IP55 motor and the air-end element, eliminating periodical checking and service requirements.

The **PHOENIX®** coupling offers protection and longer life for the air end and motor by minimising transfer vibration.

The system offers a guarantee of longer operating life time, combining superior efficiency with low energy consumption, and substantially reducing maintenance costs.

ROLLAIR® 40-50-60-75 M/X

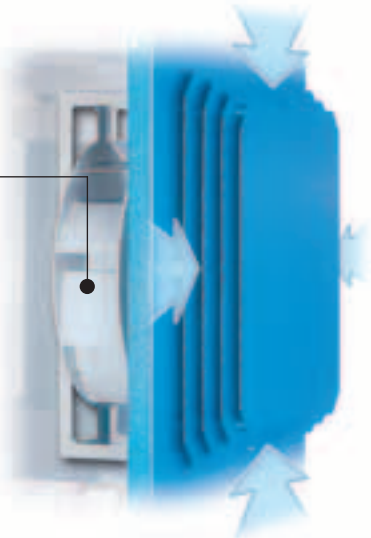
Designed with high quality components

High cooling capacity

High efficiency aluminium type cooler blocks are designed with a large surface area reducing air and oil fluid temperature to the minimum for maximum cooling efficiency.

The coolers are horizontally mounted in the roof of the compressor to ensure optimum thermal efficiency.

Easy access to clean the coolers is possible thanks to the separate turbine ventilator.



Maximum ventilation efficiency with lower noise level

One of the most advanced innovations incorporated into the **ROLLAIR® 40-75** is the turbine ventilator which coupled with the inlet baffle offers several benefits :

- designed to operate with low rotation speeds, the noise level of the package is reduced to a minimum,
- the turbine has a higher ventilation flow with less power consumption than a conventional cooling fan, optimising the cooling efficiency towards individual components,
- the baffle decreases the cooling air entry speed which gives the added benefit of reduced dust contamination,
- reducing both power consumption and operating temperature of the compressor package, provide lower energy costs and extended components life.

Modern design for superior efficiency

Combining our experience in compressor manufacturing and operation, together with today's demanding customer requirements, has lead to the **ROLLAIR® 40-75** range which is designed to operate in heavy duty industrial applications.

Its compactness ensures maximum flexibility and offers maximum installation opportunities.

New **ROLLAIR® 40-75** has integrated the latest technologies applied to the compressor to guarantee a reduced noise level and a higher quality to your investment.

A large range to match any installation requirements

ROLLAIR® 40M-50M-60M-75M	ROLLAIR® 40X-50X-75X	ROLLAIR® 40V-50V-60V-75V
Controller MCI 01 High sensibility pressure switch On- Off control	Controller PCI 07 Pressure sensor Upper range modulation Moisture separator with electronic drain	Controller VCI 07 Pressure sensor Variable speed regulation Moisture separator with electronic drain
ROLLAIR® 40MT-50MT-60MT-75MT	ROLLAIR® 40XT-50XT-75XT	ROLLAIR® 40VT-50VT-60VT-75VT

Moisture separator with electronic drain valve before dryer - Direct expansion dryer with 3°C dew point
System for by pass - Easy accessibility for service - Dew point display
Pre cooling system for dryer - Anti freezing protection

ROLLAIR® 40-50-60-75 M/X

Accurate control systems

MCI 01 — Simple and user friendly with all necessary functionality

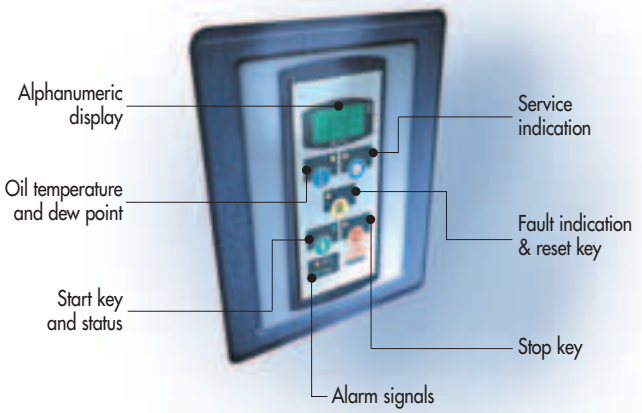
The **ROLLAIR® 40-75 M** compressors are equipped with the MCI 01, fitted with a microprocessor with storage of maintenance operations and information.

Display

- Element outlet oil temperature or dew point
- Load - Unload operating hours
- Service hours for major service requirements
- Operating status with led signals

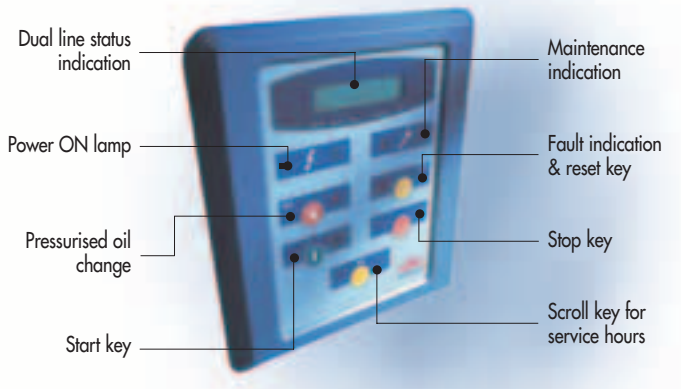
Alarm for

- Element outlet temperature or dryer freezing
- Main motor and turbine overload fault
- Temperature sensor fault
- High temperature
- Number of starts per hour



PCI 07 — Advanced monitoring system for optimum efficiency

The **ROLLAIR® 40-75 X** compressors are equipped with the PCI 07 service monitoring system to provide indications of when maintenance is due and to allow service work to be planned.
A fully comprehensive array of displays, warnings and faults are included.



With a Real Time Clock Control, the starting and the stopping of the unit can be programmed through a maximum of 56 timers to set an operating schedule avoiding air production without air demand.

The PCI 07 is equipped with a serial port which when connected to another PCI 07 enables one compressor to control the operating cycle of a second compressor, eliminating the need for an external change-over switch.

Display

- Package outlet pressure from the pressure sensor
- Element outlet oil temperature
- Load - Unload - Load ratio
- Service hours for major service requirements
- Operating status
- Fault nature and last fault history

Alarm for

- Element outlet temperature
- Main motor and turbine overload fault
- Star contactor fault
- High pressure
- Restart without pressure
- Temperature sensor fault
- High and low temperature fault
- Number of starts per hour

Variants

. Automatic restart
. Oil re-heating system
. Energy recovery on oil circuit
. Pre filtration panels
. High efficiency air intake filtration

. Capacity drain for zero air loss for moisture separator
. Remote control
. Link cable for 2 PCI 07

ROLLAIR® T
. Auto-transformer 400 V / 230 V for dryer power supply
. Capacity drain for zero air loss for dryer water separator

Connection to the **LEADAIR®** compressor management and Energy Saving System

ROLLAIR® 40-50-60-75 T

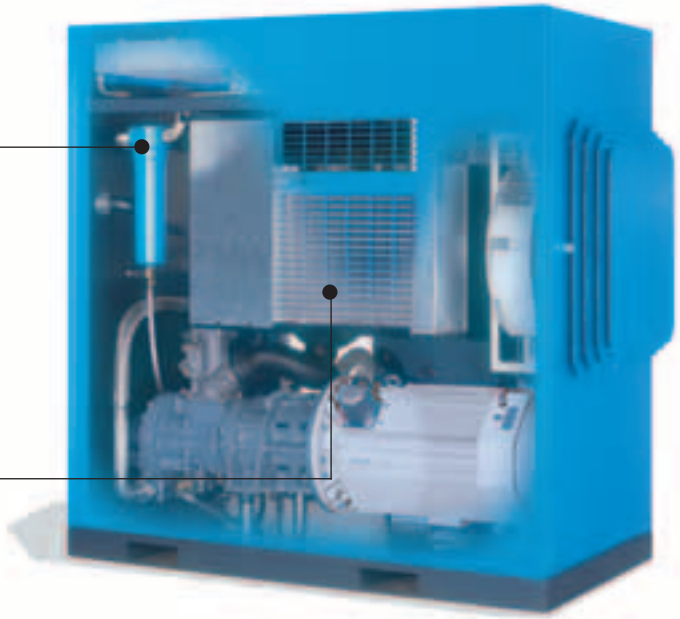
All - in - one air quality

Integrated dryer for superior air treatment quality

For many companies today, the treatment of compressed air is not an option, but a necessity to reduce operating costs, increase production efficiency and minimise expensive breakdowns. To meet this challenge Worthington-Creyssensac has developed the **ROLLAIR® T**, with built in high quality and performance refrigeration dryer, to bring the air treatment as an integrated part of the compressor package.

Moisture separator for dryer protection

Water separation is a major quality issue : a large amount of condensate, generated after the air cooler, has to be separated and removed to preserve the integrated dryer against damages and to increase its efficiency for superior air quality.



Direct expansion dryer for superior air quality

The **ROLLAIR® T** dryer's expansion technology keeps dew point fluctuation to a minimum, and guarantees constant air quality with a minimum pressure drop. A pre-cooling delay can be programmed to eliminate condensate from the first produced m^3, when high air quality treatment standards are required.

The **ROLLAIR® T** offers the guarantee of a dryer accurately sized according to the compressor's capacity, even when working at maximum temperature.

The ventilation to the dryer is independent of the compressor to insure a maximum cooling efficiency.

Full accessibility for easy maintenance

A by pass system enables the isolation of the dryer, to ensure constant air delivery. The integration of the dryer has been designed for an easy removal, reducing maintenance downtime and increasing reliability of the **ROLLAIR® T**.

Simplify your air production with maximum efficiency

Reduction of space requirements

Space is money : installation space requirements has been reduced by 66%.

Multiple installation possibilities

fit in any workplace due to its remarkably low noise level.

Elimination of air leakage risks

Limited pipe works reduces air leakages.

Increased air quality

Integrated dryer offers constant and superior air quality delivery at the outlet.

Installation cost reduction

Limited installation requirements reduces costs.

Reduce Pressure drop

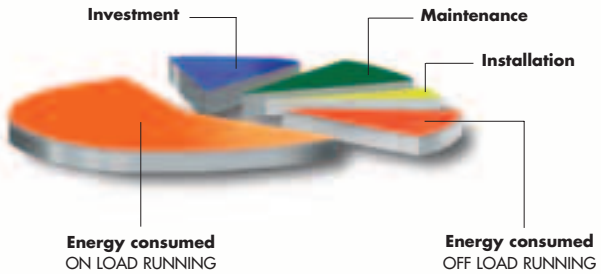
Pressure control is achieved before compressor outlet (and after the dryer).

ROLLAIR® 40-50-60-75 V

How to save up to 35 % of energy ?

Compressed air is a major part of many company's production cost, and an area where significant savings can be achieved without sacrificing the company's production efficiency or product quality.

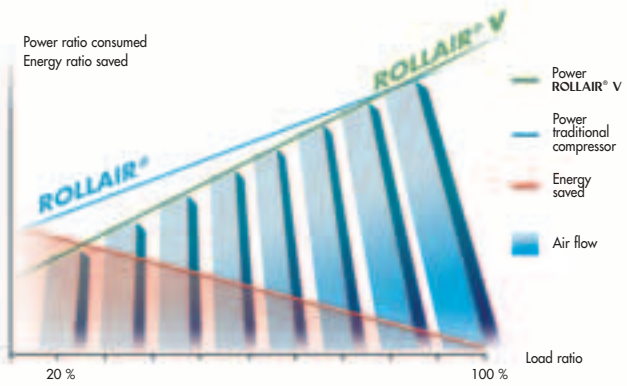
For many companies, the electrical cost will account for over 75 % of the total operating cost of a compressed air system over a 5 year period.



With the **ROLLAIR® V**, power consumption is directly proportional to the quantity of air used, unlike conventional control methods where, as the percentage of full load running decreases, the compressor becomes increasingly less efficient and absorbs a disproportional amount of power.

For company 's with varying air requirements or period of low air demand, the Rollair V will save substantial amounts of energy lowering the cost of compressed air production.

Tests prove 30 % Energy Savings can easily be achieved.



Accurate Pressure Control from 4 to 9.5 bar

Conventional control systems work between two set pressures resulting in excessive pressure delivery, high pressure fluctuation.

ROLLAIR® V maintains a constant set pressure in the system reducing components wear and power consumption.

Off load running elimination

When a compressor runs off load it will normally consume between 20 to 30 % of the full load power consumption.

ROLLAIR® V varies the speed of the motor to change the volume of air entering the compressed air system, eliminating off load power consumption.

Soft start

The star Delta starting sequence on a motor creates a power surge in your electrical system.

ROLLAIR® V progressively increases power to the motor, preserving the motor mechanics, and avoiding any penalties imposed by the power supply companies for electrical peaks in your system.

ROLLAIR® 40-50-60-75 VT :

a global solution for management of low cost air quality production.

- **. Reduction of space requirements**
- **. Installation cost cutting**
- **. Multiple installation possibilities**
- **. Elimination of air leakage risks**
- **. Reduced pressure drop**
- **. Increased air quality**

and

Lowering your energy consumption.

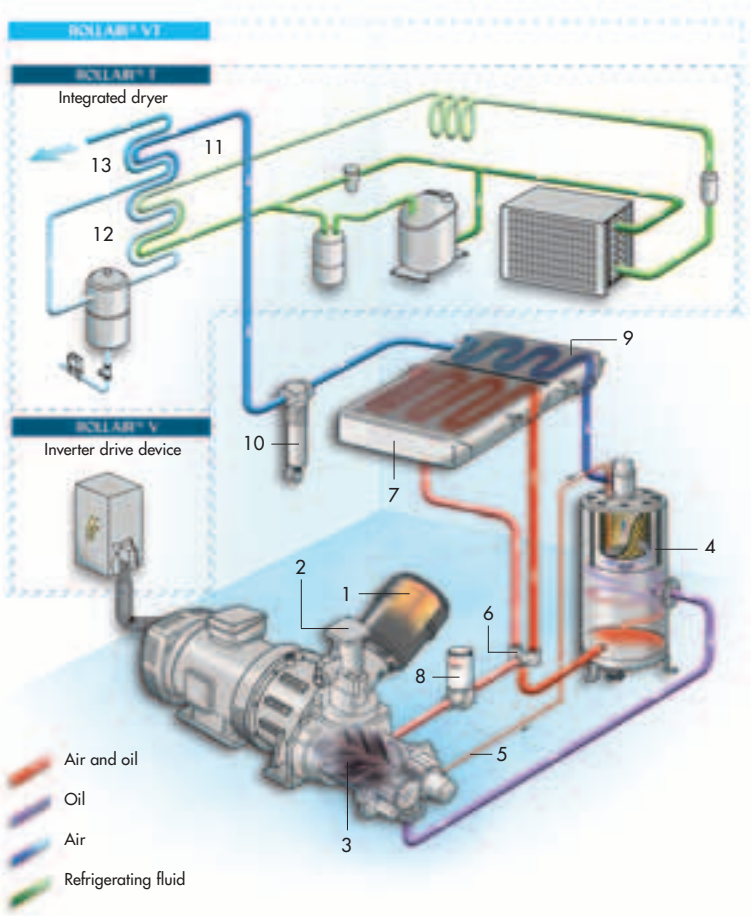
ROLLAIR® 40-50-60-75

The latest technology in one package

Oil injected screw compressor ROLLAIR® M/X

1 Air is drawn through a high efficiency filter into the compression element.

2 The air entering the compression element is regulated by the pneumatically controlled inlet valve.



3 Oil in the compression element performs three vital roles : cooling, lubrication and a seal between the rotor profiles, ensuring peak performance with no loss in efficiency.

4 The three stage air/oil separation system is designed to provide a low residual oil content in the air below 3 ppm.

5 Residual oil inside the separator element is removed by the oil scavenge line reducing oil carryover into air network.

6 Thermostatic by-pass valve controls oil temperature before oil enters the coolers, ensuring optimum operating temperature.

7 Oil coolers with a large surface area maintain the correct operating temperature of the compressor.

8 Oil is filtered to remove contamination before being re injected into the air-end.

9 Air cooler reduces the temperature into the compressed air to 10°c above ambient temperature causing water vapour to condense.

10 Large amounts of water are removed by the after cooler. Fitted as standard (except MCI 01) is a cyclonic separator that removes 90 % of all bulk water. This is then discharged by an electronic drain valve. Downstream equipment is protected against contamination and corrosion.

ROLLAIR® T, high air quality production (variant)

11 The Integrated dryer (T version) is equipped with an Air/Air heat exchanger that enables pre cooling before cooling by the refrigerant system.

12 The temperature of the air is further reduced to 3 °C causing airborne moisture to condense. This bulk water is removed through an integrated water separator fitted with an electronic drain.

13 Before discharge the air passes through the air/air heat exchanger for a second time to be re-heated, so that no condensation will appear on your pipe work. This protects down-stream equipment from water contamination, increasing the reliability of pneumatic equipment and reducing product contamination.

ROLLAIR® V, cost control of your air production

A An RFI filter protects the customer electrical network (neutral TT or TN) from interference that might be created by the compressor.

B The high efficiency inverter fully integrated into the ROLLAIR® V applies a large frequency fluctuation band on the standard motor to match the air production to the air demand variation.

C The VCI 07 controller, pre programmed with our specially developed energy saving software to match power consumption to individual system requirements, eliminates off load running cycles and unnecessary energy consumption.

Technical Specifications

Version	Working pressure ROLLAIR® M (bar)	Working pressure ROLLAIR® X (bar)	(1) Free air delivery (m³/h)	Free air delivery (cfm)	Motor power (kW)	Motor power (hp)	(2) Acoustic level (dB (A))	Cooling air volume ROLLAIR® (m³/h)	Cooling air volume ROLLAIR® T (m³/h)	(3) Compressed air output diameter (")	Weight ROLLAIR® M/X (kg)	Weight ROLLAIR® T (kg)	Weight ROLLAIR® V (kg)	Weight ROLLAIR® VT (kg)
ROLLAIR® 40														
A	7,5	8	335	197,2	30	40	65	4 850	5 750	1"1/2	870	965	945	1 040
B	10	10,5	281	165,4	30	40	65	4 850	5 750	1"1/2	910	1 005	945	1 040
C	13	13,5	230	135,4	30	40	65	4 850	5 750	1"1/2	910	1 005	945	1 040
ROLLAIR® 50														
A	7,5	8	414	243,7	37	50	66	4 850	8 630	1"1/2	940	1 110	935	1 105
B	10	10,5	353	207,8	37	50	66	4 850	8 630	1"1/2	940	1 110	935	1 105
C	13	13,5	281	165,4	37	50	66	4 850	8 630	1"1/2	940	1 110	935	1 105
ROLLAIR® 60														
A	7,5	8	482	283,7	45	60	67	6 650	10 430	1"1/2	990	1 160	1 025	1 195
B	10	10,5	432	254,3	45	60	67	6 650	10 430	1"1/2	990	1 160	1 025	1 195
C	13	13,5	360	211,9	45	60	67	6 650	10 430	1"1/2	990	1 160	1 025	1 195
ROLLAIR® 75														
A	7,5	-	569	334,9	55	75	68	9 000	12 780	1"1/2	1 020	1 190	1 055	1 225
B	10	-	508	299,0	55	75	68	9 000	12 780	1"1/2	1 020	1 190	1 055	1 225
C	13	-	436	256,6	55	75	68	9 000	12 780	1"1/2	1 020	1 190	1 055	1 225

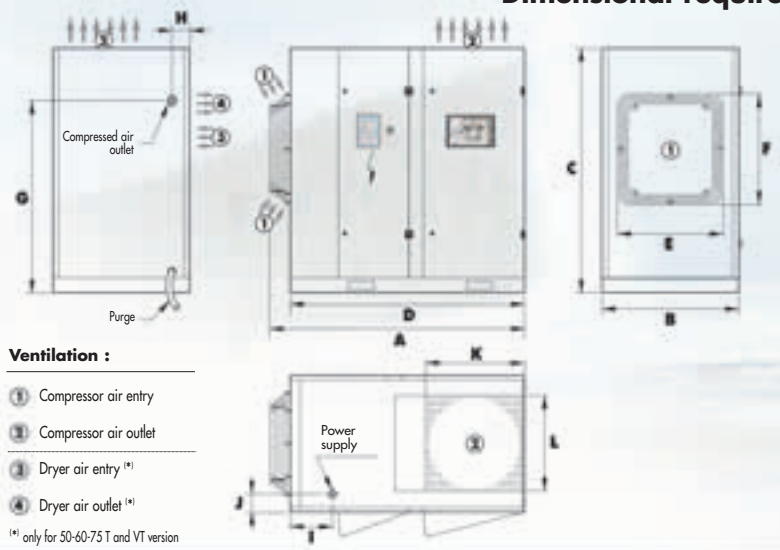
(1) as per Code ISO 1217 : 1996 (2) as per CAGI PNEUROP PN8NTC2 (3) G-thread

Reference conditions of ROLLAIR® measurements : suction pressure : 1b ab, ambient temperature 20°C, discharge pressure A=7 bar, B=9,5 bar and C=12,5 bar eff.

The temperature of the air leaving the cooler is 10°C higher than ambient.

Please contact us for higher pressure levels.

Dimensional requirements



Ventilation :

1. Compressor air entry
2. Compressor air outlet
3. Dryer air entry (*)
4. Dryer air outlet (*)

(*) only for 50-60-75 T and VT version

ROLLAIR® 40-50-60-75

Ref. marks	
A	1 820
B	985
C	1 760
D	1 690
E	740
F	770
Air outlet	
G	1 268
H	130
Power supply	
I	300
J	130

Compressed air outlet :	ROLLAIR® 40	ROLLAIR® 50	ROLLAIR® 60-75
K	384	509	695
L	688	688	688

Dimensions in mm

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