



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.

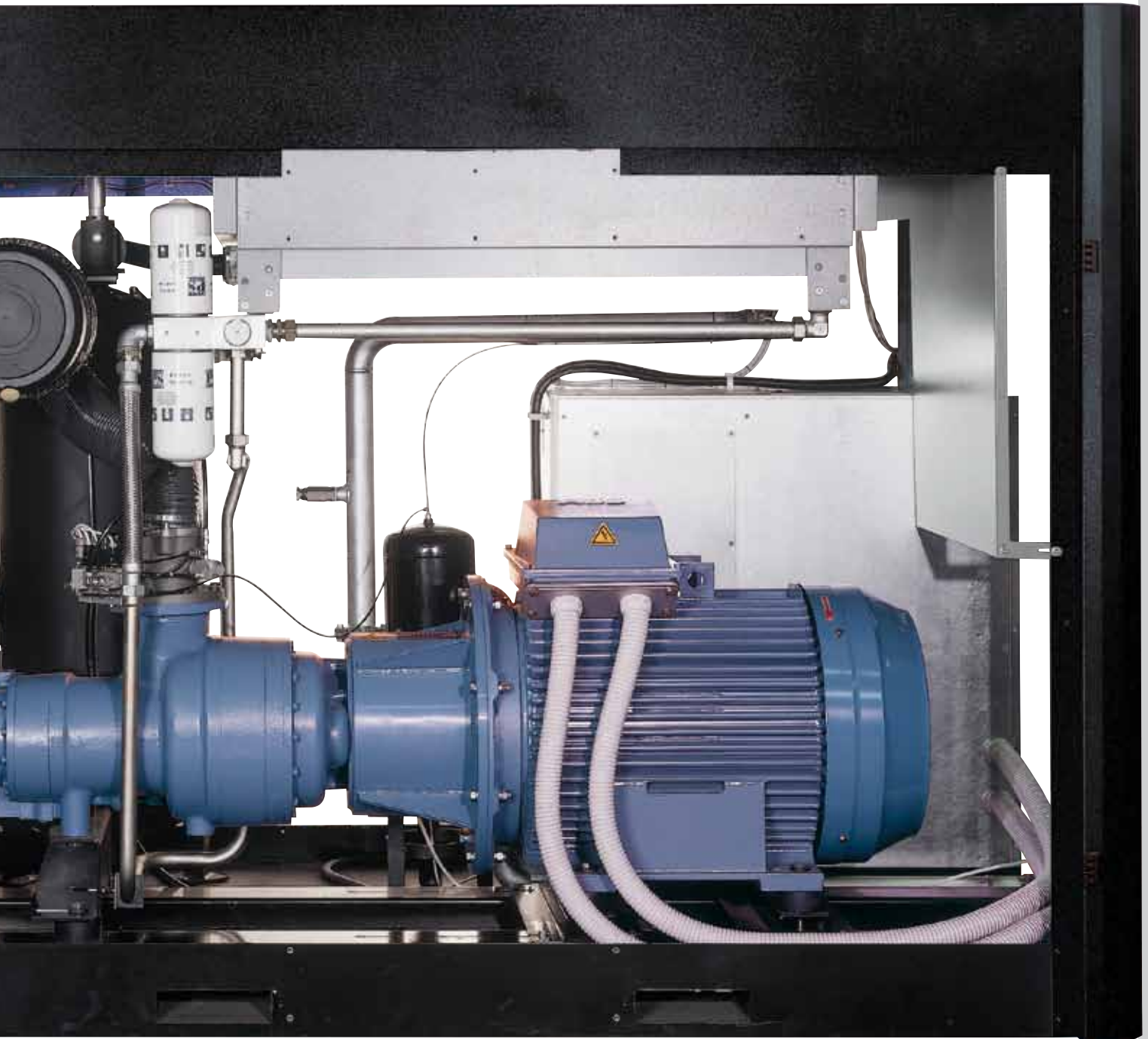
Power transmission to the airend is carried out by means of a flexible coupling and a helical gearbox. This configuration allows the perfect alignment of the shafts, granting optimal power transmission.

■ 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.



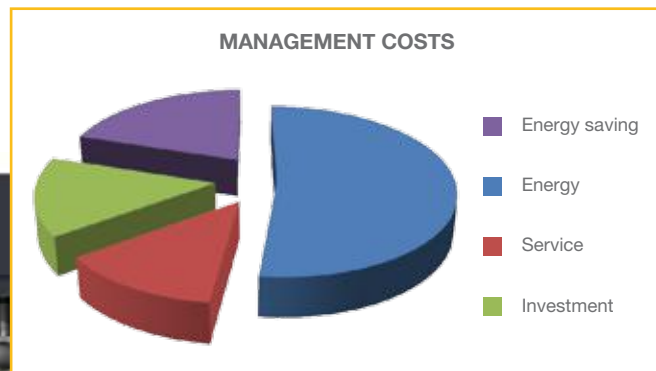


Microprocessor based electronic controller

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)



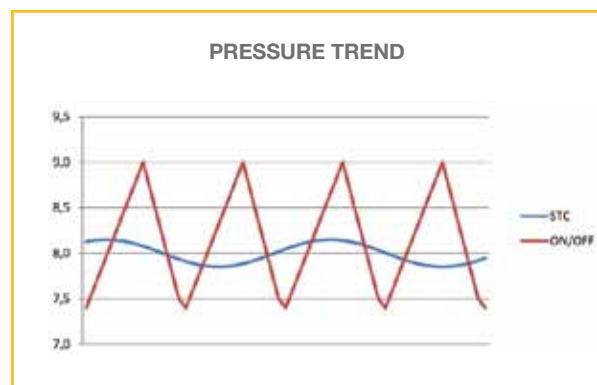
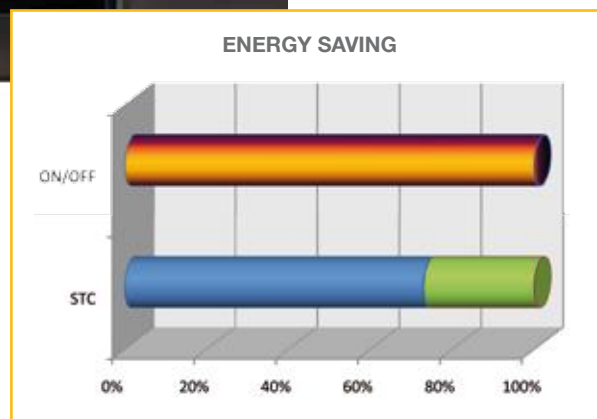
The whole POLAR range is available with inverter drive (VS = Variable Speed).

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.

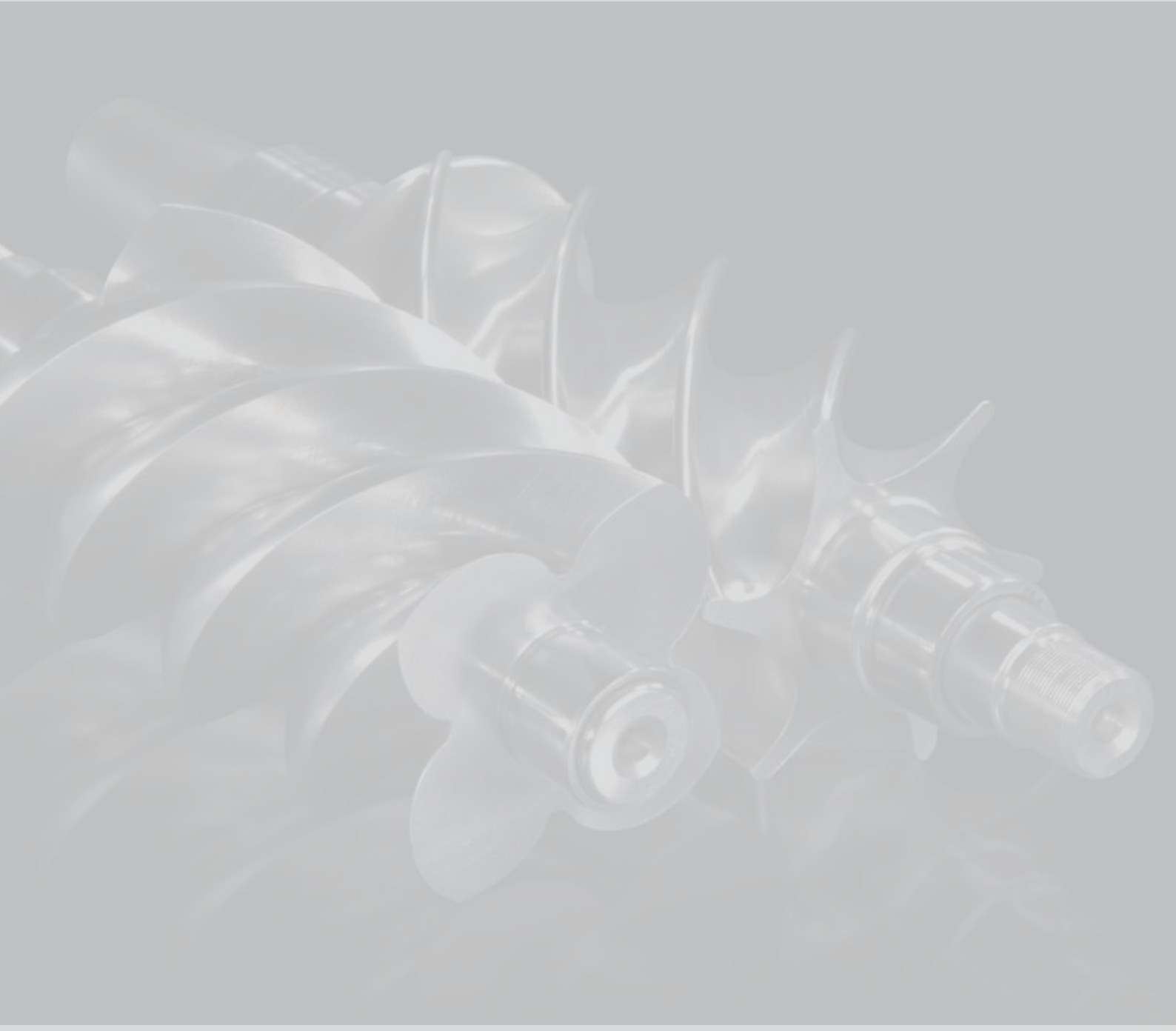


Technical data

| 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: ± 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