Technical Data Sheet

COLTRI COMPRESSORS

# NITROX LINE

# C-NITROX P320

## ELECTRIC

Contact

# Explore without limits: push your dives to new depths.

**C-NITROX P320** is an Heavy Duty industrial screw compressor that delivers air at a pressure of 10 bar towards a Parker membrane that separates nitrogen and oxygen up to a maximum percentage of 36% of oxygen. The enriched air can be compressed to 232 bar in combination with a high pressure compressor. The percentage of oxygen obtained at the outlet can be adjusted up to 36% thanks to a valve accessible directly on the top of the compressor. The oxygen analyzer allows you to check the correct percentage, adjusting it through the appropriate valve.

# Technical data

| | |
|---|---|
| **Type of gas** | Nitrox 40% max $O_2$ |
| **Intake pressure** | Atmospheric |
| **Working pressure** | 10 bar |
| **Max working pressure** | 13 bar |
| **Range Oxygen pecentages ($O_2$)** | from 28% to 40% |
| **Permissible ambient temperature range** | +5° C ÷ +40° C |
| **Permissible altitude** | 0 ÷ 1.500 m SLM |
| **Max permissible tilt** | 5° |
| **Design** | Silenced |
| **Oil** | Coltri Oil LP 46 |
| **Oil change interval** | 1 year / 2.000 h |

# Oxygen Percentages and HP compressor to connect

| | **C-NITROX P320** |
|---|---|
| **% $O_2$** | 36% |
| **l/min Compressor HP to be connected**[1] | **(Efficient/Prime line)**[2]<br>315 l/min<br>18.9 m3/h<br>11.1 cfm |

[1] working pressure at 232 bar / [2] with the use of compressors with lower flow rates, the maximum % of $O_2$ is always guaranteed.

# Compressor

| | **C-NITROX P320** |
|---|---|
| **Delivery rate screw compressor** | 1.070 l/min<br>64,2 $m^3$/h<br>37,8 cfm |
| **Weight**[1] | 205 kg - 452 lb |
| **Dimensions (W x D x H)**[1] | 101 × 75 × 104,5 cm - 39.7 × 29.5 × 41.1 in |

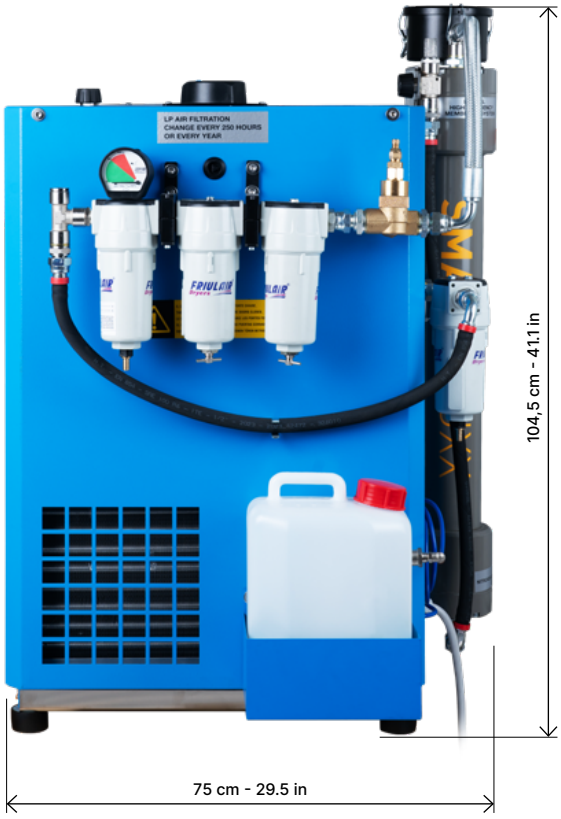
1 Standard model. Dimensions may vary depending on accessories.

# Electric motor

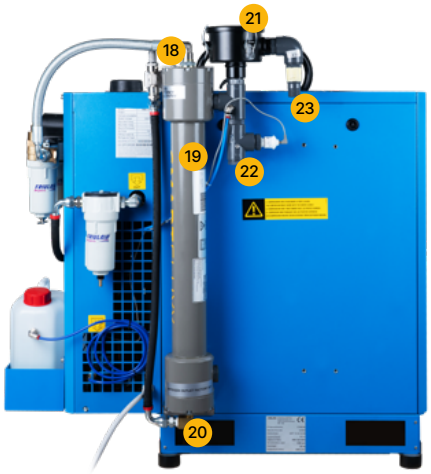
| | **C-NITROX P320** |
|---|---|
| **Power** | 7,5 kW - 10 Hp |
| **Type** | Three-phase electric |
| **Operating voltage/frequency**<br>Different voltage / frequency available on request. | 400 V, 50 Hz |
| **Rated current** | 16,8 A |
| **Speed (RPM)** | 2.850 |

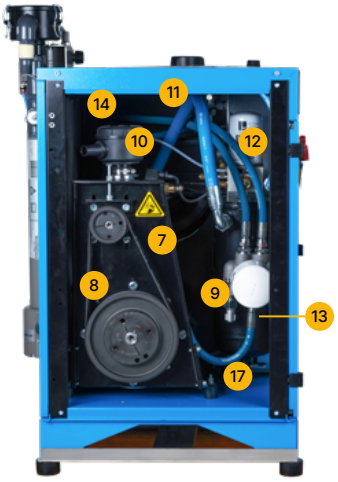
# Dimensions

C_NITROX P320
COLTRI
DRYER
CAUTION
CAUTION
SCB7,5
101 cm - 39.7 in


LP AIR FILTRATION
CHANGE EVERY 250 HOURS
OR EVERY YEAR
104,5 cm - 41.1 in
75 cm - 29.5 in

# Components



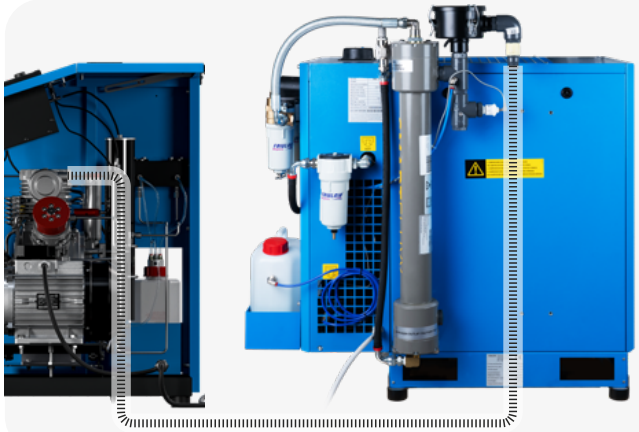


1. Frame
2. Control panel
3. Start/Stop pushbutton
4. Electronic controller
5. Emergency pushbutton
6. Heater temperature
7. Electric motor
8. Screw compressor
9. Oil filler cap
10. Compressor intake filter
11. De-oiler filter
12. Oil filter
13. Oil level indicator
14. Heat exchanger
15. Membrane protection filter
16. Condensate collection receptacles
17. Oil drain cap
18. Heater
19. Membrane
20. Nitrogen release
21. Intake filter
22. Mixer pipe
23. Nitrox outlet
24. Oxygen percentage adjuster
25. ON/OFF pushbutton
26. Calibrator
27. Membrane Oxygen control
28. Filter clog indicator
29. Thermostat

# Standard equipment

## Electronic panel

## Connection with high-pressure compressor



## 2 analyzers

Mounted on high pressure compressor

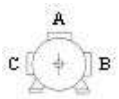
Mounted on low pressure compressor

## Plugs available according to electric motor

### 400 V three-phase electric motor

| |
|---|
| 6h/200/346 - 240/415V~ |
| 50÷60 Hz |
| 32 A |
| 3P+N+⏚ |

# Data sheet three-phase electric motor 7,5 kW

| | | | | | | |
|---|---|---|---|---|---|---|
| | | **SPECIFICA TECNICA MOTORE EL.** *Electric motor technical data sheet* | | | **Potenza/** *Power* (kW) **7,5** | **Poli/** Poles **2** Rev. 0 |
| **No** | **Descrizione/*Description*** | **Dati/Data** | | | ***U.d.m.*** | |
| 1 | | | | | | |
| 2 | | | | | | |
| 3 | **Descrizione** / *Description* | Three-phase asynchronous motor 7,5kW 2 Poles 400/690V 50Hz | | | | |
| 4 | **Carcassa motore** / *Framesize* | 112M | | | | |
| 5 | **Poli** / *Poles* | 2 | | | | |
| 6 | **Forma di costruzione** / *Mounting type* | IM B3 | | | | |
| 7 | **Potenza nominale** / *Rated output* | 7,5 | 7,5 | 9 | [kW] | |
| 8 | **Fattore di servizio** / *Service factor* | 1.0 | | | | |
| 9 | **Tipo di servizio** / *Duty type* | S3-75% | | | | |
| 10 | **Tensione** / *Rated voltage* | 400/690 | 400/690 | Δ440-480 | [V] | |
| 11 | **Frequenza** / *Rated frequency* | 50 | 60 | 60 | [Hz] | |
| 12 | **Corrente nominale** / *Rated current* | 16,8/9,7 | 16,8/9,7 | 16,8 | [A] | |
| 13 | **Velocità nominale** / *Rated speed* | 2850 | 3420 | 3420 | [$min^{-1}$] | |
| 14 | **Fattore di potenza** / *Power factor* | 0,86 | 0,86 | 0,86 | | |
| 15 | **Coppia nominale motore**/ *Rated motor torque* | 25,1 | 21 | 25,1 | [Nm] | |
| 17 | **Corrente avviamento / Corrente nominale** *Starting current / Rated current* | 8,0 | | | Isp/In | |
| 18 | **Coppia avviamento / Coppia nominale** *Starting torque/Rated torque* | 4,0 | | | Msp/Mn | |
| 19 | **Classe d'isolamento** / *Insulation class* | F | | | | |
| 20 | **Grado di protezione** / *Enclosure* | IP54 | | | | |
| 21 | **Posizione scatola morsettiera** (motore con piedini) *Terminal box position (motor with feet)*   | A | | | | |
| 22 | **Terminali potenza** / *Power leads terminal* | M5 | | | | |
| 23 | **Peso /** Weight | 33 | | | [kg] | |
| 24 | **Cuscinetti** /bearings | Drive end | 6206 | | | |
| | | Non drive end | 6206 | | | |

# Application fields

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DT-TDS-C-NITROX-P320-25-V2

QUALITY SYSTEM CERTIFICATION DNV ISO 9001
ENVIRONMENTAL SYSTEM CERTIFICATION DNV ISO 14001
SAFETY SYSTEM CERTIFICATION DNV ISO 45001

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