SENATOR

INDUSTRIAL AIR COMPRESSORS

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LSV Series 18.5 to 75 kW

Rotary Screw Air Compressors

3.28 to 13.05 m^3/min

7 to 10 bar

The Senator LSV Series comprises a range of electric rotary screw air compressors that are efficient, well equipped, base-mounted units supplied ready for use. They incorporate state-of-the-art variable speed drive (VSD) technology that saves energy by continuously adjusting compressor output to match the air demand.

Each model has been developed using innovative European design concepts to realize an easy-to-use and maintain layout that includes upgraded heavy-duty components to satisfy the demands of Australia's harsh operating conditions.

Ideally suited for medium-to-large industrial applications with fluctuating compressed air demand, the fully-featured Senator LSV Series establishes a new affordability benchmark for high efficiency VSD screw compressors without sacrificing performance, quality or reliability.

Energy Saving

Energy consumption comprises about 75% of the total annual cost associated with an electric screw compressor in most industrial applications. A conventional fixed-speed 75 kW unit, for example, uses around $30,000 worth of electricity per year on average working just one 38-hour shift per week.

Senator LSV Series compressors typically use 15 to 30% less electricity than comparable fixed speed models. In the above example for a 75 kW unit, this would yield an energy cost saving of up to nearly $10,000 per year.

A Senator LSV Series compressor is the smart choice whether you're buying for a new installation or a replacement upgrade. It will pay for itself many times over in electricity cost savings.

Features and Benefits

Vertically stacked air end and air-oil receiver layout yields a compact compressor solution with minimum installation cost and space requirements.

Soundproofed cabinet with anti-vibration mounting of rotating components enables the unit to be installed directly within the working environment.

7, 8 & 10 bar (102, 116 & 145 psi) outlet pressure capability that is suitable for a broad range of compressed air applications.

Precision technology rotary screw air-end with advanced rotor profile and slow rotor speed ensures 24/7 reliability, high airflow output and low energy consumption.

Microprocessor-based variable speed drive (VSD) with field-oriented vector control provides optimized motor speed and torque performance under all operating conditions.

High efficiency, VSD-duty electric motor with independent fan-forced cooling has superior temperature rise capability allowing it to operate at constant torque output across the entire speed range.

VSD dynamic motor control operates smoothly to prevent electrical current spikes and mechanical shock loading during compressor start-up.

Multi-function electronic controller with LED display serves as a user-friendly interface for compressor operation, system monitoring and protection, and maintenance scheduling.

Two-stage intake air filtration prolongs the life of the air end, air-oil separator, and the air and oil filters.

Oversized air-oil receiver tank designed for optimal air / oil separation and increased lubricating oil capacity.

Fan-forced after-cooling minimizes water carry-over in the discharge air and increases the efficiency of downstream air treatment equipment such as dryers and filters.

Thermostat-controlled, fan-forced oil cooling permits continuous operation in ambient temperatures of up to 45°C without shortening oil life or increasing oil vapour carry-over.

Lift-off cabinet panels and ample internal machinery space provide unhindered access for maintenance personnel.

Spin-on oil filter and air-oil separator elements enable quick and easy compressor servicing with the least possible downtime.

Compliant with Australian Workplace Health and Safety Regulations for industrial workplace use.

Accessories and Packages

A full range of matching vertical air receivers, refrigerant dryers and in-line filters is available to complement the Senator LSV Series compressors. These key accessories are optimally procured together with the compressor in a pre-configured equipment package.

Senator compressed air system packages are suitable for most industrial applications and provide the best possible combination of performance, safety and value for money.

Please consult your local Senator dealer for application specific advice.

Customer and Product Support

Every Senator LSV Series compressor undergoes 100-point inspection and full-load testing in Australia before dispatch to the customer *(as pictured at left)*.

Australia-wide dealer network offering sales, installation, service and genuine spare parts backup.

12-month parts and labour factory-backed warranty to protect your investment.

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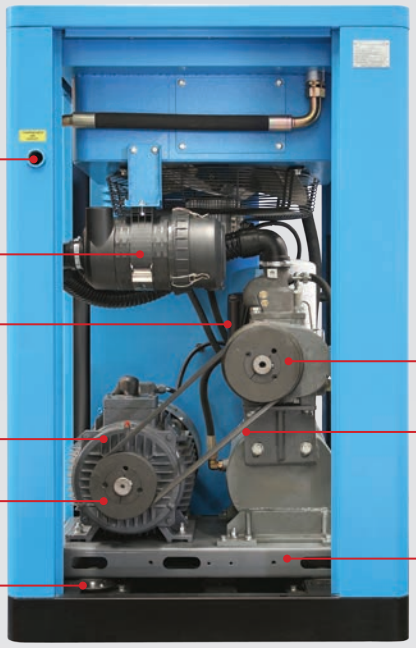
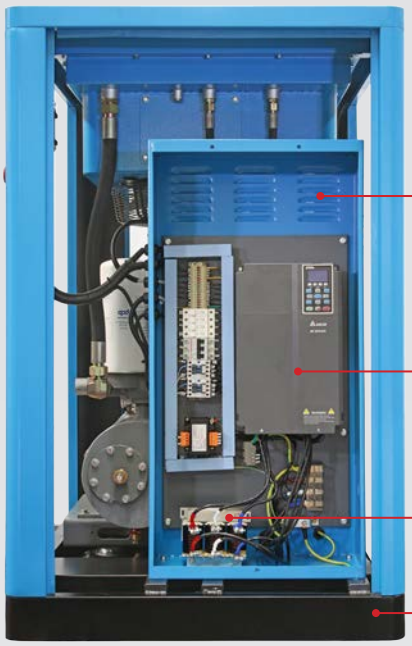
Equipment Design Details

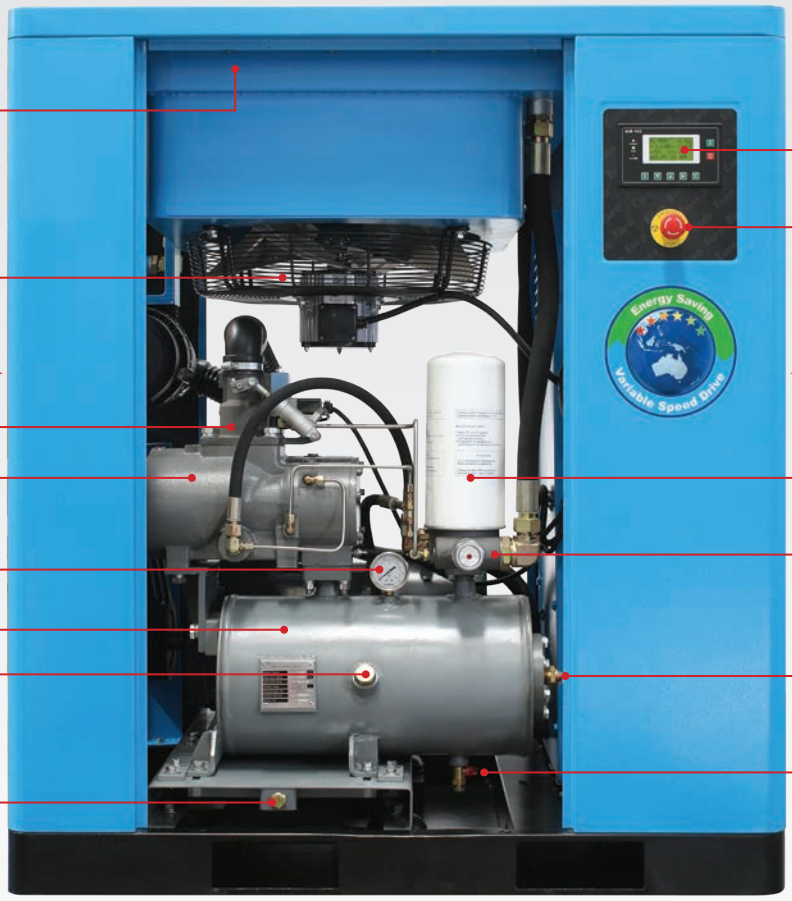


Left side internal view of LSV18 with V-belt drive safety guard removed



Right side internal view of LSV18 with electrical cabinet cover removed

Cooling Air Outlet Flow



LSV18 shown with front and rear panels removed

Multi-Function Electronic Controller

The electronic controller automatically monitors and controls the compressor's air, oil and electrical systems. It also tracks scheduled maintenance tasks for key components.

Sophisticated, yet with an intuitive and easy-to-use interface, the controller offers a full range of functions to optimize the compressor's efficiency, performance and reliability.

Rotary Screw Air End

Featuring a patented 5:6 asymmetrical rotor profile, the advanced technology rotary screw air end is amongst the most efficient and reliable in the world. Its inherent durability is further enhanced by operating at very slow rotational speeds.

Perfect quality is assured by precision computer-aided manufacture and verified by meticulous inspection and dynamic testing of every air end.

Specifications

Parameter		Unit	Model						
			LSV18	LSV22	LSV30	LSV37	LSV45	LSV55	LSV75
Free Air Delivery [1, 2]	@ 7 bar	m³/min	1.15 - 3.28	1.38 - 3.93	1.82 - 5.21	2.38 - 6.80	2.73 - 7.79	3.61 - 10.30	4.57 - 13.05
	@ 102 psi	cfm	41 - 116	49 - 139	64 - 184	84 - 240	96 - 275	127 - 364	161 - 461
	@ 8 bar	m³/min	1.08 - 3.08	1.25 - 3.58	1.74 - 4.96	2.23 - 6.38	2.51 - 7.18	3.35 - 9.58	4.32 - 12.33
	@ 116 psi	cfm	38 - 109	44 - 127	61 - 175	79 - 225	89 - 254	118 - 338	152 - 435
	@ 10 bar	m³/min	0.96 - 2.73	1.12 - 3.20	1.53 - 4.38	1.98 - 5.67	2.23 - 6.38	3.16 - 9.04	3.91 - 11.18
	@ 145 psi	cfm	34 - 96	40 - 113	54 - 155	70 - 200	79 - 225	112 - 319	138 - 395
Air End Speed	@ 8 bar	rpm	900 - 2,570	1,061 - 3,030	826 - 2,360	1,091 - 3,118	1,253 - 3,581	823 - 2,350	1,084 - 3,097
Motor [3]	Power	kW	18.5	22	30	37	45	55	75
		hp	25	30	40	50	60	75	100
Noise Level	@ 1 m	dB(A)	71	71	71	71	72	73	74
Air Outlet	Size	BSP	1" F	1" F	1½" F	1½" F	1½" F	2" F	2" F
Dimensions	W	cm	125	125	146	146	146	179	179
	D	cm	90	90	102	102	102	125	125
	H	cm	142	142	169	169	169	190	190
Weight	Wet	kg	600	666	953	970	1,025	1,485	1,626

[1] Per ISO 1217:2009 Annex E.
[2] 8 bar (116 psi) configuration is standard.
[3] Electricity supply: 415 V, 3-Ph, 50 Hz.

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Specifications are subject to change without notice. 2015-07