



 **BOTTARINI**

KDV

**Variable Speed
Screw Compressors**



ALWAYS A SMART SOLUTION

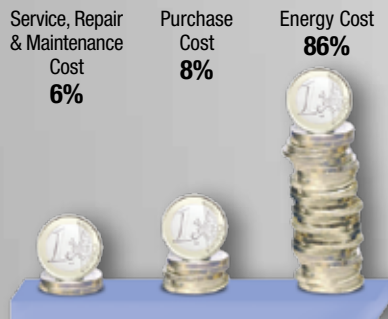


YOUR BUSINESS IS UNIQUE, SO IS YOUR COMPRESSED AIR SYSTEM.

Typically air demand in a plant varies widely through-out the day. In addition, fluctuations can occur from weekday-to-weekend, season-to-season and shift-to-shift. Pressure requirements can also change from machine-to-machine or from one application to another. You need someone to evaluate your unique, often complex requirements and recommend a tailored solution.

THE RIGHT SOLUTION SAVES YOU MONEY.

Compressed air is not free and has a big impact on plant productivity. The wrong air system is costly - in the form of excessive energy, repair and maintenance costs, downtime, poor compressed air quality, unacceptable noise levels and more. System design and compressor choice are important decisions with long lasting implications.



COST OF COMPRESSED AIR OVER 5 YEARS

THE VARIABLE SPEED COMPRESSOR: ONE SMART SOLUTION.

Variable speed compressors can efficiently and reliably handle the varying air demand found in most plant air systems. These compressors speed up and slow down to match air supply to air demand as it fluctuates. The right variable speed compressor in the right application delivers significant energy savings and a stable, consistent air supply.

COMPRESSOR ENERGY COST EXAMPLE

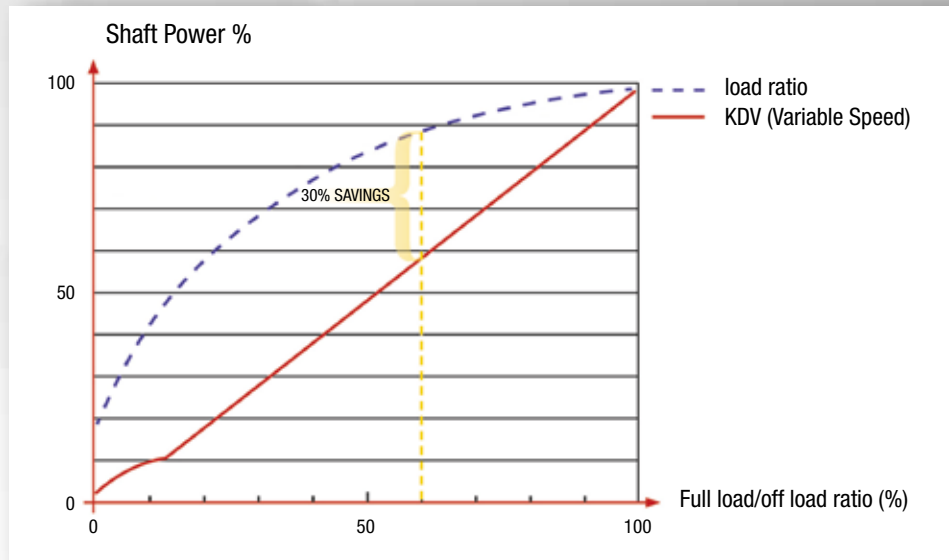
NOMINAL kW	Operating Cost per Year (5000 hours) at Cost per kWh (€)					
	0,06	0,08	0,10	0,12	0,14	0,16
25	€ 7.500	€ 10.000	€ 12.500	€ 15.000	€ 17.500	€ 20.000
40	12.000	16.000	20.000	24.000	28.000	32.000
70	21.000	28.000	35.000	42.000	49.000	56.000
150	45.000	60.000	75.000	90.000	105.000	120.000
250	75.000	100.000	125.000	150.000	175.000	200.000

Note: Hours of operation based on two 8hrs-shifts, 6 days per week. Calculations based on nominal kW.

THE SMARTER SOLUTION: KDV SERIES VARIABLE SPEED COMPRESSORS.

THE BENEFIT: EFFICIENT, RELIABLE, FLEXIBLE... JUST SMART.

The KDV Series is a complete, revolutionary compressor line that is a Smarter Solution to your Complex Needs. These compressors carry all the features and benefits associated with reliable, easy to use operations and high efficiency. This means stable pressure in the plant and maximum productivity. The cleverly engineered enclosure is safe and compact, and absorbs noise effectively without the need for any additional parts.



TO MAXIMIZE EFFICIENCY THE KDV SERIES ELIMINATES EVERY POSSIBLE KW.

Unlimited Start/Stop Operation.

Ability to start under a load and as often as required. Thus no waste of energy when no air is needed. The result - energy consumption is kept to a minimum.

Designed for Minimum Pressure Drop

For every 0,14 bar of pressure drop through a compressor package an additional 1% of power is consumed.

That's why every area on these compressors was designed so that air flows with the least possible restriction.



KDV 25-77 Design Concept



KDV 15-21 Design Concept

KDV

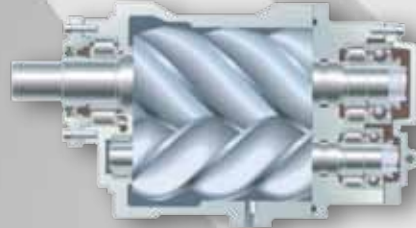


AIR ENDS OPTIMIZED FOR VARIABLE SPEED OPERATION.

The Efficiency Foundation - A Matched Motor, Drive and Air End.

The integrated TEMPEST unit with cyclone preseparation will provide you with the lowest possible residual oil content.

In combination with the proven ENDURO air end it is a solid guarantee for excellent performance.



Enduro® Plus Air End



Integrated Tempest® Unit

FLEXIBILITY TO SURPASS YOUR GOALS

CAPABILITY TO MEET VARYING COMPRESSED AIR DEMANDS.

- Selectable pressure from 3-13 (3-10) bar at the touch of a button - no need for a new compressor when your pressure requirements change.
- Quick response to pressure changes that maintains target pressure within $\pm 0,1$ bar. This provides stable plant pressure resulting in higher productivity.
- Optional integrated dryer allows compact, space-saving installation.
- The design of these packages assures the service points are readily accessible. The inlet valve is easy to access and has a simple design that minimizes the number of moving parts resulting in lower maintenance costs. The enclosure side doors are hinged and removable to allow complete access to all service points.
- Modern technology. Bottarini leads product development with new technologies such as Computational Fluid Dynamics, Finite Element Analysis and Thermography. These tools allow Bottarini to design and build smarter solutions to the complex needs of today's compressed air systems. With this technology, we have been able to develop both a compact and serviceable design at the same time.



KDV 25-77 Design Concept

THE AIRSMART™ CONTROLLER ORCHESTRATING YOUR COMPRESSED AIR SYSTEM.

Simplicity

The AirSmart™ Controller was designed to make the operators' interface with the variable speed drive transparent. You don't need to be an expert on variable speed drives to operate our compressor. The controller takes care of the details. The controller automatically adjusts the compressor performance to meet your changing air system demands - saving you energy euro. Changing the discharge pressure is as easy as pressing a button.

Communication & Sequencing

The optional communication module allows the KDV Series units to talk to each other and other compressors to optimize system efficiency. This isn't just an hour balancing, on/off sequencing scheme.

Our controller allows the system to truly optimize efficiency because it knows the capabilities of other machines and orchestrates their operation.

The communication module also allows remote monitoring of the KDV units.



Advanced Display

The controller has a four line display with menus and tactile buttons for easy navigation. Two lines display operating information such as pressure, temperature, operating hours, etc. while the other two lines display advisory messages, shutdown messages, and service contact information.

INNOVATIVE TECHNOLOGY



A new revolutionary zero-loss intake valve.
ressure drop decrease = efficiency increase = 1 to 2% more air

Minimum number of part = simple construction = practically maintenance free

No heavy spring loads = safe to work on

Oil Mixing valve (KDV 25 - 77)

- Controlled by AirSmart Controller
- Keeps temperature in $\pm 2^{\circ}\text{C}$ in normal operation = constant efficiency!
- Constant Temperature = does not overstrain parts
- Minimum temperature is $+70^{\circ}\text{C}$ and target temperature depends on ambient temperature and pressure = No condensate in the oil



Transmission (KDV 25 - 77)

The compressor element is driven directly from the main motor by means of a flexible coupling.

- Reduced Electrical Energy consumption
- Reduced noise level
- Reduced load on motor and air end bearings
- Reduced vibrations and noise levels



STANDARD EQUIPMENT

- Air inlet filter
- Fully automatic capacity control: variable speed air production based on system air demand
- Air Smart™ Controller
- EMC filter
- High efficiency AC inverter drive
- Electric motors: IP 55, F-class insulation, thermistor protection
- Emergency stop
- Safety devices for
 - Motor
 - Compressor over temperature
 - Compressor over pressure
 - Current limiter
- Alarms for
 - Air inlet filter delta_P (KDV 25-77)
 - Oil separator element delta_P (KDV 25-77)
 - Compressor over temperature (alarm at 105° C and tripping at 115° C)
 - Service interval
- Safety valve

- Running condition indicators:
 - Pressures
 - Temperatures
 - Hour meter; total running hours, full load hours
- Automatic re-start after power failure
- Epoxy powder coated enclosure
- After cooler and moisture separator with automatic drain
- Smart thermal mixing oil control valve
- Integrated TEMPEST® unit with ENDURO® Plus air end

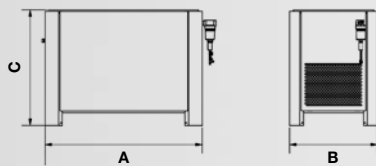
OPTIONAL EQUIPMENT

- Special voltages
- Integrated dryer; the refrigerant used in the integrated dryers fulfils the EC norm No 2037/2000 requirements

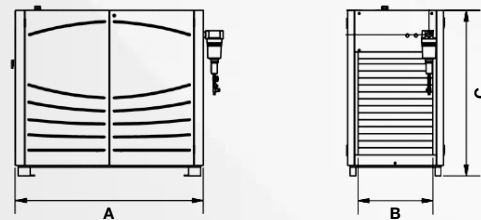
AUXILIARY EQUIPMENT

- Multi-compressor controller for several compressors
- Compressed air after treatment products






KDV 15 ÷ 21



KDV 25 ÷ 77



Technical data

    							Dimensions				
MOD.	REF.	m ³ /min	KW	Bar	db(A)	Volt/Hz	Weight	A	B	C	OUT BSP
KDV 15	502403A	0,15÷1,63	11	3÷10	63÷66	400 V / 50 Hz	315	1180	660	860	3/4"
	502404A	0,33÷1,11	11	3÷13			315				
KDV 17	CC1030663A	0,39÷2,64	17	3÷10	64÷68		495	1434	854	1105	1-1/4"
	CC1030664A	0,38÷1,73	17	3÷13			495				
KDV 21	CC1030665A	0,48÷3,14	21	3÷10	65÷71		520	1434	854	1105	1-1/4"
	CC1030666A	0,51÷2,16	21	3÷13			520				
KDV 25	502411A	0,91÷4,02	25	3÷13	63÷64		830	1651	887	1750	1-1/4"
KDV 30	502414A	0,98÷6,04	38	3÷13	67÷71		862				
KDV 40	502417A	0,90÷6,87	43	3÷13	68÷70		915				
KDV 51	502421A	0,97÷7,85	44	3÷13	70÷73		1450	2152	1119	1900	2"
KDV 63	502425A	0,91÷9,37	55	3÷13	70÷73		1470				
KDV 77	502428A	1,93÷11,60	80	3÷13	70÷73		1480				
						1480					

- For RD models max. pressure is 0.25 bar less. Pressure dew point of integrated dryer at reference conditions: +3°C. Reference conditions: intake air temperature for dryer: +35°C, ambient temperature: +25°C.
- For 13 bar model, maximum target pressure is 12.8 bar with unload limit 13 bar.

* Air flow rate measured according to standards ISO 1217, ed.4, ANNEX E – 2009 and test code / Pneurop/Cagi PN 2 CPTC2 at the following working pressure: 7 bar versions at 7,5/8/8,5 bar; 9 bar versions at 10 bar; 12 bar versions at 13 bar.

** Sound pressure level measured according to standards ISO 2151 and ISO 3744 at 1 m distance in a free field.

WARNING: in particular indoor installation environments, the noise may increase by as much as 6_10 dB(A) due to sound reflections against the walls.

The manufacturer may change the above-mentioned technical specifications without prior notice.

Maintenance is as easy as ever.

FAST AND EASY SERVICE

These compressors are designed to ensure easy access to maintenance points. All panels on the structure can be easily removed to allow full access to all service points. Also, the limited number of moving parts reduces service costs.

SERVICE NETWORK

Our large network of approved Gardner Denver dealers is always at your service to ensure the smooth running of your compressor. Gardner Denver can ensure the swift supply of replacement parts to respond to different system needs.

AFTER-SALES SERVICE

Gardner Denver offers a full range of after-sales services to fulfil all client needs. Using original spare parts will allow customers to save time and money in the long run.



Product range

KS



KSA



KA



GDP



Accessories

Piston
Compressors



KDV