

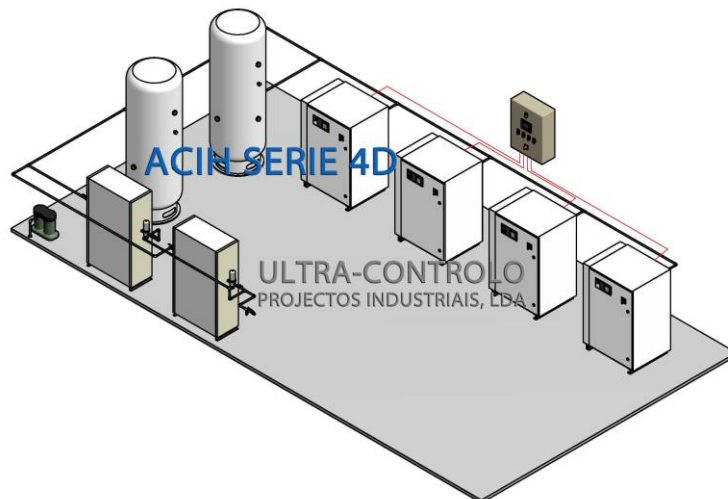
Hospital Industrial Compressed Air System – ACIH, series 4 10 Bar / 208V – 480V / 50Hz – 60Hz QUADRUPLEX

Technical Specification

ACIH Hospital Industrial Air

The Hospital Industrial Compressed Air shall conform to the European Machine Directive and ACSS 08/2010 Health Technical Memorandum. Clean compressed air according to PNEUROPS Standards shall be delivered at a pressure of 800 kPa (8 bar) gauge for supply of the hospital industrial applications, including autoclave, laundry machines, medical instruments drying systems and all non-medicated pneumatic devices. The entire system shall be 'duplexed' such that any single functional component failure will not affect the integrity of the hospital industrial compressed air supply. The secondary supply will be made up of two compressors. Each compressor will be capable of supplying 50% of the specified volumetric flow.

Typical Quadruplex Layout



Compressors

Compressors shall be oil injected rotary screw compressors suitable for both continuous and frequent start/stop operation at a nominal outlet pressure of 950 kPa gauge (9.5 bar). The compressor should have a heat exchanger air / air and oil / air-aluminum finned heat sinks with fans and large output and to maximize cooling and efficiency. The compressor must be equipped with an oil separation system capable of maintaining a residual amount of oil on the exhaust approx. 2 ppm to minimize contamination and network maintenance. The compressor unit should be equipped with electric motor high efficiency and comply with EN 60034-30, must be rated TEFC, IP55 class F electric shall be used and incorporate maintenance-free greased for life bearings. The interface for command and control of the compressor will have a microprocessor with a smart touch panel and language, must provide information alerts and warnings in written format, including the operating pressure, internal temperature and air temperature at the compressor outlet, number of load hours and total hours of operation and early warning of preventive maintenance. Each compressor shall be provided with a cyclone separator discharge, including electronic condensate drain valve with timer command.

Air Treatment Unit

A duplicated air treatment unit should be able to process all the air needed to supply the hospitals with air quality for industrial instrumentation. The filtration system should include a mist separator pre-filter for elimination of all solid and liquid particles larger than 0.1 micron and oil aerosols present in the air. A



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refrigeration dryer with a dew point of +3 ° C and a sub-mist separator for disposal of all solid and liquid particles with dimensions down to 0.01 micron filter. Both filters will auto drains and differential pressure gauge indicator of the state of clogging. The treatment unit will include an adsorption dryer for retention of water molecules in molecular mesh with strong physical attraction, consisting of two columns of adsorbent material in case of need dry air with a dew point of -20. The unit shall be able to work at temperatures up to 50 ° C and at pressures of from 5 to 16 bar. The quality of the output will be guaranteed the air handling unit must be within the values indicated in the following table:

| Contaminant | Threshold |
|--------------|-----------------------|
| Dew point | 3°C/-20°C |
| Particulates | < 0,01 micron |
| Oil | 0.1 mg/m ³ |

Control System

The regulatory framework should enable the automatic startup of the compressor and the control treatment unit. Must operate at low voltage and include signaling for Central Technical Management, providing alerts and alarms including failure of the central and low pressure alarm. The control system shall have an electro-mechanical device that in case of failure of digital control, to maintain the facility in semi-automatic operation.

Receiver Assembly

The air receiver must comply with EN 286-1 and be supplied with relevant test certificates. The receiver will have an internal and external treatment for hot-dip galvanizing in order to avoid contamination of the network with ferrous material and will have an epoxy painting, primer and finish, for protection against the environment. The tank will be equipped with safety and calibrated valve with pressure gauge calibrated and relevant certificates. The system should possess additional connections available and free for connecting emergency groups.

Condensate Separator

The central will have a network of collection of condensate to be treated by oil / water separator to protect the environment and comply with regulations of industrial waste processing and issuance of domestic effluents.

Basic Configuration of Industrial Air Center Hospital ACIH series 4:

- 4 rotary oil lubricated screw compressor including cyclonic separator
- 2 air treatment and drying unit with pre and post high efficiency filter
- 2 vertical, galvanized tank with their safety accessories
- 1 electrical control panel including signaling for remote management
- 1 oil/water separator for condensate treatment



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**Hospital Industrial Compressed Air System - ACIH
400V 50Hz, 10 Bar Outlet
QUADRUPLEX
Standard Models**

| ACIH | | | | | | | |
|------------------|------------------------|------------|------------|-------------|-----------------------------|-----------|-----------------------|
| 400V 50Hz | | | | | | | |
| Model | System capacity | | | | Electric motor power | | Article Number |
| | m3/h | l/m | l/s | scfm | Kw | hP | |
| 4.15/500D | 28 | 466,66 | 7,7778 | 16 | 2,2 | 3 | 305.01.00300 |
| 4.20/500D | 43,2 | 720 | 12 | 26 | 3 | 4 | 305.01.00301 |
| 4.30/500D | 63,6 | 1060 | 17,6666 | 38 | 4 | 5,5 | 305.01.00302 |
| 4.40/500D | 81,6 | 1360 | 22,666 | 48 | 5,5 | 7,5 | 305.01.00303 |
| 4.60/500D | 127,2 | 2120 | 35,334 | 74 | 7,5 | 10 | 305.01.00304 |
| 4.100/800D | 192,2 | 3203,4 | 53,388 | 114 | 11 | 15 | 305.01.00305 |
| 4.130/1000D | 271,2 | 4520 | 75,334 | 160 | 15 | 20 | 305.01.00306 |
| 4.170/1500D | 328,8 | 5480 | 91,332 | 194 | 18,5 | 25 | 305.01.00307 |
| 4.200/2000D | 385,2 | 6420 | 107 | 226 | 22 | 30 | 305.01.00308 |
| 4.300/2000T | 603,4 | 10056,6 | 167,61 | 354 | 30 | 40 | 305.01.00309 |
| 4.370/2000T | 742,8 | 12380 | 206,34 | 436 | 37 | 50 | 305.01.00310 |
| 4.420/2000T | 842,4 | 14040 | 234 | 496 | 45 | 60 | 305.01.00311 |
| 4.450/2000T | 890,4 | 14840 | 247,34 | 524 | 45 | 60 | 305.01.00312 |
| 4.600/2000T | 1144,8 | 19080 | 318 | 674 | 55 | 74 | 305.01.00313 |
| 4.750/2000T | 1497,6 | 24960 | 416 | 880 | 75 | 100 | 305.01.00314 |

**Hospital Industrial Compressed Air System - ACIH
380V 60Hz, 10 Bar Outlet
QUADRUPLEX
Standard Models**

| ACIH | | | | | | | |
|------------------|------------------------|------------|------------|-------------|-----------------------------|-----------|-----------------------|
| 380V 60Hz | | | | | | | |
| Model | System capacity | | | | Electric motor power | | Article Number |
| | m3/h | l/m | l/s | scfm | Kw | hP | |
| 4.15/500D | 28 | 466,66 | 7,7778 | 16 | 2,2 | 3 | 305.01.00900 |
| 4.20/500D | 43,2 | 720 | 12 | 26 | 3 | 4 | 305.01.00901 |
| 4.30/500D | 63,6 | 1060 | 17,6666 | 38 | 4 | 5,5 | 305.01.00902 |
| 4.40/500D | 81,6 | 1360 | 22,666 | 48 | 5,5 | 7,5 | 305.01.00903 |
| 4.60/500D | 127,2 | 2120 | 35,334 | 74 | 7,5 | 10 | 305.01.00904 |
| 4.100/800D | 192,2 | 3203,4 | 53,388 | 114 | 11 | 15 | 305.01.00905 |
| 4.130/1000D | 271,2 | 4520 | 75,334 | 160 | 15 | 20 | 305.01.00906 |
| 4.170/1500D | 328,8 | 5480 | 91,332 | 194 | 18,5 | 25 | 305.01.00907 |
| 4.200/2000D | 385,2 | 6420 | 107 | 226 | 22 | 30 | 305.01.00908 |
| 4.300/2000T | 603,4 | 10056,6 | 167,61 | 354 | 30 | 40 | 305.01.00909 |
| 4.370/2000T | 742,8 | 12380 | 206,34 | 436 | 37 | 50 | 305.01.00910 |
| 4.420/2000T | 842,4 | 14040 | 234 | 496 | 45 | 60 | 305.01.00911 |
| 4.450/2000T | 890,4 | 14840 | 247,34 | 524 | 45 | 60 | 305.01.00912 |
| 4.600/2000T | 1144,8 | 19080 | 318 | 674 | 55 | 74 | 305.01.00913 |
| 4.750/2000T | 1497,6 | 24960 | 416 | 880 | 75 | 100 | 305.01.00914 |