



Direct driven rotary screw compressors



75-250 kW / 8-10-13 bar

**POLAR**

## Main features

### ■ Compact and efficient

POLAR compressor, single stage lubricated, ranging from 75 to 250 kW, is the optimal response to the modern industry compressed air demands.

Compact, with direct drive and operational pressures 7.5, 10 and 13 bar.

The complete POLAR range is available with continuous flow control by means of an inverter drive (VS version).

The machine is fitted with electronic controller, aftercooler, condensate separator (external for models 280 and 340) with time based drain.

POLAR in the standard configuration, is air cooled and it is designed for continuous operation 24/7.

Optional versions have available water cooling and heat recovery "oil to water" heat exchanger.

### ■ Optimum efficiency

POLAR series compressors are equipped with high efficiency electric motors with protection degree IP55 and insulation class F.

Power transmission to the airend is carried out by means of a flexible coupling and a helical gearbox.

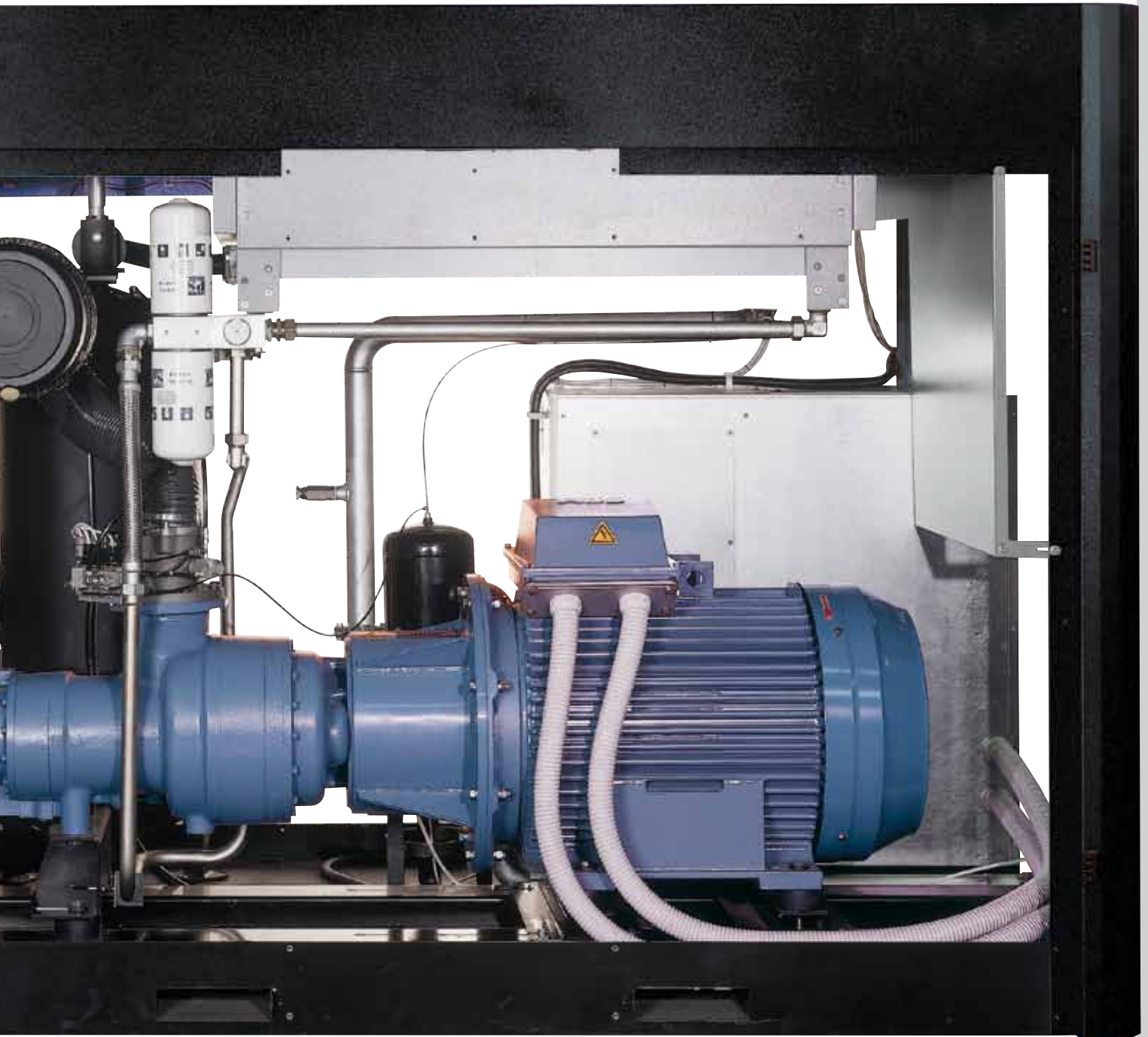
This configuration allows the perfect alignment of the shafts, granting optimal power transmission.

### ■ Silent, clean, easy to use and maintain

POLAR standard configuration includes a prefilter panel which separates dust and powder in order to keep the interior of the machine clean and easy to maintain. Wide opening doors with safety locks grant ease of access for maintenance and service. Coolers are easily accessible. Separated fans with Class F IP54 motors provide maximum cooling air flow: the number of fans depends on the size of the compressor.

Due to the type of fans, their position and the excellent soundproofing of the whole machine, POLAR compressors are extremely silent.





## RotEnergyPlus

As well as all NU AIR rotary screw compressors, also POLAR are ready to use and equipped with RotEnergyPlus cooling lubricant to synthetic base. RotEnergyPlus separates quickly from water, reduces friction and energy consumption, extends maintenance intervals and guarantees excellent bearing lubrication, providing great protection against rust and corrosion.



## Main components

### Cooling fans

Fan cooling system with thermostatic control by the electronic controller. Four fans in models POLAR 280 and 340; two fans in models 150, 180 and 220. Single fan in models 100 and 125.



### Tank and oil-separator filter

Steel CE separator tank with internal separator cartridge granting optimal filtering degree and long service intervals. Minimum pressure and non return valve easily accessible for easy maintenance and check. ASME, "U" Stamp, Nema or SQL tanks available on request.



### Oil filter and temperature control

Double oil filter to grant total operational safety. Filter support includes the thermostatic element. The working temperature of the compressor is controlled by both the throttling of the oil flow through the thermostatic element and the switching of the fans according to the air-end discharge temperature.



### Direct drive

Direct drive realized through a flexible coupling and a helical gearbox. Maximum efficiency in the power transmission, excellent alignment, maintenance free.



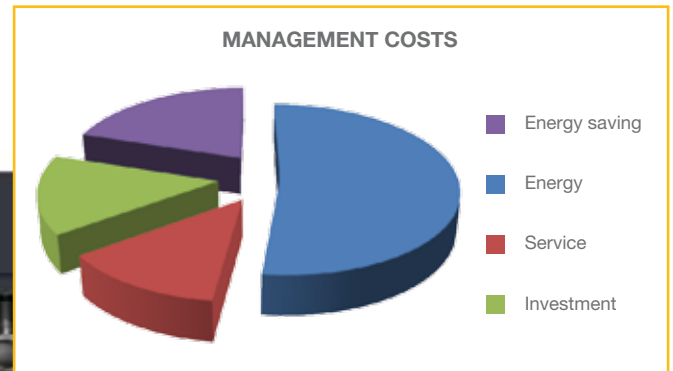


### **Microprocessor based electronic controller**

Continuous monitoring of the operational parameters is performed by a microprocessor based electronic controller, programmable with different languages.

The display indicates working pressure, internal pressure, warning for separator high delta P, overpressure, motor overload, airoend discharge temperature, motor rotation check, service hours countdown (oil, oil filter, separator and air filter), load and total running hours. The controller includes a timer suitable for calendar based start and stop of the compressor.

## Version with inverter drive (VS)



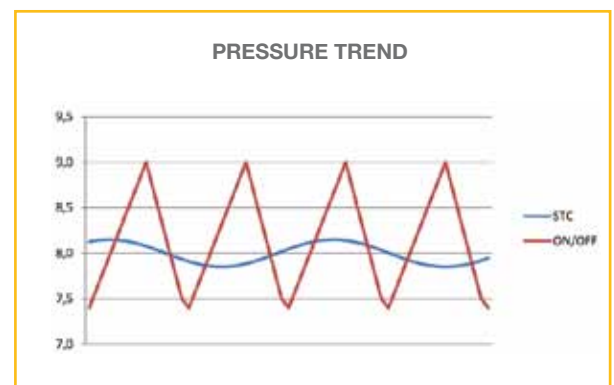
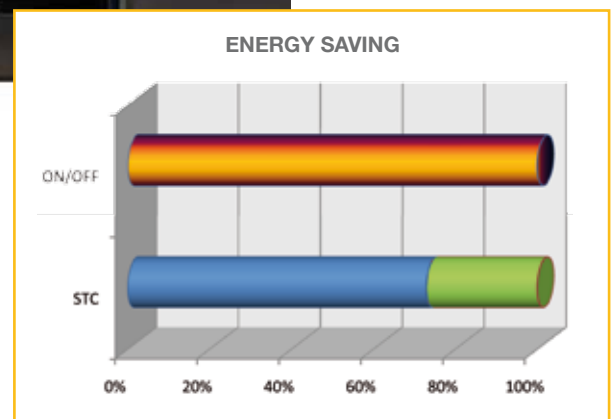
The whole POLAR range is available with inverter drive (VS = Variable Speed).

The application of inverter technology to screw compressors in the POLAR range allows best performance stabilizing the working pressure of the machine by regulation of the motor speed and of the air-end.

Depending on the real compressed air demand of the network, the electronic controller regulates the frequency drive adapting the motor speed.

A decrease of the network pressure corresponds to a higher air demand; the compressor shall increase the air delivery, then accelerate. Viceversa, a network pressure increase is related to a lower air demand and then the compressor has to decrease the air delivery, therefore it decelerates.

Immediate advantage of this regulation is the constant network pressure, the optimized electric power consumption, matching the real compressed air demand, and the minimum wear of the mechanical components, which are usually stressed during the idling/load switching of the standard compressors.



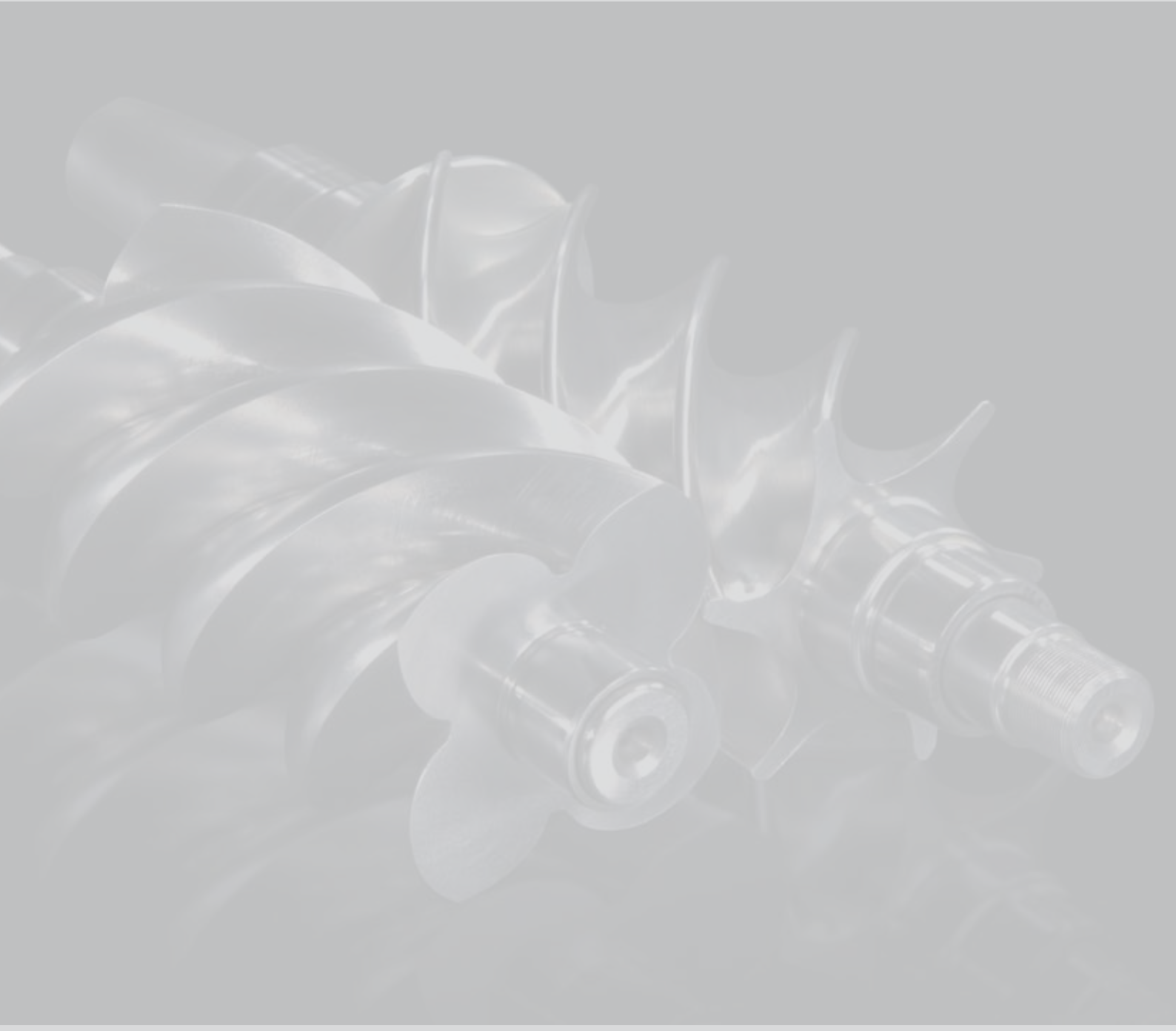
# Technical data

STANDARD														
Model	Code	Motor power		Aria delivered			Pressure		Sound level	Conne- ction	Weight		Dimensions	
		kW	HP	l/min.	m³/h	c.f.m.	bar	p.s.i.	dB(A)	G	kg	lbs	LxPxA (cm)	
POLAR 10008	V60MJ92N1N460	75	100	12600	756	445	7,5	109	73	2"	1620	3572	180x110x178	
POLAR 10010	V60MB92N1N460	75	100	10500	630	371	10	145	73	2"	1620	3572	180x110x178	
POLAR 10013	V60MD92N1N460	75	100	8800	528	311	13	189	73	2"	1620	3572	180x110x178	
POLAR 12508	V60MR92N1N460	90	125	15900	954	561	7,5	109	75	2"	2420	5336	238x130x178	
POLAR 12510	V60MF92N1N460	90	125	13400	804	473	10	145	75	2"	2420	5336	238x130x178	
POLAR 12513	V60MS92N1N460	90	125	11600	696	409	13	189	75	2"	2420	5336	238x130x178	
POLAR 15008	V60MT92N1N460	110	150	18700	1122	660	7,5	109	75	3"	3240	7144	290x155x215	
POLAR 15010	V60MI92N1N460	110	150	16300	978	575	10	145	75	3"	3240	7144	290x155x215	
POLAR 15013	V60MU92N1N460	110	150	13900	834	491	13	189	75	3"	3240	7144	290x155x215	
POLAR 18008	V60MV92N1N460	132	180	23400	1404	826	7,5	109	74	3"	3300	7277	290x155x215	
POLAR 18010	V60MN92N1N460	132	180	19900	1194	702	10	145	74	3"	3300	7277	290x155x215	
POLAR 18013	V60MZ92N1N460	132	180	16300	978	575	13	189	74	3"	3300	7277	290x155x215	
POLAR 22008	V60MX92N1N460	160	220	26800	1608	946	7,5	109	75	3"	3850	8489	290x155x215	
POLAR 22010	V60MQ92N1N460	160	220	23400	1404	826	10	145	75	3"	3850	8489	290x155x215	
POLAR 22013	V60MY92N1N460	160	220	19900	1194	702	13	189	75	3"	3850	8489	290x155x215	
POLAR 28008	V60MA92N1N460	200	275	34800	2088	1228	7,5	109	75	5"	4550	10033	330x210x215	
POLAR 28010	V60MC92N1N460	200	275	28800	1728	1017	10	145	75	5"	4550	10033	330x210x215	
POLAR 28013	V60MG92N1N460	200	275	24400	1464	861	13	189	75	5"	4550	10033	330x210x215	
POLAR 34008	V60ML92N1N460	250	340	40500	2430	1430	7,5	109	76	5"	4700	10364	330x210x215	
POLAR 34010	V60MO92N1N460	250	340	36800	2208	1299	10	145	76	5"	4700	10364	330x210x215	
POLAR 34013	V60MW92N1N460	250	340	28800	1728	1017	13	189	76	5"	4700	10364	330x210x215	

VARIABLE SPEED																	
Model	Code	Motor power		Aria delivered max. / min.						Pressure		Sound level	Conne- ction	Weight		Dimensions	
		kW	HP	l/min.		m³/h		c.f.m.		bar	p.s.i.	dB(A)	G	kg	lbs	LxPxA (cm)	
POLAR VS 10008	V60MJ97N1N460	75	100	12100	1900	726	114	427	67	7,5	109	73	2"	1650	3638	180x110x178	
POLAR VS 10010	V60MB97N1N460	75	100	10600	2000	636	120	374	71	10	145	73	2"	1650	3638	180x110x178	
POLAR VS 12508	V60MR97N1N460	90	125	15200	3240	912	194	537	114	7,5	109	74	2"	2150	4741	238x130x178	
POLAR VS 12510	V60MF97N1N460	90	125	13400	4110	804	246	473	145	10	145	74	2"	2150	4741	238x130x178	
POLAR VS 15008	V60MT97N1N460	110	150	18500	3900	1110	234	653	138	7,5	109	75	3"	2860	6306	290x155x215	
POLAR VS 15010	V60MI97N1N460	110	150	15900	4500	954	270	561	159	10	145	75	3"	2860	6306	290x155x215	
POLAR VS 18008	V60MV97N1N460	132	180	22200	3550	1332	213	784	125	7,5	109	75	3"	3200	7056	290x155x215	
POLAR VS 18010	V60MN97N1N460	132	180	19000	5400	1140	324	671	191	10	145	75	3"	3200	7056	290x155x215	
POLAR VS 22008	V60MX97N1N460	160	220	25600	5000	1536	300	904	177	7,5	109	74	3"	3350	7387	290x155x215	
POLAR VS 22010	V60MQ97N1N460	160	220	22900	5120	1374	307	808	181	10	145	74	3"	3350	7387	290x155x215	
POLAR VS 28008	V60MA97N1N460	200	275	33500	9450	2010	567	1183	334	7,5	109	76	5"	4670	10297	330x210x215	
POLAR VS 28010	V60MC97N1N460	200	275	28500	9900	1710	594	1006	349	10	145	76	5"	4670	10297	330x210x215	
POLAR VS 34008	V60ML97N1N460	250	340	42100	9900	2526	594	1486	349	7,5	109	76	5"	4830	10650	330x210x215	
POLAR VS 34010	V60MO97N1N460	250	340	35700	9600	2142	576	1260	339	10	145	76	5"	4830	10650	330x210x215	

ALL POLAR VS MODELS ARE ALSO AVAILABLE ON REQUEST WITH A WORKING PRESSURE OF 13 BAR.





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In the tables, free air delivery as per ISO 1217 Annex C,  
at 0.5 bar less than maximum working pressure at the compressor outlet.

Noise level:  $\pm 3$  dB (A) as per standards PNEUROP/CAGI PN-NTC 2.3.  
MODELS WITH DIFFERENT FREQUENCIES AND VOLTAGES AVAILABLE ON DEMAND.

*The models and specifications reported in this catalogue are subject to change without fore-notice*