Technical Data Sheet

COLTRI COMPRESSORS

HYDROGEN LINE

H2 BOOSTER RC

ELECTRIC

Contact

Elevate the power of clean energy, transforming the future.

An ecological breakthrough in the field of charging systems for vehicles. Designed to recharge cars powered by hydrogen efficiently and safely. Its ability to operate at high pressure ensures rapid refueling, significantly reducing waiting times for users. The use of hydrogen as an energy source makes it an environmentally friendly option, contributing to the reduction of greenhouse gas emissions and the promotion of mobility that is sustainability.
It provides a maximum operating pressure of 360 bar with a charging capacity ranging from 55 and 265 l/min.

Technical data

Type of gas	Hydrogen
Intake pressure	From 2 to 8 bar
Nominal pressure	360 bar
Working pressure	300 bar / 360 bar
Max working pressure	360 bar
Permissible ambient temperature range	-10° C ÷ +40° C
Permissible altitude	0 ÷ 1.500 m SLM
Max permissible tilt	6°
Design	SIlenced
Operating voltage, standard	400 V, 50 Hz
Other operating voltage	230 V, 50 Hz / 230 V, 60 Hz / 400 V, 60 Hz
Oil	Synthetic Coltri Oil ST 755
Oil change interval	1 year / 1.000 h
Frame	Steel - Colour Grey RAL 7035 - Dark Grey RAL 7016 - Powder coating painting - Scratch proof

Compressor

	H2 BOOSTER RC 3 KW	H2 BOOSTER RC 4 KW	H2 BOOSTER RC 5,5 KW
Charging rate Measured during 10 liters cylinder filling from 0-200 bar tolerance +/- 5% at + 20 ° C ambient temperature.	Min. 55 - Max. 160 l/min Min. 3.3 - Max. 9.6 m^3/h Min. 2.2 - Max. 6.4 cfm	Min. 71.6 - Max. 215 l/min Min. 4.3 - Max. 12.9 m^3/h Min. 2.9 - Max. 8.7 cfm	Min. 88.3 - Max. 265 l/min Min. 5.3 - Max. 15.9 m^3/h Min. 3.6 - Max. 10.7 cfm
Purification System	Maxifilter		
Cooling air flow	930 m^3/h	1.240 m^3/h	1.705 m^3/h
Weight[1]	160 kg - 353 lb	180 kg - 397 lb	
Dimensions (W x D x H)[1]	70 × 67 × 105 cm - 27.5 × 26.4 × 41.3 in		

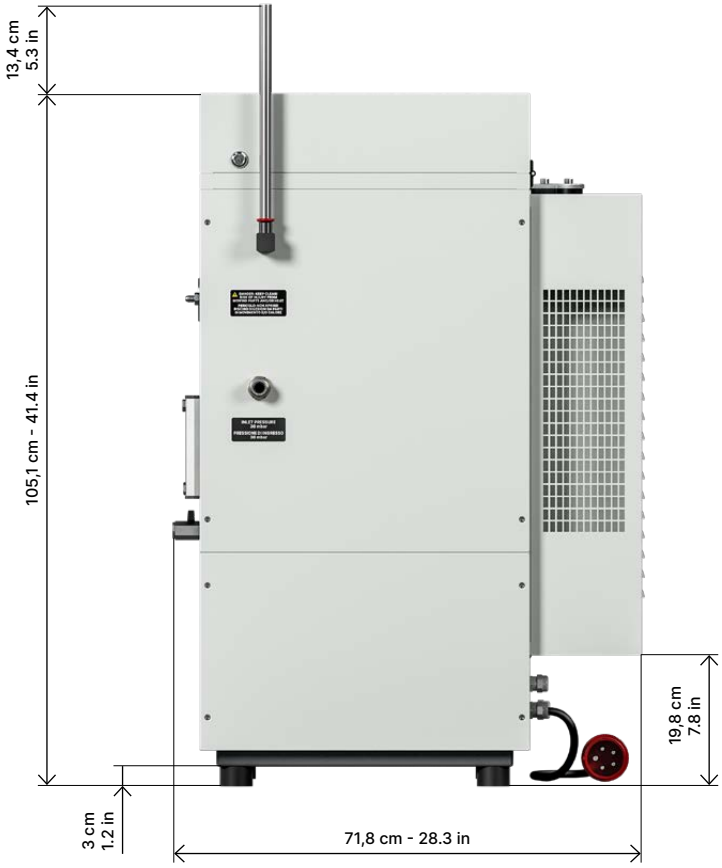
1 Standard model. Weight and dimensions may vary depending on accessories.

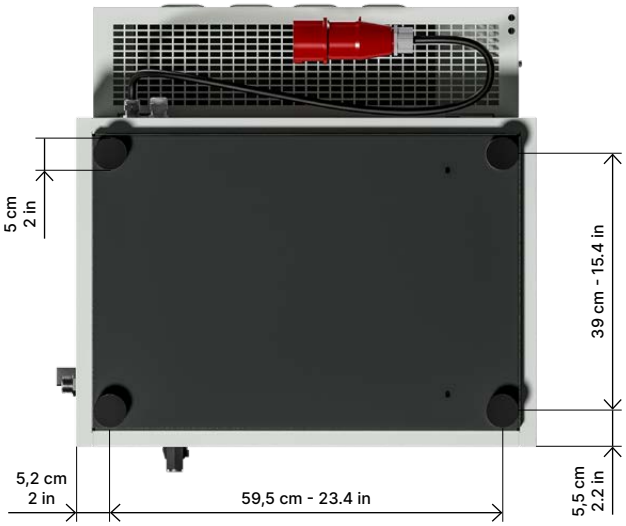
Electric motor

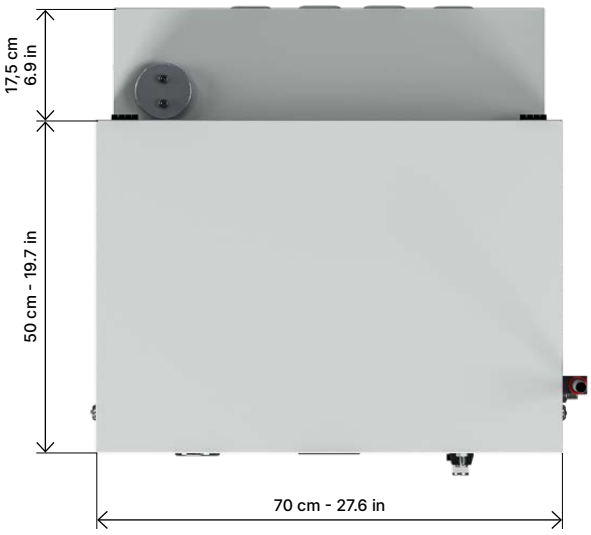
	H2 BOOSTER RC 3 KW	H2 BOOSTER RC 4 KW	H2 BOOSTER RC 5,5 KW
Power	3 kW, 4 Hp	4 kW, 5,4 Hp	5,5 kW, 7,3 Hp
Type	Three-phase electric		
Operating voltage/frequency Different voltage / frequency available on request.	400 V, 50 Hz		
Rated current	6,4 A	15 A	11,6 A
Speed (RPM)	2.840		2.850
Protection class	IP54	IP55	IP54

Dimensions

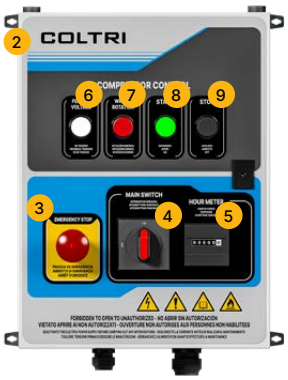
COLTRI
118,5 cm - 46.7 in
74,9 cm - 29.5 in

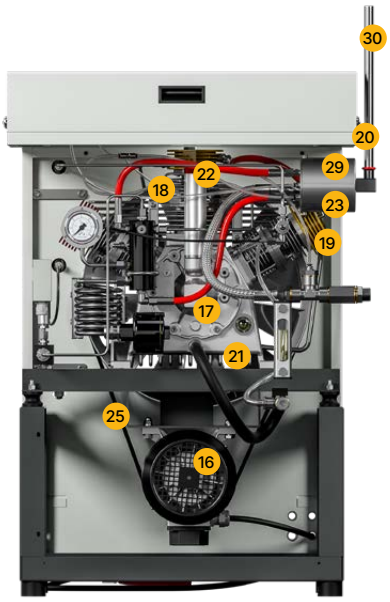

13,4 cm
5.3 in
105,1 cm - 41.4 in
19,8 cm
7.8 in
3 cm
1.2 in
71,8 cm - 28.3 in

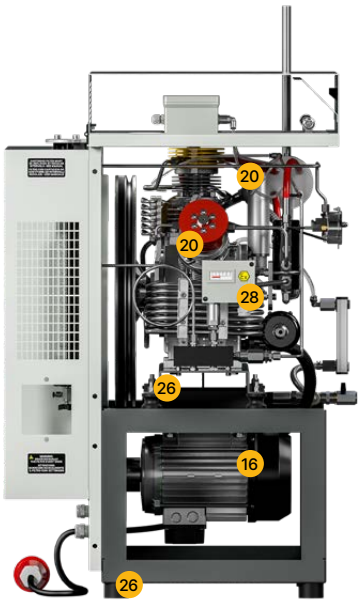

5 cm
2 in
39 cm - 15.4 in
5,2 cm
2 in
59,5 cm - 23.4 in
5,5 cm
2.2 in


17,5 cm
6.9 in
50 cm - 19.7 in
70 cm - 27.6 in

Components

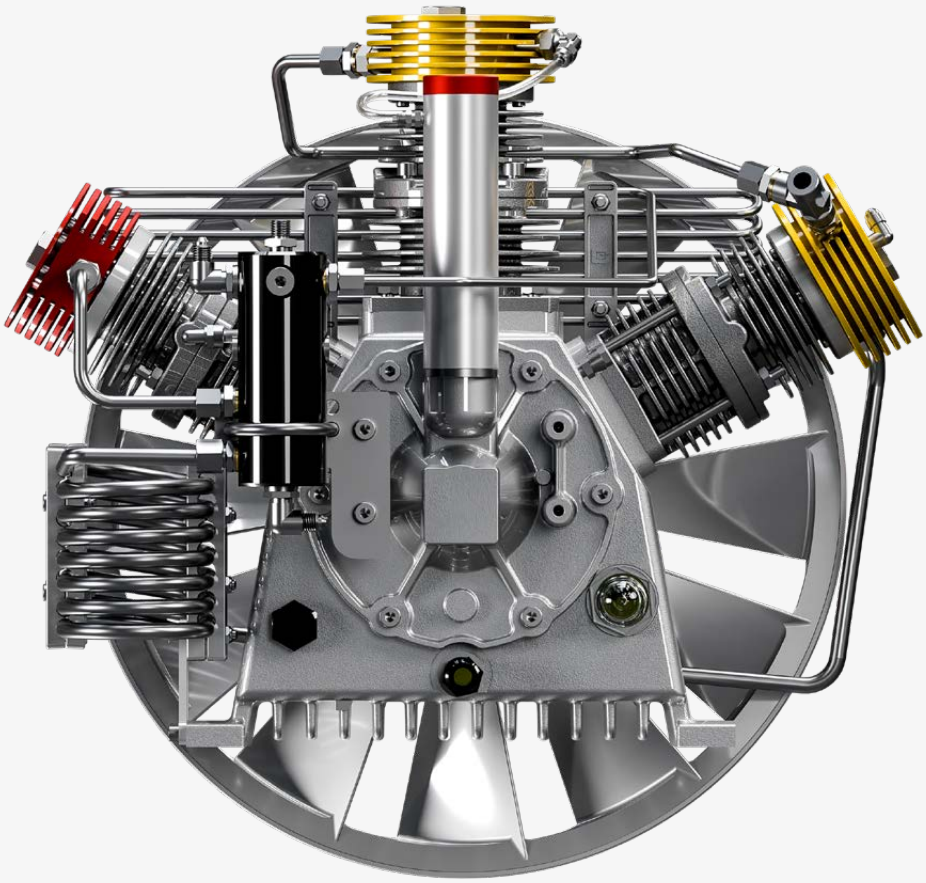






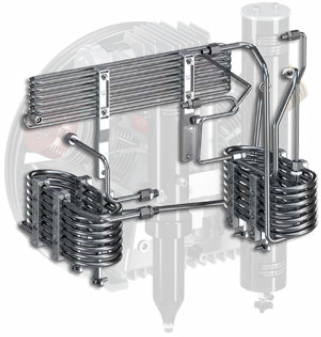
1. Frame
2. Control pannel
3. Emergency pushbutton
4. ON/OFF switch
5. Hour counter
6. Feeding voltage light
7. Wrong rotation warning light
8. ON pushbutton
9. Stop pushbutton
10. Gases pressure gauge
11. Refill hose connection
12. Condensate discharge valve
13. Oil level
14. Oil discharge valves
15. Molecular sieve gases filter
16. ATEX motor
17. Compressor
18. Gases filter
19. 2° stadio
20. 3° stadio
21. Monobloc
22. Oil filler plug
23. Safety valve
24. Antistatic cooling fan
25. Antistatic belt
26. Anti-vibration device
27. Pressure switch
28. Gas aspiration connector
29. Manifold safety valves
30. Fireplace exhaust gas

Compressor block

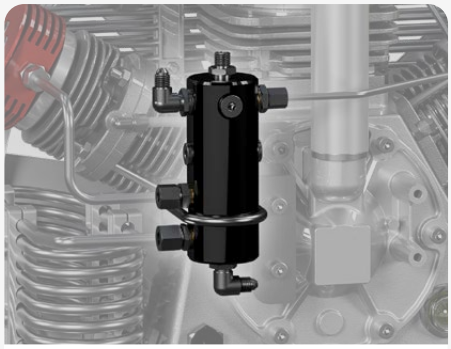


Spray lubrication with conrod immersed in oil

Safety valves after each stage of bell compression



Pipes, fitting and nuts in stainless steel AISI 316



Intermediate condensate separator after the second stage

Synthetic Oil Coltri ST 755 with special formulation for CNG compressors

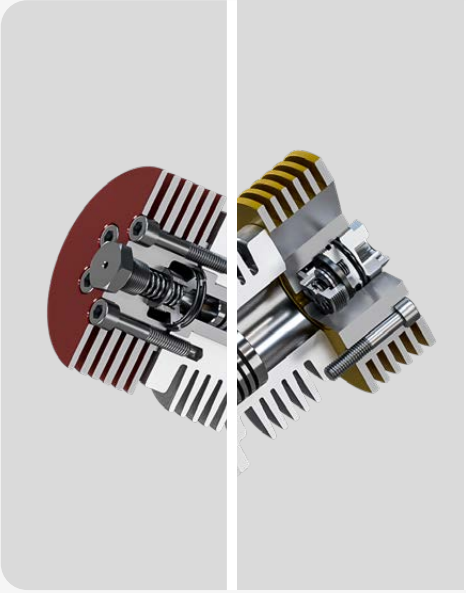
Discover more on Coltri Oil ST 755

Die-cast aluminum cylinders with barrel coating in nicasil

Forged aluminum connecting rods

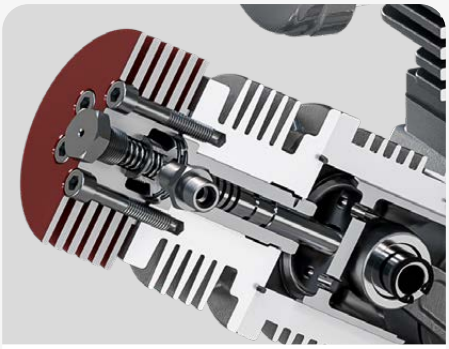
Forged steel crankshaft

Pressure maintenance and control valve after final air filter purification.



Stainless steel second and third stage valves

Roller Bearings for intensive work



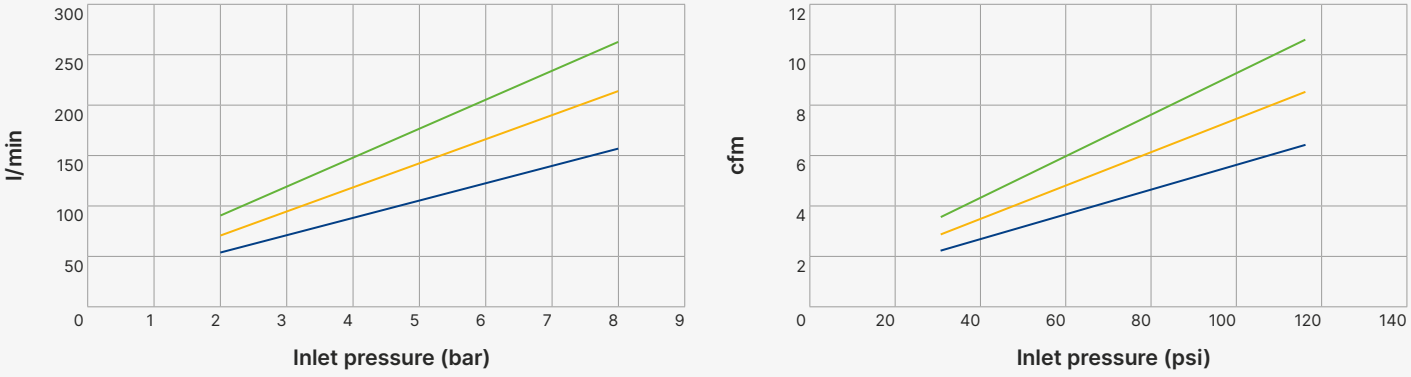
Third stage in tempered steel with 5 segments in special cast iron

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

CE certification

Technical data Compressor block

	H2 BOOSTER RC 3 KW	H2 BOOSTER RC 4 KW	H2 BOOSTER RC 5,5 KW
Charging rate Measured during 10 liters cylinder filling from 0-200 bar tolerance +/- 5% at + 20 ° C ambient temperature.	Min. 55 - Max. 160 l/min Min. 3.3 - Max. 9.6 m³/h Min. 2.2 - Max. 6.4 cfm	Min. 71.6 - Max. 215 l/min Min. 4.3 - Max. 12.9 m³/h Min. 2.9 - Max. 8.7 cfm	Min. 88.3 - Max. 265 l/min Min. 5.3 - Max. 15.9 m³/h Min. 3.6 - Max. 10.7 cfm
Speed (RPM)	960	1.240	1.600
Intake pressure	From 2 to 8 bar		
Number of stages	2		
Number of cylinders	2		
Cylinder bore 2nd stage	38 mm		
Cylinder bore 3rd stage	14 mm		
Stroke	40 mm		
Direction of rotation (from flywheel side)	Counter clockwise (left)		
Drive type	V-belt A type		
Intermediate pressure 2nd stage	~ 16 bar		
Amount of oil	1,8 liters		



H2 BOOSTER HD 3 KW

l/min	Min. 55 - Max. 160
cfm	Min. 2.2 - Max. 6.4

H2 BOOSTER HD 4 KW

l/min	Min. 71.6 - Max. 215
cfm	Min. 2.9 - Max. 8.7

H2 BOOSTER HD 5,5 KW

l/min	Min. 88.3 - Max. 265
cfm	Min. 3.6 - Max. 10.7

Standard equipment

Purification system Maxifilter

MAXIFILTER polypropylene cartridge repackable or disposable

1 Activated carbon

2 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 cartridge with CO-removal, the processable air capacity is reduced by ca. 20%.

Inlet filter

4,5 mm filling hose

Vent pipe

Plugs available according to electric motor

230 V three-phase electric motor

9h/200 - 250V~

50÷60 Hz

32 A

3P+⏚

400 V three-phase electric motor

6h/380 - 415V~

50÷60 Hz

16 A

3P+⏚

400 V three-phase electric motor

6h/200/346 - 240/415V~

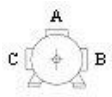
50÷60 Hz

32 A

3P+N+⏚

Data sheet three-phase electric motor 3 kW

soga®	**SPECIFICA TECNICA MOTORE EL.** *Electric motor technical data sheet*	**Potenza/** *Power* (kW) **3**	**Poli/** Poles **2**
		Data 21/11/2019	Rev. 0

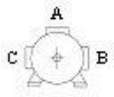
No	Descrizione/*Description*	Dati/Data			*U.d.m.*
1	**Codice Soga** / *ref.code*	182686			
2	**Modello /** Motor type	MT1 100LA/2			
3	**Descrizione** / *Description*	Motore asincrono trifase *Three-phase asynchronous motor*			
4	**Carcassa motore** / *Framesize*	100L			
5	**Poli** / *Poles*	2			
6	**Forma di costruzione** / *Mounting type*	IM B3			
7	**Potenza nominale** / *Rated output*	3			[kW]
8	**Fattore di servizio** / *Service factor*	1			
9	**Tipo di servizio** / *Duty type*	S6-75%			
10	**Tensione** / *Rated voltage*	230/400	230/400	440-480Y	[V]
11	**Frequenza** / *Rated frequency*	50	60	60	[Hz]
12	**Corrente nominale** / *Rated current*	11/6.4	11/6.4	6.4	[A]
13	**Velocità nominale** / *Rated speed*	2840	3410	3410	[min^{-1}]
14	**Fattore di potenza** / *Power factor*	0,84	0.84	0.84	[-]
15	**Coppia nominale** / *Rated torque*	10.1	8.4	8.4	[Nm]
16	**Rendimento** / *Efficiency*	80.6	79	80.6	[%]
17	**Corrente avviamento / Corrente nominale** *Starting current / Rated current*	5.2			Isp/In
18	**Coppia avviamento / Coppia nominale** *Starting torque/Rated torque*	2			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)* 	C			
22	**Terminali potenza** / *Power leads terminal*	M5			
23	**Peso /** Weight	19			[kg]
24	**Cuscinetti** /bearings — Drive end	6206			
	Cuscinetti /bearings — Non drive end	6206			

Note/remarks:

ATEX 3G Ex nA IIC T3 Gc
3D Ex tc IIIC T135 Dc

Data sheet three-phase electric motor 4 kW

soga®	**SPECIFICA TECNICA MOTORE EL.** *Electric motor technical data sheet*	**Potenza/** *Power* (kW) **4**	**Poli/** Poles **2**
		Data 21/11/2019	Rev. 1

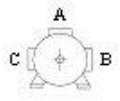
No	Descrizione/*Description*		Dati/Data			*U.d.m.*
1	**Codice Soga** / *ref.code*		182688			
2	**Modello** / *Motor type*		MT1 100LB/2			
3	**Descrizione** / *Description*		Three-phase asynchronous motor 4kW 2 Poles 400/690V 50Hz			
4	**Carcassa motore** / *Framesize*		100L			
5	**Poli** / *Poles*		2			
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*		S6-75%			
10	**Tensione** / *Rated voltage*		400/690	230/400	440-480Y	[V]
11	**Frequenza** / *Rated frequency*		50	60	60	[Hz]
12	**Corrente nominale** / *Rated current*		15/8.7	15/8.7	8.7	[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** *Starting current / Rated current*		5,5			Isp/In
18	**Coppia avviamento / Coppia nominale** *Starting torque/Rated torque*		2,8			Msp/Mn
19	**Classe d'isolamento** / *Insulation class*		F			
20	**Grado di protezione** / *Enclosure*		IP55			
21	**Posizione scatola morsettiera** (motore con piedini) *Terminal box position (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:

ATEX

Data sheet three-phase electric motor 5,5 kW

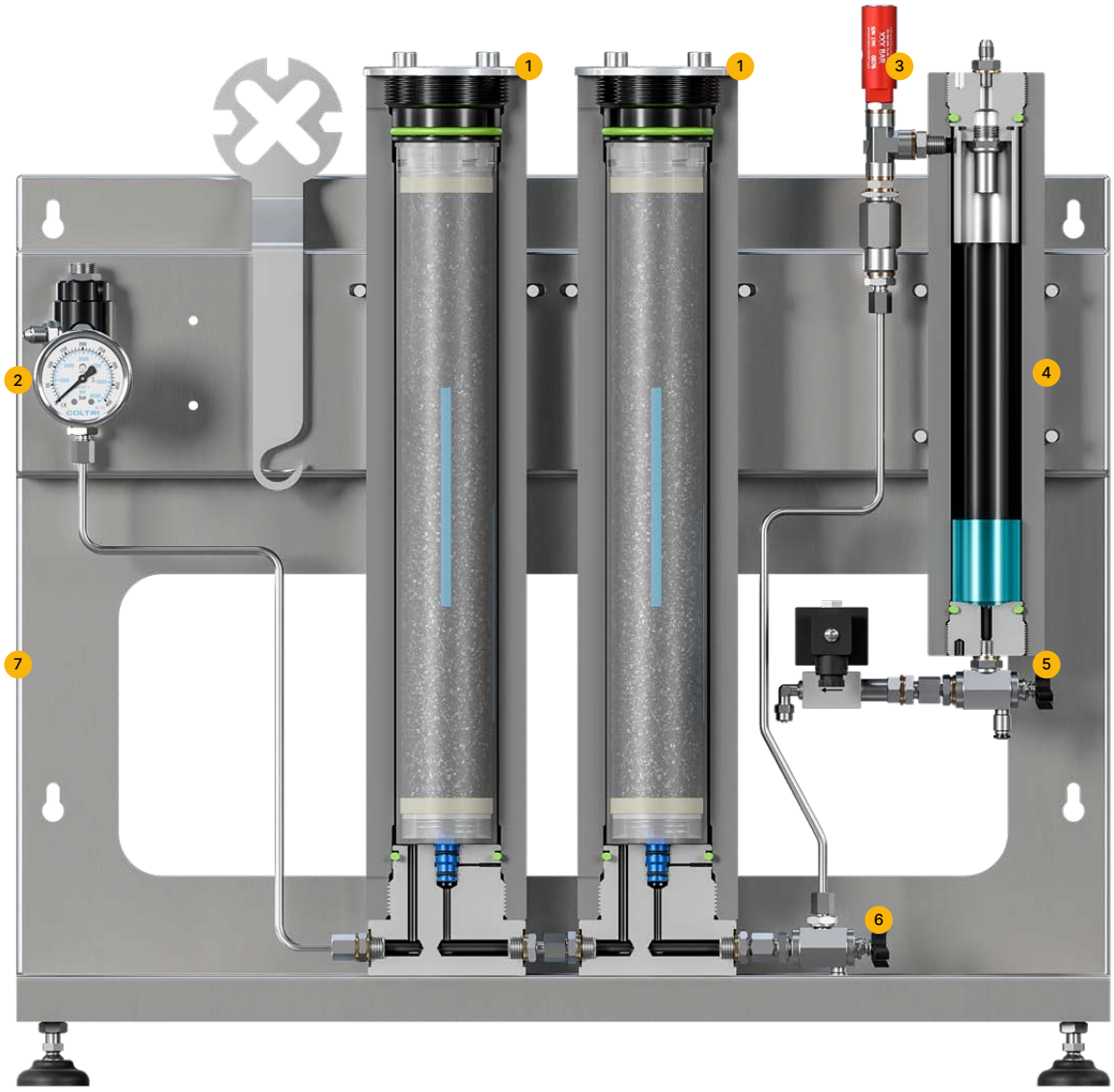
soga®	**SPECIFICA TECNICA MOTORE EL.** *Electric motor technical data sheet*	**Potenza/** *Power* (kW) **5.5**	**Poli/** Poles **2**
		Data 25/11/2019	Rev. 0

No	Descrizione/*Description*	Dati/Data			*U.d.m.*
1	**Codice Soga** / *ref.code*	182689			
2	**Modello /** Motor type	MT1 112MB/2			
3	**Descrizione** / *Description*	Three-phase asynchronous motor 5.5kW 2 Poles 230/400V 50Hz			
4	**Carcassa motore** / *Framesize*	112M			
5	**Poli** / *Poles*	2			
6	**Forma di costruzione** / *Mounting type*	IM B3L DX			
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*	S6-75%			
10	**Tensione** / *Rated voltage*	230/400	230/400	440-480Y	[V]
11	**Frequenza** / *Rated frequency*	50	60	60	[Hz]
12	**Corrente nominale** / *Rated current*	20/11,6	20/11,6	11.6	[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** / *Rated torque*	18.2	15.4	18.1	[Nm]
16	**Corrente avviamento / Corrente nominale** *Starting current / Rated current*	7.0			Isp/In
17	**Coppia avviamento / Coppia nominale** *Starting torque/Rated torque*	2.2			Msp/Mn
18	**Classe d'isolamento** / *Insulation class*	F			
19	**Grado di protezione** / *Enclosure*	IP54			
20	**Posizione scatola morsettiera** (motore con piedini) *Terminal box position (motor with feet)* 	B			
21	**Terminali potenza** / *Power leads terminal*	M5			
22	**Peso /** Weight	30			[kg]
23	**Cuscinetti** /bearings — Drive end	6206 2Z C3			
	Cuscinetti /bearings — Non drive end	6206 2Z C3			

Note/remarks:

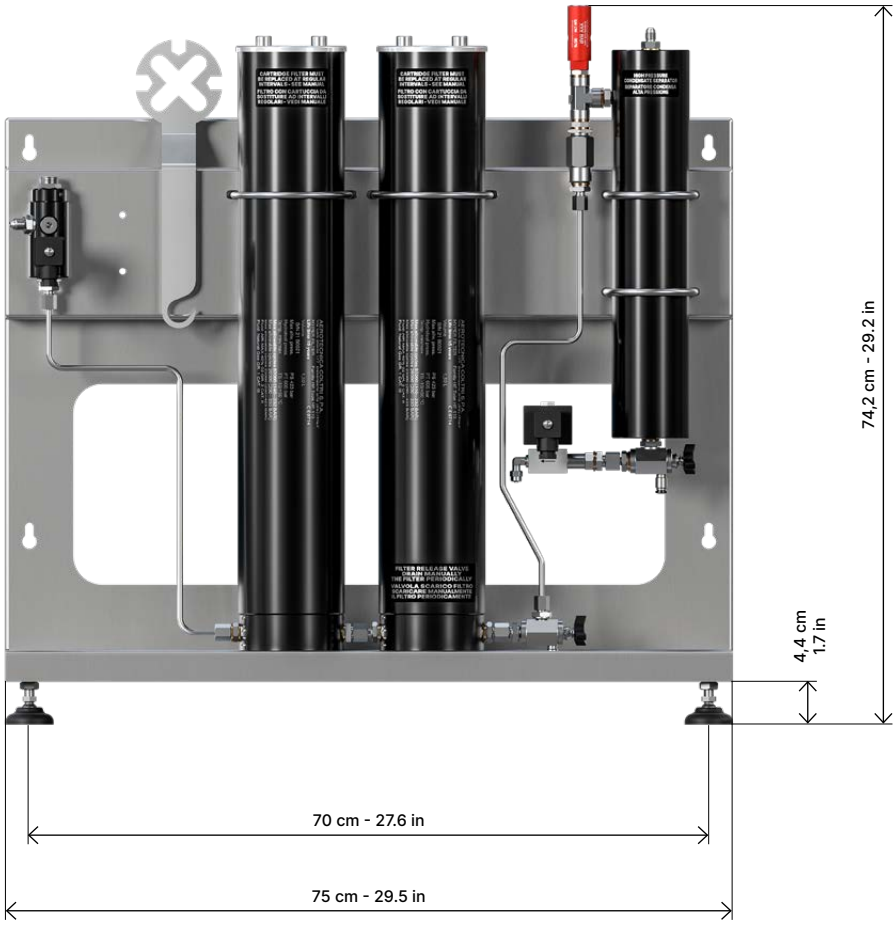
ATEX

Stand-alone kit with Hyperfilter

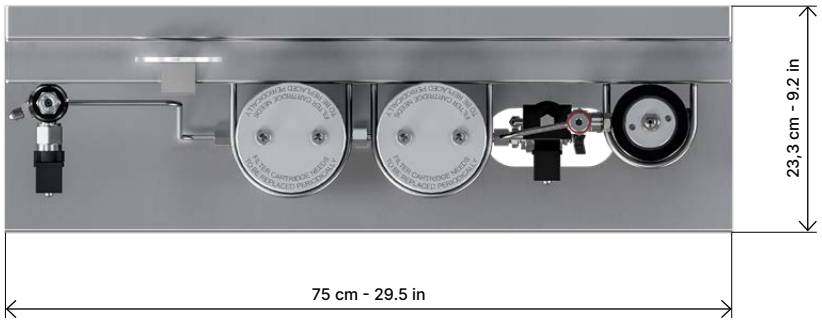


1. Purification system
2. Pressure gauge
3. Safety valve
4. Condensate separator
5. Automatic condensate drain for external separator*
6. Manual filter discharge
7. Stainless steel frame with provision for wall mounting

Dimensions


74,2 cm - 29.2 in
4,4 cm
1.7 in
70 cm - 27.6 in
75 cm - 29.5 in

11 cm Ø
4.3 in Ø
62,5 cm - 24.6 in
17,9 cm - 7 in
23,3 cm - 9.2 in


23,3 cm - 9.2 in
75 cm - 29.5 in

Additional purification system with Hyperfilter

Safety valve
(variable according to customer request)

Pressure maintenance valve

External Hyperfilter separator and filters kit

Ground or stand-alone stainless steel support

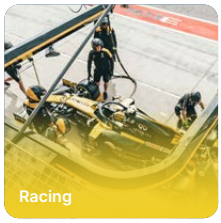
Automatic condensate drain

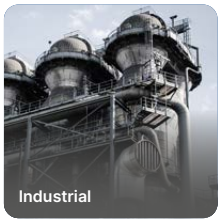
The automatic condensate drain removes water from the intermediate separator and the final separator automatically during operation (every 7 minutes).

Consists of: 1 x solenoid valve

High pressure final condensate separator double effect

Application fields





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QUALITY SYSTEM CERTIFICATION DNV ISO 9001

ENVIRONMENTAL SYSTEM CERTIFICATION DNV ISO 14001

SAFETY SYSTEM CERTIFICATION DNV ISO 45001

DT-TDS-H2BOOSTERRC-25-V2

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