

Efficient line

MARK III SILENT

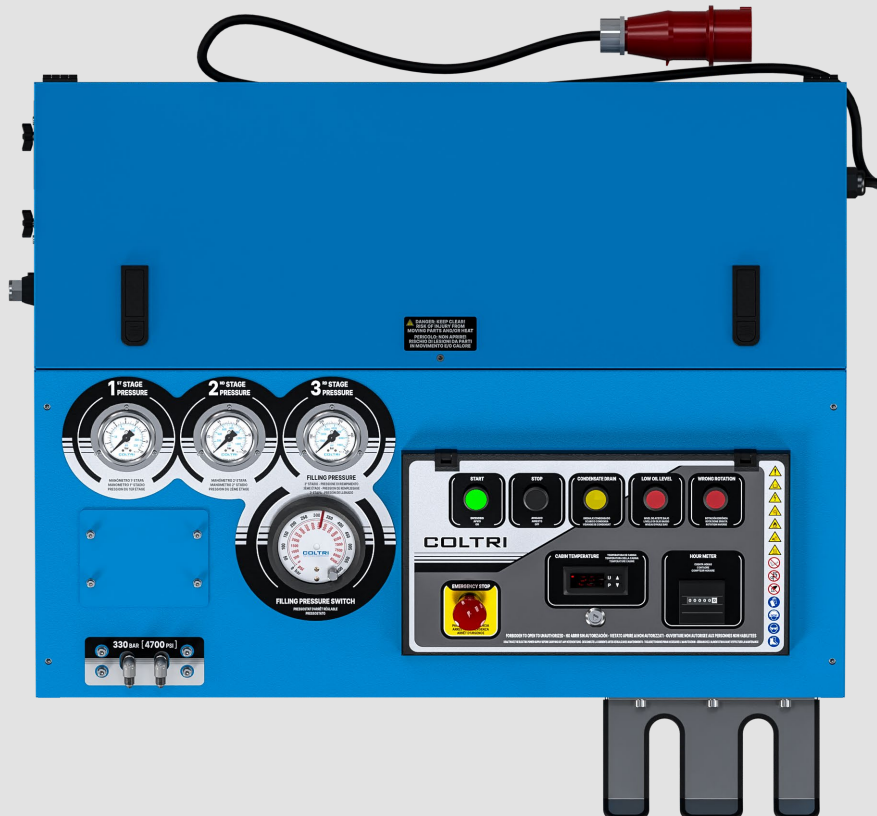
Electric



CONTACT US

CERTIFICATION: CE UNI EN ISO 9001:2015





Technical data

Type of gas	Breathing air EN 12021 - Nitrox 40% max O2 - Helium - Nitrogen
Intake pressure	Atmospheric max 300 mbar
Nominal pressure	250 bar / 330 bar / 360 bar
Filling pressure	232 bar / 300 bar / 330 bar
Max working pressure	232 bar (single-phase electric) - 420 bar (three-phase electric)
Permissible ambient temperature range	-10° C ÷ +40° C
Permissible altitude	0 ÷ 1.500 m SLM
Max permissible tilt	6°
Design	Fully protective cage
Operating voltage, standard	400 V; 50 Hz
Other operating voltage	230 V, 50 Hz / 440 V, 60 Hz / 230 V, 60 Hz
Oil	Synthetic Coltri Oil ST 755
Oil change interval	Every year / 1.000 h
Frame	Steel 1,5 mm thickness - colour RAL 5015 - Powder coating painting - scratch proof
Noise	LpA 65 dB

Compressor

	210 EM	270 EM	235 ET	315 ET
Charging rate Measured during 10 liters cylinder filling from 0-200 bar tolerance +/- 5% at + 20 ° C ambient temperature.	210 l/min	270 l/min	235 l/min	315 l/min
Purification System	Maxifilter			
Cooling air flow, min.	1.240 m ³ /h	2.180 m ³ /h	1.440 m ³ /h	2.180 m ³ /h
Weight Standard model. Weight and dimensions may vary depending on accessories.	162 kg 357 lb	168 kg 370 lb	162 kg 357 lb	168 kg 370 lb
Dimensions (W x D x H)	103 x 73 x 91 cm - 40.5 x 28.7 x 35.8 in			

Motor

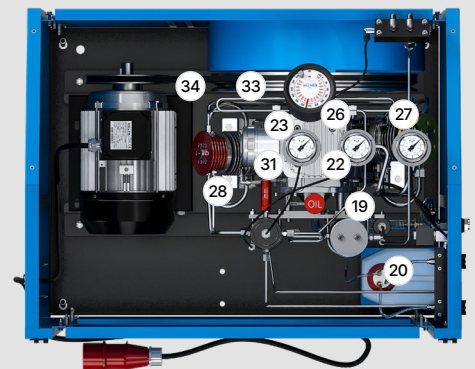
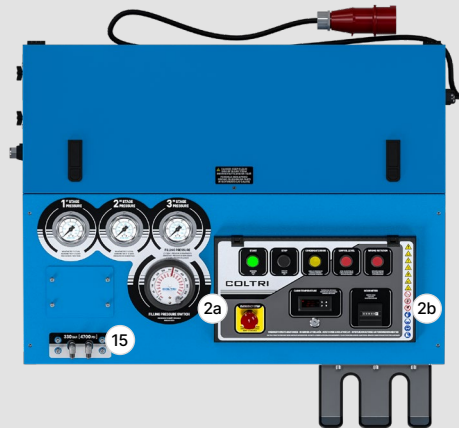
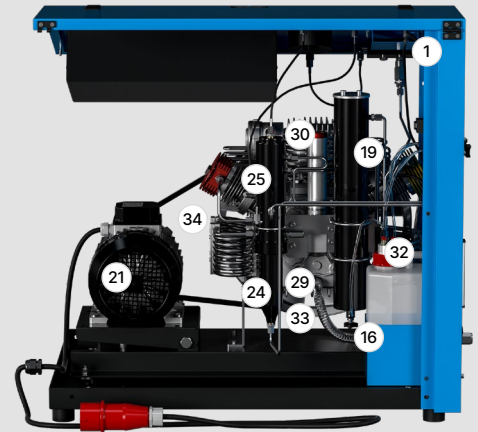
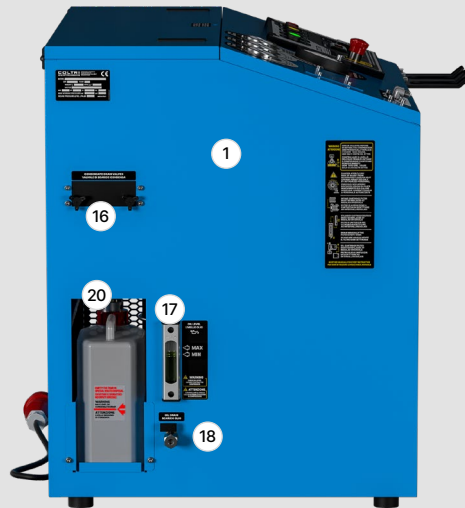
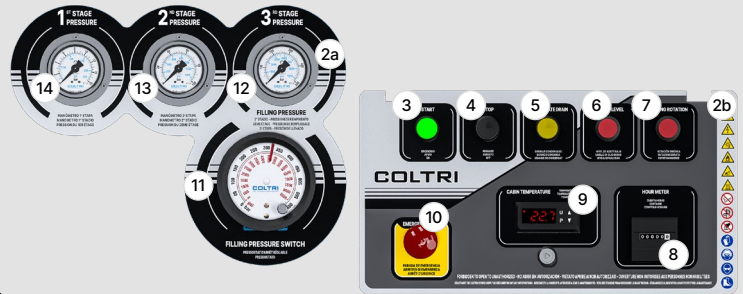
	210 EM	270 EM	235 ET	315 ET
Power	4 kW, 5.5 Hp	5,5 kW, 7.5 Hp	4 kW, 5.5 Hp	5,5 kW, 7.5 Hp
Type	Single-phase el.		Three-phase el.	
Operating voltage/frequency Different voltage / frequency available on request.	230 V, 50 Hz		400 V, 50 Hz	
Rated current	13,2 A			
Speed (RPM)	2.800	2.850	2.840	
Protection class	IP55 (TEFC)			

Dimensions

Width 103 cm (40.5")
 Depth 73 cm (28.7")
 Height 91 cm (35.8")

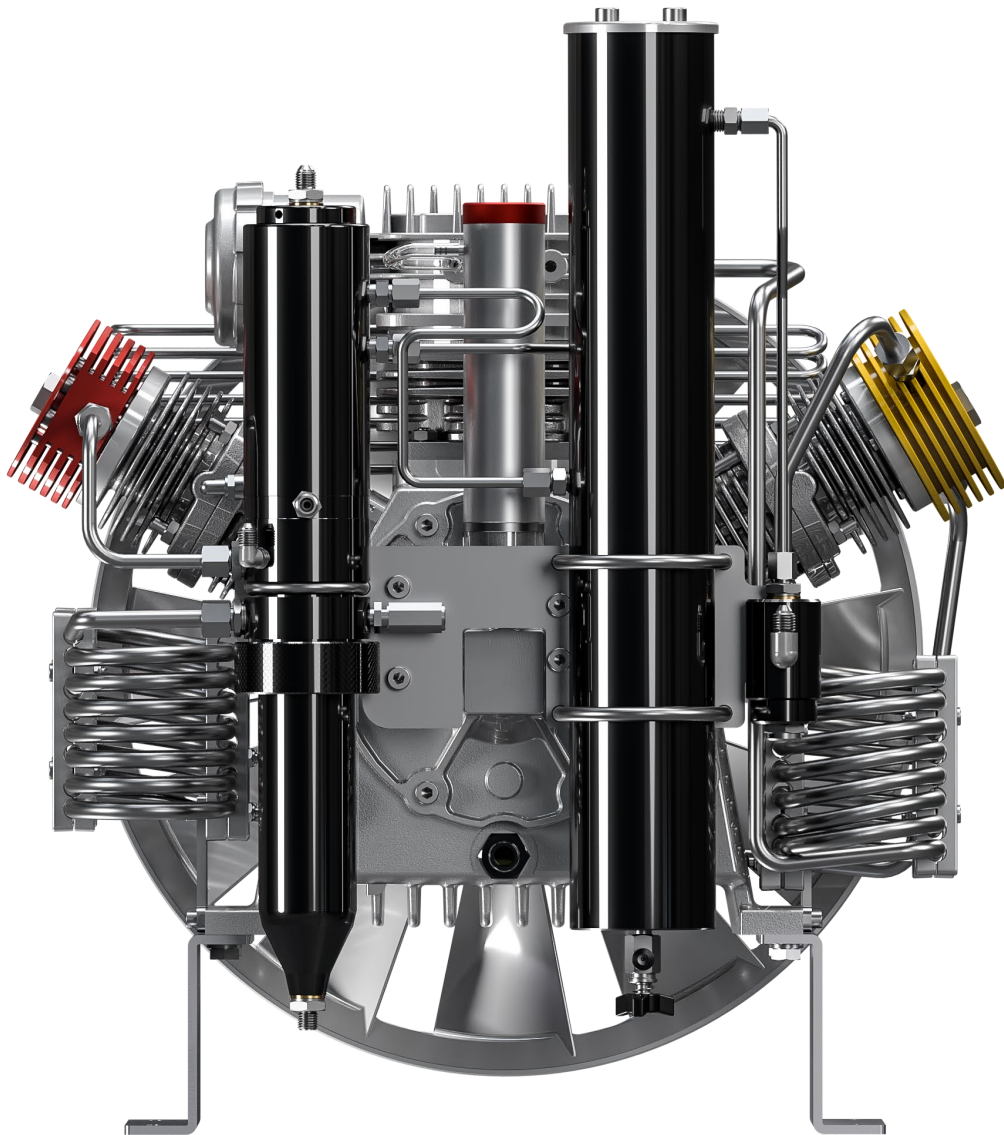
Dry weight

- MARK III SILENT 210 EM**
162 kg (357 lb)
- MARK III SILENT 235 ET**
162 kg (357 lb)
- MARK III SILENT 270 EM**
168 kg (370 lb)
- MARK III SILENT 315 ET**
168 kg (370 lb)



Machine parts

- | | | |
|--|--------------------------------|-------------------------------|
| 1 Frame | 12 3rd stage pressure gauge | 24 LP condensate separator |
| 2 Control panel | 13 2nd stage pressure gauge | 25 HP condensate separator |
| 3 ON pushbutton | 14 1st stage pressure gauge | 26 1st stage |
| 4 Stop pushbutton | 15 Refill hoses connection | 27 2nd stage |
| 5 Condensate discharge pushbutton | 16 Condensate discharge valves | 28 3rd stage |
| 6 Oil level warning light | 17 Oil level | 29 Monoblock crankcase |
| 7 Direction of rotation indicator light | 18 Oil discharge valves | 30 Oil filler plug |
| 8 Hour counter | 19 Purifier filter | 31 Safety valve |
| 9 Cabinet interior / cooling air temperature | 20 Condensate collection can | 32 Pressure maintenance valve |
| 10 Emergency pushbutton | 21 Motor | 33 Cooling fan |
| 11 Automatic shut off pressure switch | 22 Compressor | 34 Belt |
| | 23 Intake air filter | |

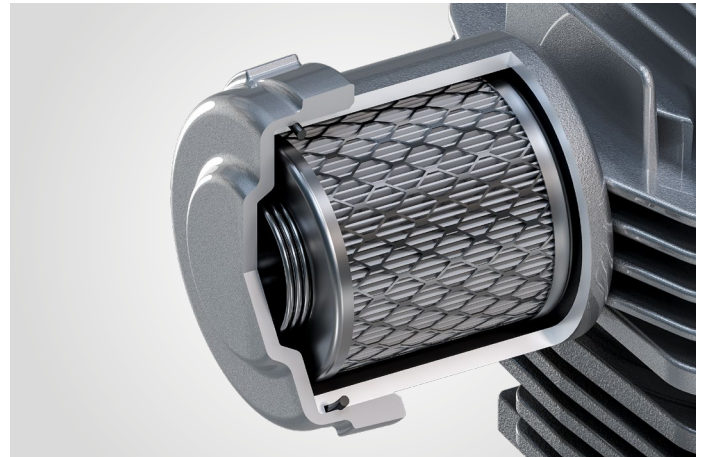


1.
Splash lubrication
with conrod pin
immersed in oil



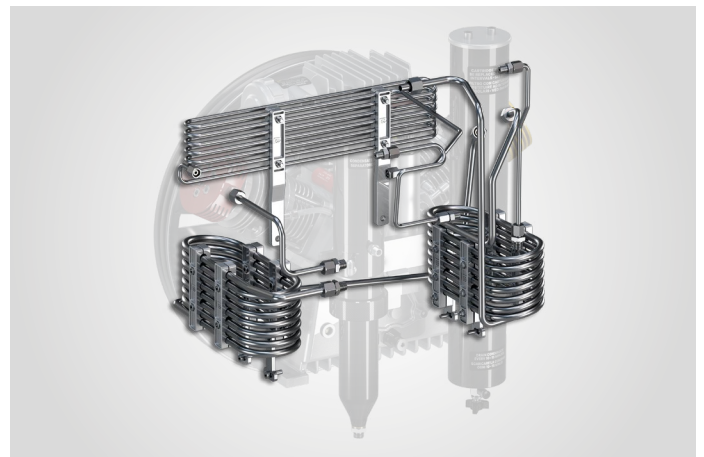
2.

Suction filter:
10 μ micron



3.

Pipes, fittings and nuts
in stainless steel AISI 316



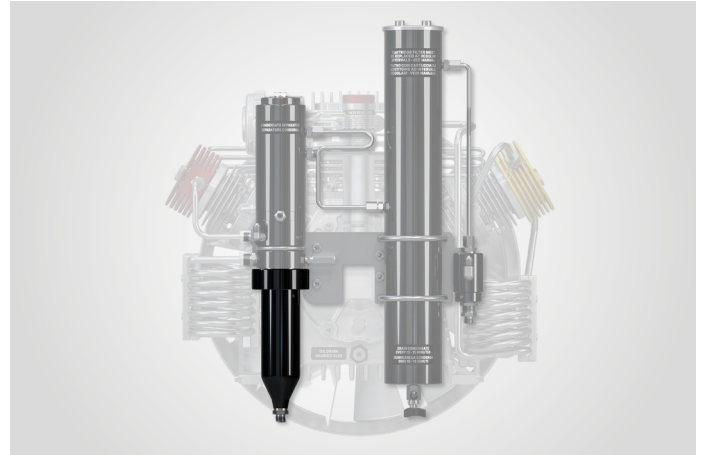
4.

Synthetic oil with
special formulation
for HP compressors

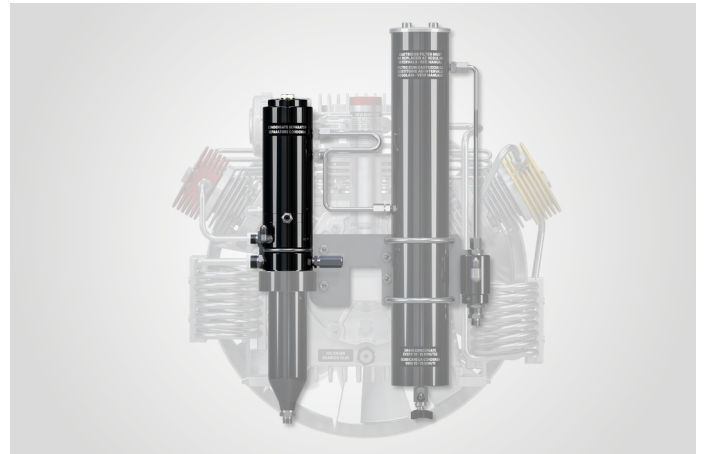


Discover more on Coltri Oil ST 755

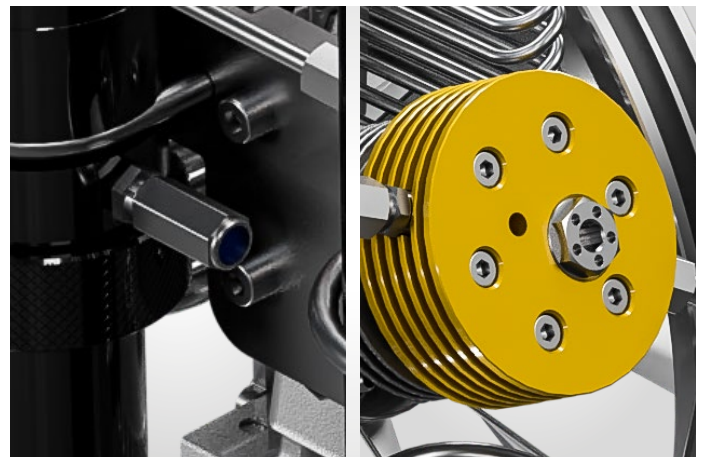
5. Intermediate condensate separator after the second stage



6. High pressure final condensate separator



7. Safety valves after each stage of compression



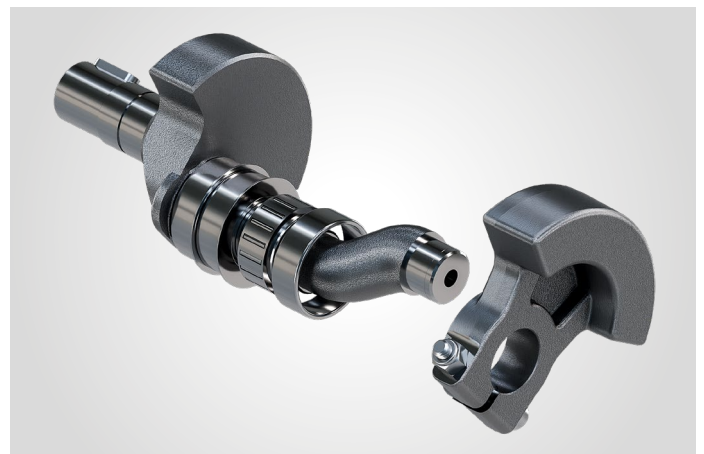
8.
Die-cast aluminum
cylinders with barrel
coating in nicasil



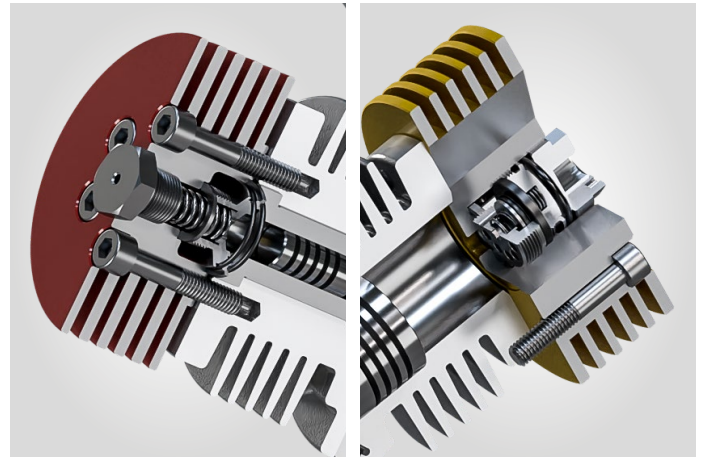
9.
Forged aluminum
connecting rods



10.
Forged steel
crankshaft



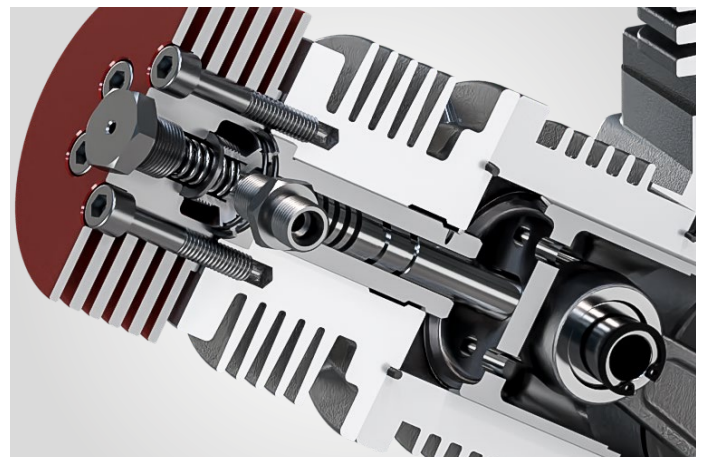
11. Stainless steel second and third stage valves



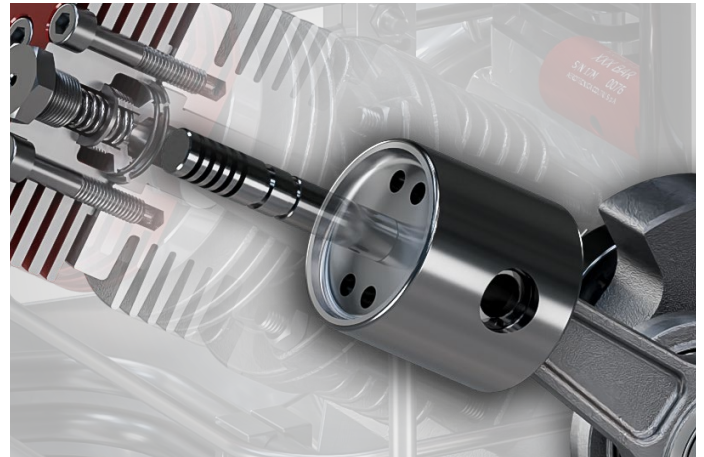
12. Roller Bearings for intensive work load



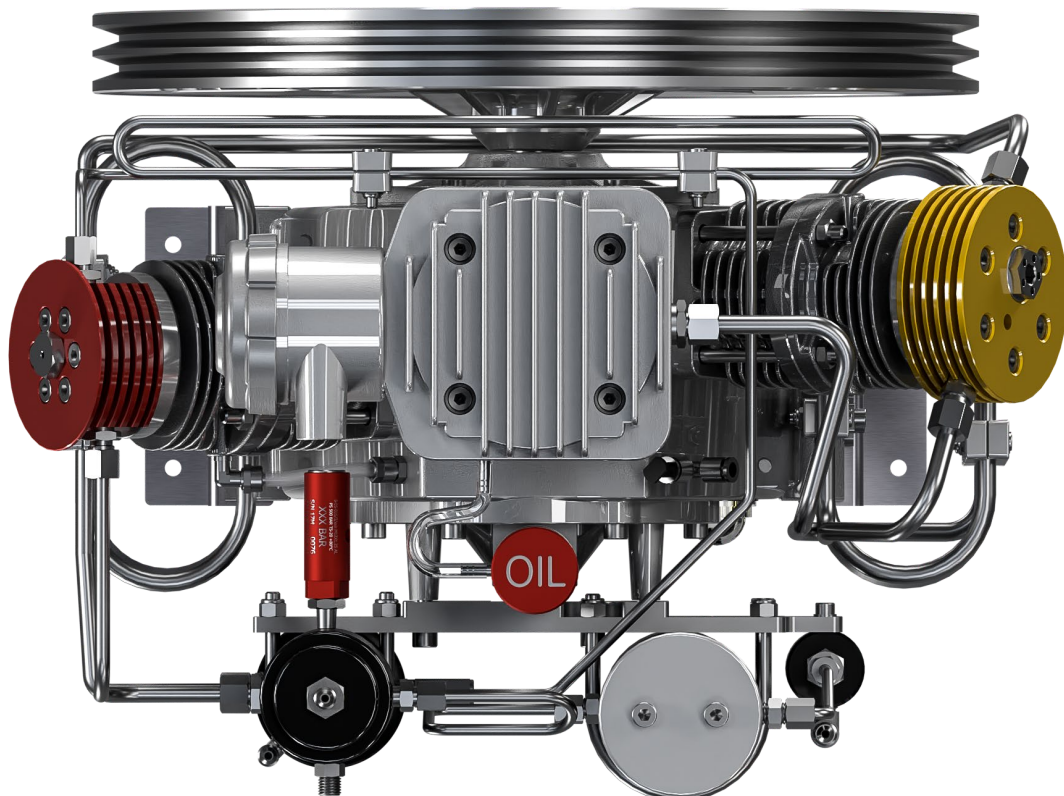
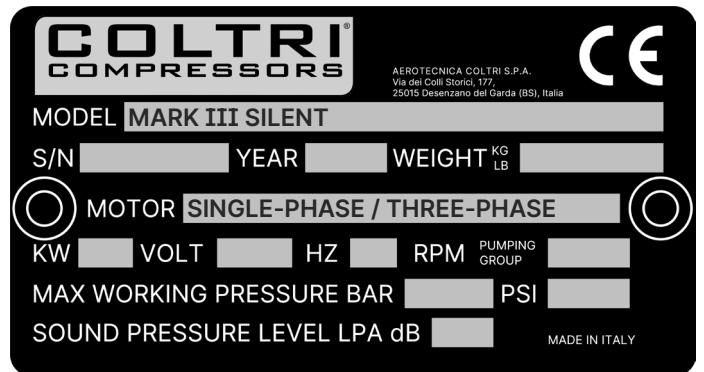
13. Third stage in tempered steel with 5 piston rings in special cast iron



14.
 Second and third stage
 with pushing pistons
 to eliminate lateral forces
 on the pistons

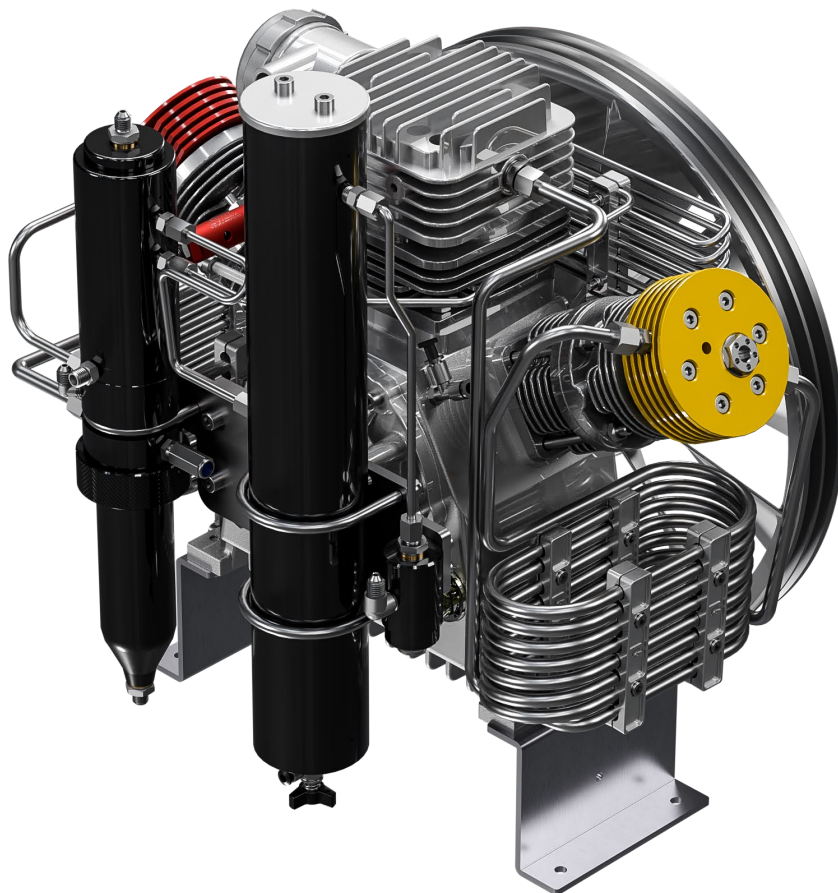


15.
 CE certification



Compressor block GP 315 (Ex MCH 16)

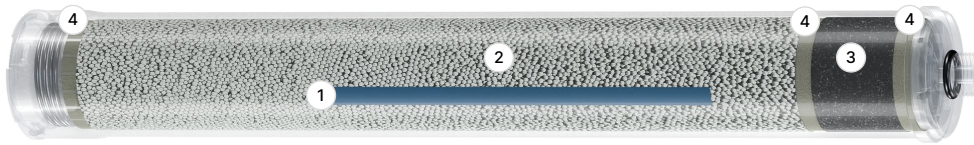
	210 EM	270 EM	235 ET	315 ET
Charging rate				
Measured during 10 liters cylinder filling from 0-200 bar tolerance +/- 5% at + 20 ° C ambient temperature.	210 l/min	270 l/min	235 l/min	315 l/min
Speed RPM	1.040	1.600	1.240	1.600
Number of stages				3
Number of cylinders				3
Cylinder bore 1st stage				95 mm
Cylinder bore 2nd stage				38 mm
Cylinder bore 3rd stage				14 mm
Stroke				40 mm
Direction of rotation (from flywheel side)				Left - counter clockwise
Drive type				V-belt A type
Intermediate pressure 1st stage				~ 6 bar
Intermediate pressure 2nd stage				~ 45 bar
Amount of oil				1,8 liters
Intake pressure				1,3 bar _a – 300 millibar



Standard equipment

Purification system MAXIFILTER

MAXIFILTER polypropylene cartridge repackable or disposable



- ① Moisture saturation indicator stripe
- ② Molecular sieve
- ③ Activated carbon
- ④ Felt disc

Purification system	Maxifilter
Operating pressure (Standard)	250 bar / 330 bar / 360 bar
Operating pressure max. (PS)	420 bar
Processable air capacity (air inlet temperature in the filter 20° C at 300 bar) ¹	890 m ³

¹ When using a filter cartridge without HOPCALITE CO CATALYST.
When using a cartridge with CO-removal, the processable air capacity is reduced by ca. 20%.

Filling connections

2 Filling connection to choose from: DRV DIN 232 bar and DRV DIN 300 bar.



Filling connection DRV DIN 232 bar
COD. DRV232





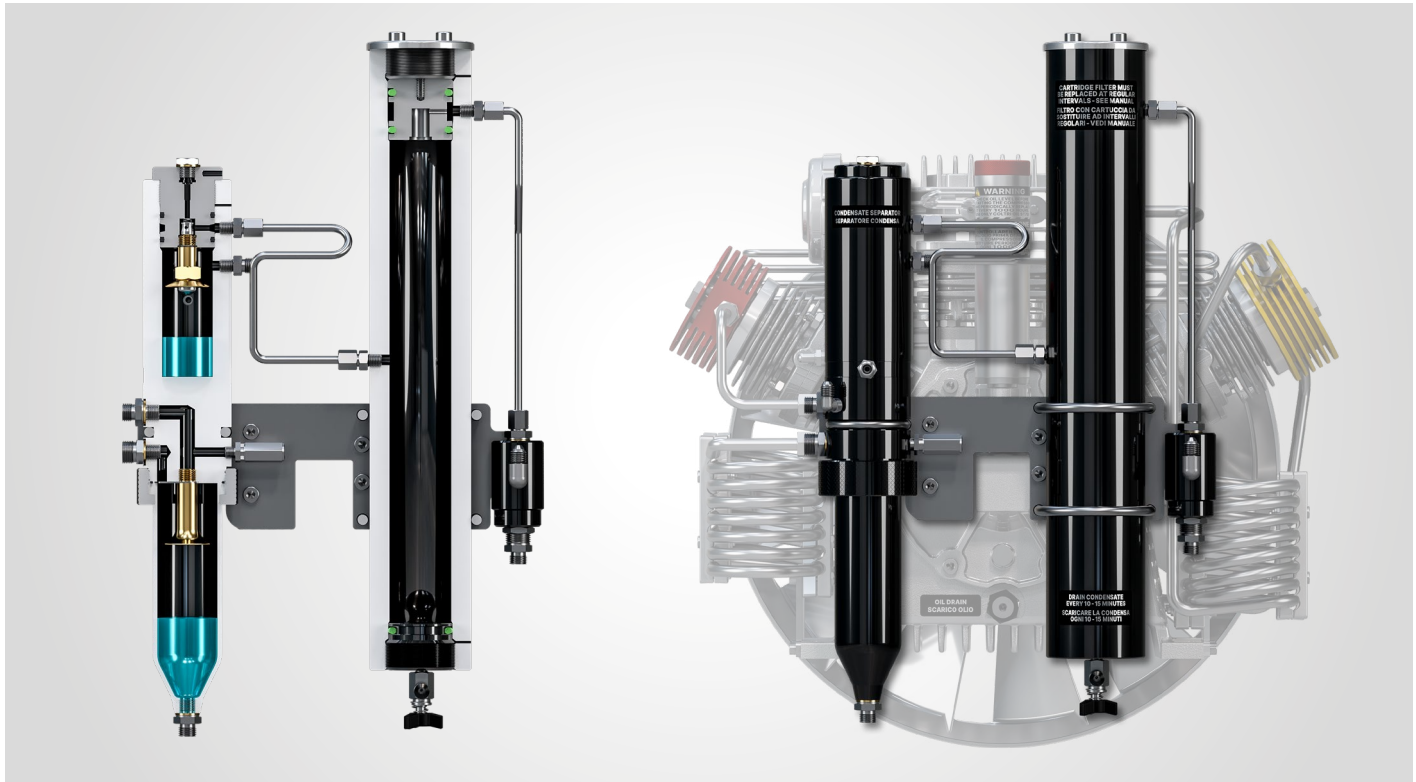
Filling connection DRV DIN 300 bar
COD. DRV300

Filling device	DRV DIN 232	DRV DIN 300
Nominal pressure (PN)	250 bar	330 bar
Valve design	Filling valve with integrated ventilation, with cylinder connector G 5/8" according to EN 144-2 and 477 PN232	Filling valve with integrated ventilation, with cylinder connector G 5/8" according to EN 144-2 and 477 PN232

Separator system

- Interstage separator after 2nd stage ,stainless steel AISI 316.
- Final separator for the removal of oil/water condensate.
- Final safety valve, fitted to separator housing.
- Pressure maintaining/non return valve, fitted to filter bracket.

	Direttiva PED 2014/68/UE - Modulo D PED Directive 2014/68/EU - Module D		
	Conformità al tipo basata sulla garanzia della qualità del processo di produzione Conformity to type based on quality assurance of the production process		
Certificato n. Certificato no. Attrezzatura a pressione Pressure equipment Tipo Fabbricante Manufacturer Sito produttivo Production site Verbale di verifica Evaluation report	714-P-1759 VALVOLA DI SICUREZZA A MOLLA 6-05-015 Aerotecnica Coltri S.p.A. Via dei Colli Storti 177 - 25015 Desenzano del Garda BS P4300439-01-R04	REV. 00 Categoria Category IV	Numero di pratica Job number P4300439



Contamination	Maximum content as per DIN EN 12021:2014	Air quality*
H ₂ O	25 mg/m ³	≤ 10 mg/m ³
CO	5 ppm(v)	≤ 4
CO ₂	500 ppm(v)	≤ 500
Oil	0,5 mg/m ³	≤ 0,5 mg/m ³

* Measured at our facility using ASCO HORA 160 ANALYZER.

1 Only with special filter cartridge with HOPCALITE CO CATALYST. and up to a maximum concentration of 25 ppm CO in intake air.

The compressed clean breathing air then contains a maximum of 5 ppm CO.

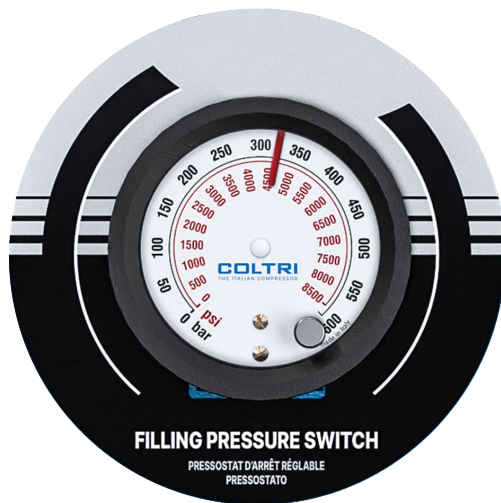
2 The level of CO₂ in the intake air must not exceed the maximum level of CO₂ as per EN 12021:2014

3 Reported values exceed ISO 8573-1 standards.

Electromechanical pressure switch

The instrument allows to display the pressure expressed in bar/psi.

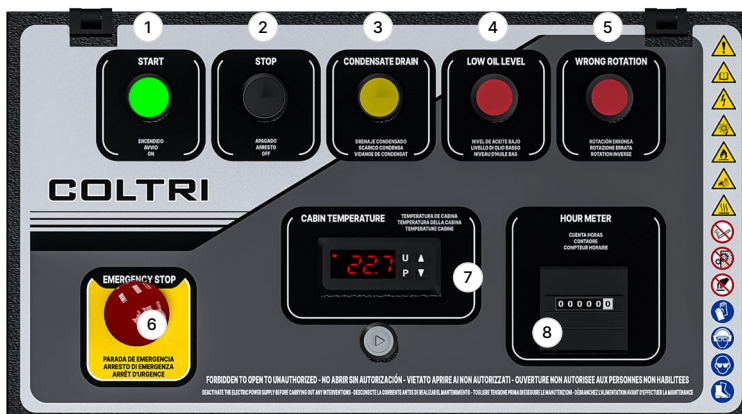
Through the adjustment knob it allows to set the maximum pressure of automatic switch-off.



Compressor control and automatic condensate drain system

- ON/OFF switch with motor protection switch.
- Optional: autostart at 60 bar hysteresis.
- Transformer.
- Pressure switch stops compressor at final pressure.
- Drainage of all separators between the individual stages and also of the final separator during compressor operation (standard drain interval every 15 minutes for a period of 6 seconds).
- Timer for automatic condensate drainage device.
- Integrated vacuum start-up (automatic drain when the unit is switched off).
- Condensate collection tank 5 liters, with silencer; capacity approx. 3 liters, for environmentally friendly disposal of condensate.
- Interstage pressure gauges display the operating pressure for the individual compression stages. This pressure information allows you to check the tightness of the valves (inlet and outlet) of each stage and quickly identify potential sources of failure.

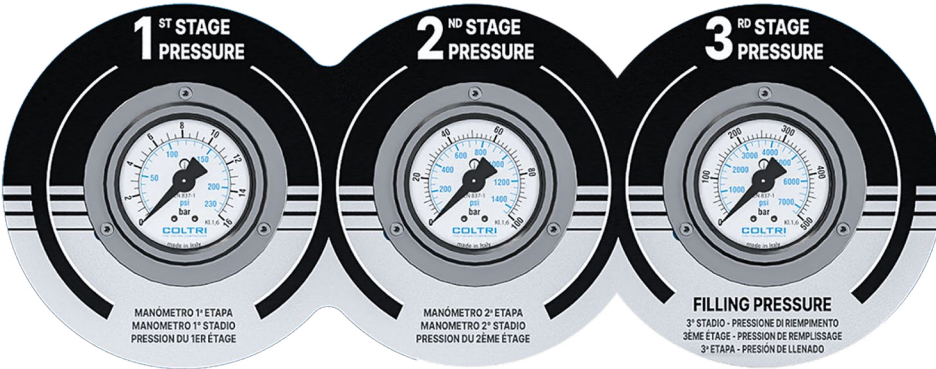
The interstage pressure gauges are mounted in the compressor frame.



- 1 Power button
- 2 Stop button
- 3 Condensate drain button
- 4 Oil level warning light
- 5 Wrong direction indicator light
- 6 Emergency button
- 7 Inside temperature cabin/cooled air
- 8 Operating hour meter

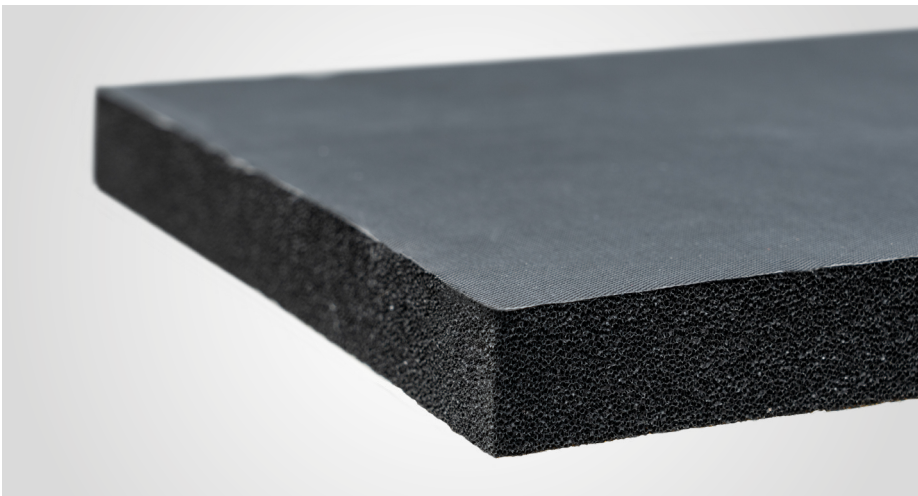
Interstage pressure gauges

The function of the interstage pressure gauges is to show the operating pressure of the individual compression levels. This information is indispensable because it allows to quickly recognize a possible error by checking the tightness of the respective level valves (inlet and outlet). The interstage pressure gauges are mounted on the control panel of the compressor.



Soundproof frame


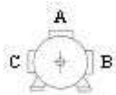
Polyether-based expanded polyurethane impregnated with halogen and CFC-free flame retardant substances. Soundproofing useful in any environment that requires a strong reduction of high frequencies.




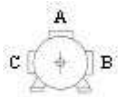
Certifications

Color	Black	
Thermal conductivity	W/mk 0,040 40° C	
Temperature resistance	-70° C - 100° C	
Density	75 / 110 Kg/m3	ISO 1855
Hardness	> 300 N	ISO 2439 (ILD% 40)
Tensile hardness	> 85 Kpa	ISO 1798
Resistance to de-tensioning	> 85 %	ISO 1798
Self-extinguishing	Class 0 / Class 1	BS 476 Part 6 / BS 476 Part 7

Data sheet three-phase electric motor 4 kW

		SPECIFICA TECNICA MOTORE EL. <i>Electric motor technical data sheet</i>			Potenza/ Power (kW)	Poli/ Poles
					4	2
		Data	Rev.		1	
		07/09/2015				
No	Descrizione/Description	Dati/Data			U.d.m.	
1	Codice Soga / ref.code	124341				
2	Modello / Motor type	MT1 100LB/2				
3	Descrizione / Description	Three-phase asynchronous motor 4kW 2 Poles 230/400V 50Hz				
4	Carcassa motore / Framesize	100L				
5	Poli / Poles	2				
6	Forma di costruzione / Mounting type	IM B3				
7	Potenza nominale / Rated output	4	4	4,8	[kW]	
8	Fattore di servizio / Service factor	1.0				
9	Tipo di servizio / Duty type	S3-75%				
10	Tensione / Rated voltage	230/400	230/400	440-480 Y	[V]	
11	Frequenza / Rated frequency	50	60	60	[Hz]	
12	Corrente nominale / Rated current	16,8/9,7	16,8/9,7	9,7	[A]	
13	Velocità nominale / Rated speed	2840	3410	3410	[min ⁻¹]	
14	Fattore di potenza / Power factor	0,85	0,85	0,85		
15	Coppia nominale motore/ Rated motor torque	13,5	11,2	13,4	[Nm]	
17	Corrente avviamento / Corrente nominale <i>Starting current / Rated current</i>	5,5			Isp/In	
18	Coppia avviamento / Coppia nominale <i>Starting torque/Rated torque</i>	2,8			Msp/Mn	
19	Classe d'isolamento / Insulation class	F				
20	Grado di protezione / Enclosure	IP54				
21	Posizione scatola morsettiera (motore con piedini) <i>Terminal box position</i> (motor with feet)				A	
22	Terminali potenza / Power leads terminal	M5				
23	Peso / Weight	22			[kg]	
24	Cuscinetti /bearings	Drive end	6206			
		Non drive end	6206			
Note/remarks: Targa con logo Coltri Compressors.						










Data sheet three-phase electric motor 5.5 kW

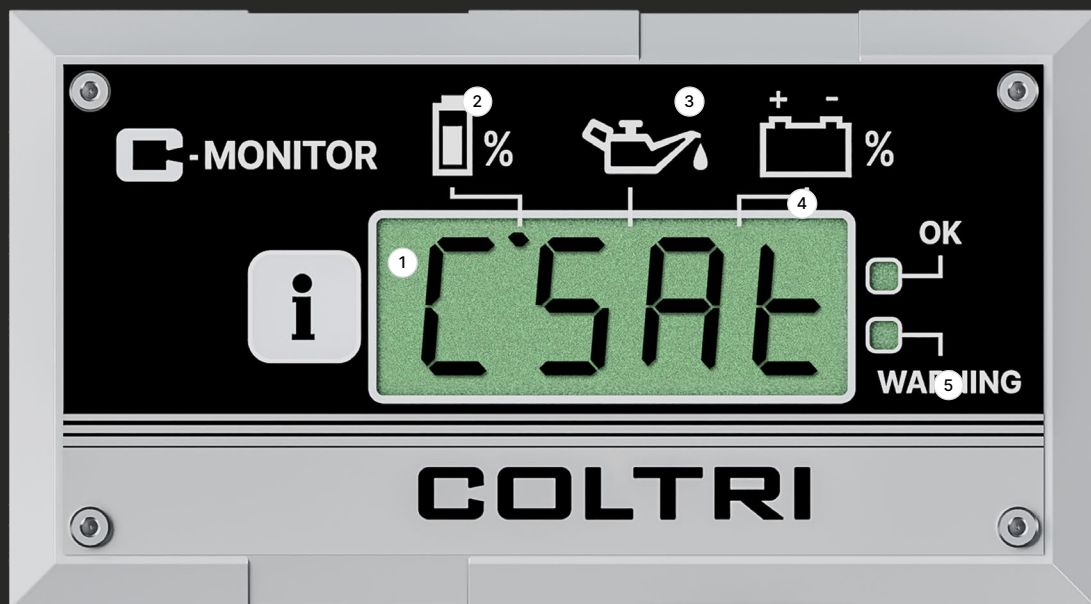
		SPECIFICA TECNICA MOTORE EL. <i>Electric motor technical data sheet</i>			Potenza/ Power (kW)	Poli/ Poles
					5,5	2
		Data	Rev.		0	
24/06/2015						
No	Descrizione/Description	Dati/Data			U.d.m.	
1	Codice Soga / ref.code	124421				
2	Modello / Motor type	MT1 112MB/2				
3	Descrizione / Description	Three-phase asynchronous motor 5,5kW 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	5,5	5,5	6,5	[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	Δ 440-480	[V]	
11	Frequenza / Rated frequency	50	60	60	[Hz]	
12	Corrente nominale / Rated current	12,6/7,3	12,6/7,3	12,6	[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	18,4	15,4	18,2	[Nm]	
17	Corrente avviamento / Corrente nominale <i>Starting current / Rated current</i>	7,6			Isp/In	
18	Coppia avviamento / Coppia nominale <i>Starting torque/Rated torque</i>	3,1			Msp/Mn	
19	Classe d'isolamento / Insulation class	F				
20	Grado di protezione / Enclosure	IP55				
21	Posizione scatola morsettiera (motore con piedini) <i>Terminal box position</i> (motor with feet)				A	
22	Terminali potenza / Power leads terminal	M5				
23	Peso / Weight	28			[kg]	
24	Cuscinetti /bearings	Drive end	6206			
		Non drive end	6206			
Note/remarks: Targa con logo Soga.						

Optional

C - Monitor

Final filter monitoring system, oil change and technical interface.

The interface consists of an LCD display, a button  and two indicators (, ). The decimal points next to the digits are indicator lights to indicate alarms or warnings in progress. Each dot is associated with an explanatory icon (, , ). The icon  indicates an alarm condition while the symbol  indicates normal operation. Press the button  to scroll through the different functions of the menu. When pressed, the function is displayed the function and after two 2 seconds the related data.



COD. SC001200

- 1 Display
- 3 Service indication
- 5 Operation indicator
- 2 Cartridge saturation
- 4 Battery charge level

Multi-Gas Analysis System (SAM)

Sensor CO + CO₂ + H₂O (SC000727/A)

Sensor CO + CO₂ + H₂O with VOC (SC000727/B)

The Coltri Multi-Gas Analysis System is a measuring instrument capable of monitoring air quality. Its application includes continuous monitoring of environmental gases, hyperbaric chambers, safety, medical, air quality.

Available sensors:

- Oxygen O₂
- Carbon dioxide CO₂
- Carbon Monoxide CO
- Humidity H₂O
- Gas Temperature
- VOC (Volatile Organic Compound)
- Helium in Air



General specifications

COD. SC000727/A - SC000727/B

Input voltage requirement	10-35 Vdc
Internal Battery	Rechargeable lithium-ion battery. One cell 1400 mAh Li ion 3.7 V
Sensors	Up to 6 sensors
Output	Acoustic alarm
Serial Connection	1 RS232 interface. Transmission speed up to 115000 baud, on request RS485 interface
Measurement resolution	Bipolar 24-bit A/D converter. Drift in automatic temperature compensation.
Conversion rate	10 ms
Sampling time	100 ms (min) for each channel
Signal measurement accuracy	0.1% Full scale +/- ½ LSB
Input device	Rotary knob with central push
Color Display	TFT 320 × 240 dot resolution, LED backlighting
Display light intensity	600 nits (cd/m ²)
Memory	Micro SD card writer/reader
Microprocessor	Cortex M4

BUZZER ALARM

There is an audible warning alarm on board.

SERIAL INTERFACE

Standard RS232 interface for connection to PC. It is possible to read measurements remotely and to program the instrument, software is available on request.

NON-VOLATILE MEMORY

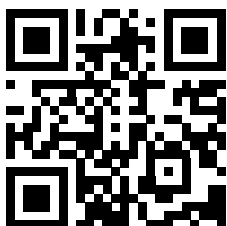
SAM features non-volatile memory that retains configuration data and settings for 10 years without power.

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COLTRI
THE ITALIAN COMPRESSOR