



 **BOTTARINI**

**KSV**  **flexiAIR**  
Variable Speed Technology

**Variable Speed Screw Compressors  
11-22 Kw**



# KSV

The result is an extremely quiet and environment friendly compressor with reduced electrical input and easily recyclable materials.



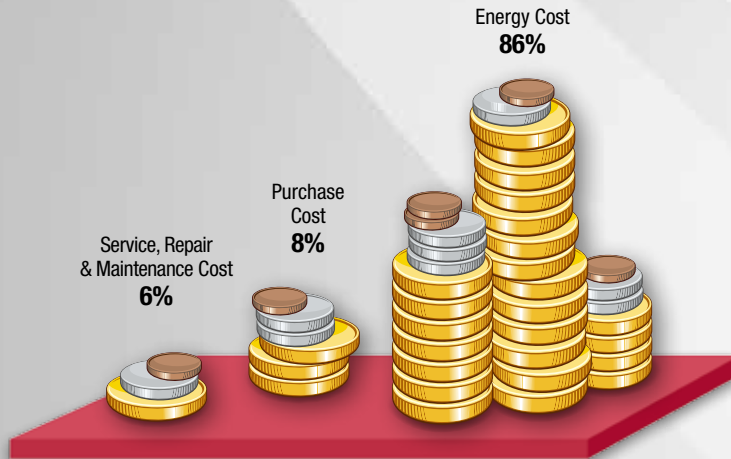
= Energy savings and lower CO2 emissions into the environment

### 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.

### 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.



COST OF COMPRESSED AIR OVER 5 YEARS

### 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
11	€ 3.295	€ 4.395	€ 5.490	€ 6.590	€ 7.690	€ 8.785
15	€ 4.495	€ 5.990	€ 7.490	€ 8.985	€ 10.483	€ 11.980
18	€ 5.540	€ 7.390	€ 9.235	€ 11.080	€ 12.930	€ 14.775
22	€ 6.590	€ 8.785	€ 10.980	€ 13.180	€ 15.375	€ 17.570

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



Allows substantial energy savings of at least 25% of the energy cost



# THE CORRECT RESPONSE

## TO THE CHANGE OF AIR DEMAND

### ELECTRICAL COMPONENTS .....

Completing the equipment of the KSV range is a set of leading-brand electrical components that are extremely easy to find on the market worldwide, and IP 55 electric motors (class F).

### AIRSMART™ CONTROLLER .....

Complete, simple and intuitive. Combined with our inverter provides excellent energy savings.

### INVERTER .....

Generously sized and reliable. Are the result of long experience.



## 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.

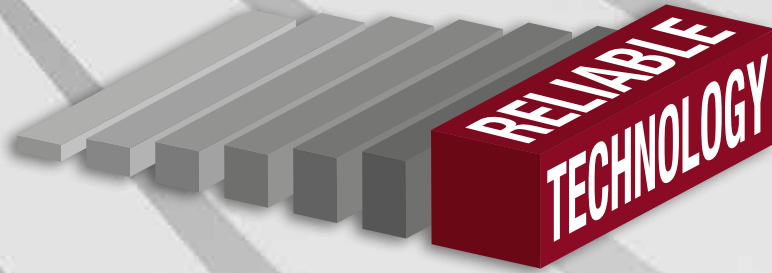
### Communication & Sequencing

The optional communication module allows the KSV 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.

### 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.





### HOUSING

The housing consists of a solid palletised base for easy handling and a structure made of fully removable panels for easy access.

The panels are completely lined internally with closed-cell acoustic material that is covered with a fully washable, oil-proof, damp-proof film. Although highly technological, this material is easy to dispose of, with no impact whatsoever on the environment.

### QUIETNESS

Appropriate canalization of the air flow provides maximum quietness (noise levels at 64 db) for the benefit of the environment and machine operators. It also ensures optimised cooling.

### SUCTION VALVE

Improved fluid-mechanical efficiency is ensured by a new vertical-design suction valve. Intake-air flows through a straight-line path, which guarantees lower load loss. ON/OFF operation and unloading is controlled via a solenoid valve. This valve concept has been specially designed to keep the number of components down to a minimum, so as to ensure long-lasting durability and low maintenance requirements.

### REDUCED MAINTENANCE COSTS

The panel structure provides easy access from all sides. All the components which need periodical maintenance – air cartridge, oil cartridge, air/oil separator, belts, oil fill and drain – can be reached from one and the same side.



### AIR/OIL SEPARATION

Increased reliability combined with reduced piping & connections. All this is made possible by an integrated block acting as air/oil separator and filter. It is so efficient that it keeps residual oil down to extremely low levels (MAX 3ppm). Housed in this block are an oil filter, an air/oil separator filter, a minimum pressure valve and a safety valve.



### UP TO 45°C AMBIENT TEMPERATURE .....

Proper sizing of the ventilation system and combined radiator ensure optimum cooling of the air/oil blend and output compressed air – at a temperature that is only 8 / 10 °C higher than ambient temperature.

### ENDURO® PLUS SCREW AIREND .....

At Gardner Denver's, we pay utmost attention to the manufacturing of our screw airends, and we test and monitor every single item that we make.

Representing the core of all our **ENDURO® PLUS** airends, rotors are accurately and thoroughly checked and measured by a computerized control system.



CT, CTD and CD configurations represent different applications of the KSV compressors, to provide an integrated station for the generation and treatment of compressed air. Configurations have been specially designed to ensure that they are all fully modular. You can start off with an individual KSV compressor, and then expand your station by simply adding the accessory you need.

Compressor (C) → Compressor mounted to a tank (CT) → Addition of a integrated drier (CTD), to obtain a full station for the production, treatment and stocking of compressed air. All this is accomplished by simply removing a side panel from the compressor and reusing it as side closure for the drier.



### OPTIONALS .....

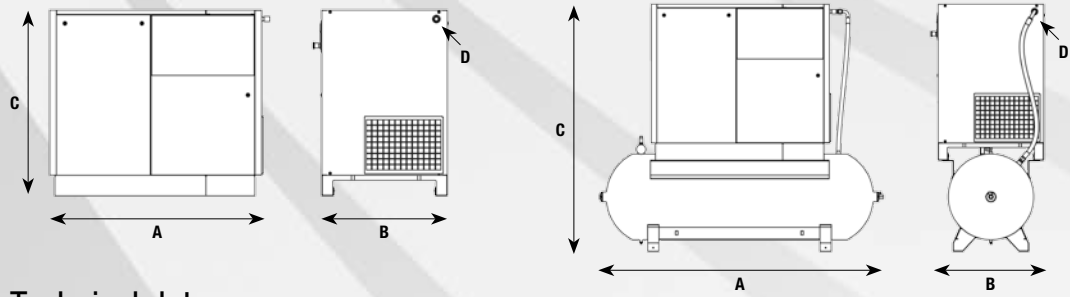
A number of optional applications complementing the CT and CTD versions will be available for this range of compressors to make sure your integrated plant is as full and functional as possible.

More specifically, KSV / CD or CTD compressors can be complemented with a **kit of filters**, ensuring that the air is treated upstream from where it is input into the system, thus reducing the chances for condensate to build up inside the network. These filters are supplied complete with automatic condensate drain traps.

The kit will be installed inside the drier housing to improve filter protection and ensure more compact overall dimensions.

Another optional extra is the **automatic condensate drain trap for tanks**. Once it is installed and programmed, this drain trap will periodically remove from the tank any condensate that may have built up inside it.

To protect compressors operating in dusty environments or poor environmental conditions, KSV compressors can be equipped with a **dust panel** that ensures good filtration of the intake cooling air.



## Technical data

MOD.	REF.	m <sup>3</sup> /min		Bar	KW	dB(A)	Tank	Weight	Dimensions				OUT BSP
		Max.	Min.						A	B	C	D	
KSV 11- 7,5	CC1091158V	1,65	0,49	7,5									
KSV 11- 10	CC1091159V	1,50	0,55	10	11	63	-	303	1250	740	1090	3/4"	
KSV 11- 13	CC1091160V	1,15	0,46	13									
KSV 15- 7,5	CC1091161V	2,21	0,47	7,5									
KSV 15- 10	CC1091162V	2,00	0,60	10	15	64	-	363	1250	740	1090	3/4"	
KSV 15- 13	CC1091163V	1,60	0,59	13									
KSV 18- 7,5	CC1091164V	2,80	0,64	7,5									
KSV 18- 10	CC1091166V	2,50	0,66	10	18,5	65	-	402	1250	740	1090	1"	
KSV 18- 13	CC1091168V	1,93	0,66	13									
KSV 22- 7,5	CC1091171V	3,35	0,76	7,5									
KSV 22- 10	CC1091172V	2,95	0,64	10	22	67	-	422	1250	740	1090	1"	
KSV 22- 13	CC1091174V	2,40	0,74	13									
KSV 11- 7,5 / D23	CC1091201V	1,65	0,49	7,5									
KSV 11- 10 / D23	CC1091202V	1,50	0,55	10	11	63	-	341	1250	740	1090	3/4"	
KSV 11- 13 / D23	CC1091204V	1,15	0,46	13									
KSV 15- 7,5 / D23	CC1091205V	2,21	0,47	7,5									
KSV 15- 10 / D23	CC1091206V	2,00	0,60	10	15	64	-	401	1250	740	1090	3/4"	
KSV 15- 13 / D23	CC1091208V	1,60	0,59	13									
KSV 18- 7,5 / D30	CC1091211V	2,80	0,64	7,5									
KSV 18- 10 / D30	CC1091212V	2,50	0,66	10	18,5	65	-	442	1250	740	1090	1"	
KSV 18- 13 / D30	CC1091214V	1,93	0,66	13									
KSV 22- 7,5 / D35	CC1091215V	3,35	0,76	7,5									
KSV 22- 10 / D35	CC1091216V	2,95	0,64	10	22	67	-	468	1250	740	1090	1"	
KSV 22- 13 / D35	CC1091217V	2,40	0,74	13									
<b>KSV CT</b>													
KSV 11- 7,5 / 500	CC1091220V	1,65	0,49	7,5									
KSV 11- 10 / 500	CC1091221V	1,50	0,55	10	11	63	500	453	1960	740	1725	3/4"	
KSV 11- 13 / 500	CC1091222V	1,15	0,46	13									
KSV 15- 7,5 / 500	CC1091223V	2,21	0,47	7,5									
KSV 15- 10 / 500	CC1091224V	2,00	0,60	10	15	64	500	513	1960	740	1725	3/4"	
KSV 15- 13 / 500	CC1091225V	1,60	0,59	13									
KSV 18- 7,5 / 500	CC1091226V	2,80	0,64	7,5									
KSV 18- 10 / 500	CC1091227V	2,50	0,66	10	18,5	65	500	552	1960	740	1725	1"	
KSV 18- 13 / 500	CC1091228V	1,93	0,66	13									
KSV 22-7,5 / 500	CC1091230V	3,35	0,76	7,5									
KSV 22- 10 / 500	CC1091232V	2,95	0,64	10	22	67	500	572	1960	740	1725	1"	
KSV 22- 13 / 500	CC1091233V	2,40	0,74	13									
<b>KSV CTD</b>													
KSV 11-7,5 / D23 / 500	CC1091265V	1,65	0,49	7,5									
KSV 11-10 / D23 / 500	CC1091266V	1,50	0,55	10	11	63	500	491	1960	740	1725	3/4"	
KSV 11-13 / D23 / 500	CC1091267V	1,15	0,46	13									
KSV 15-7,5 / D23 / 500	CC1091268V	2,21	0,47	7,5									
KSV 15-10 / D23 / 500	CC1091269V	2,00	0,60	10	15	64	500	551	1960	740	1725	3/4"	
KSV 15,13 / D23 / 500	CC1091270V	1,60	0,59	13									
KSV 18-7,5 / D30 / 500	CC1091271V	2,80	0,64	7,5									
KSV 18-10 / D30 / 500	CC1091272V	2,50	0,66	10	18,5	65	500	592	1960	740	1725	1"	
KSV 18-13 / D30 / 500	CC1091273V	1,93	0,66	13									
KSV 22- 7,5 / D35 / 500	CC1091275V	3,35	0,76	7,5									
KSV 22- 10 / D35 / 500	CC1091276V	2,95	0,64	10	22	67	500	618	1960	740	1725	1"	
KSV 22- 13 / D35 / 500	CC1091277V	2,40	0,74	13									

\* 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 7,5/8,5 bar; 9 bar versions at 10 bar; 12 bar versions at 13 bar.

\*\* Sound pressure level (at 70% load) 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 .....



KDV .....



GDP .....



Accessories .....



Piston  
Compressors .....



**KSV**