Energy-Saving Two- Stage Air Compressor

Product Name: Two-stage compressor(or Dual-stage compressor), Two-stage Compression Double Screw Air Compressor, Two-stage PM VSD Air Compressor Series, China Industrial Two-Stage Compression.

Gas Type: Air

Power: 22kw – 185kw

Air outlet diameter: DN40 – DN80

Driven method: Direct driven

Configuration: Stationary

Lubrication Style: Lubricated

Drive method: Variable Speed Drive

Weight: 250-4250kg

Warranty: 2 years

Certification: CE/ASME/ISO

Color: Optional & customization

Local Service Location: Philippines, Mexico, Russia

(1) The implementation of two-stage compression effectively reduces the compression ratio at each stage, minimizes internal leakage, enhances volumetric efficiency, decreases bearing load, and ultimately extends the lifespan of the host unit.

(2) The transition to a two-stage permanent magnet variable speed drive (PM VSD) supersedes single-stage compression, resulting in an approximate 15% increase in displacement and yielding an additional 15% in energy savings.

(3) The rotor features a state-of-the-art patented UV profile, meticulously refined through over 20 procedures to ensure precision, reliability, and optimal performance.

(4) The mainframe of the two-stage PM VSD air compressor boasts superior efficiency and energy savings, with the potential to reduce energy consumption by up to 40% compared to conventional industrial frequency machines. Based on an operational estimate of 8,000 hours per unit annually, this could translate to electricity cost savings of approximately $30,000 per year.

Advantages of Sollant Two-stage compressor:

1. **Enhanced Energy Efficiency**
   The two-stage Permanent Magnet Variable Speed Drive (PM VSD) rotor is directly powered through gears, allowing each rotor stage to operate at optimal speeds. The air end consistently functions at the most energy-efficient speed. Additionally, the frequency conversion soft start minimizes energy consumption during compressor startup. By regulating pressure between stages, the compressor maintains peak efficiency across various working conditions. In comparison to a single-stage fixed-speed air compressor, a two-stage PM VSD air compressor can achieve energy savings of up to 40%.
2. **Increased Stability**
   This system eliminates mechanical transmission failures, as the motor and male rotor utilize an integrated shaft structure. This design negates the need for couplings and gear transmissions, thereby removing the risks associated with coupling and gear failures.

3. **Improved Efficiency**

   The PM VSD motor operates without transmission efficiency losses. Its energy-saving capabilities and superior performance are significant advantages. The integrated structure further minimizes efficiency losses typically associated with couplings and gears.

4. **Enhanced Comfort**

   The system operates with low noise and minimal vibration, producing no motor or bearing noise, gear noise, or coupling noise.

5. **Compact Design**

   The PM VSD motor's small size and integrated structure contribute to space savings, making it a more compact solution.

3. Technical Parameters:

Model	Working Pressure		Capacity		Power		Noise	Air Outlet Pipe Diamete	Weight	Dimensions		
	bar	psig	m³/min	cfm	kW	hp	dB		kg	Lenght	Width	Height
SLT-37VT	8	116	2.3-7.7	81-272	37	50	65±3	G2	1800	1860	1180	1430
	10	145	1.9-6.9	67-244	37	50	65±3	G2	1800	1860	1180	1430
	13	189	/	/	37	50	65±3	G2	1800	1860	1180	1430
SLT-45VT	8	116	3.2-10.5	113-371	45	60	65±3	G2	2000	1860	1180	1430
	10	145	2.2-7.8	78-275	45	60	65±3	G2	2000	1860	1180	1430
	13	189	2.5-6.1	88-215	45	60	65±3	G2	2000	1860	1180	1430
SLT-55VT	8	116	3.9-13.2	138-466	55	75	65±3	G2	2450	2160	1350	1750
	10	145	3.1-10.7	109-378	55	75	65±3	G2	2450	2160	1350	1750
	13	189	2.6-8.8	92-311	55	75	65±3	G2	2450	2160	1350	1750
SLT-75VT	8	116	5.0-16.8	177-593	75	100	68±3	G2	2550	2160	1350	1750
	10	145	4.1-13.8	145-487	75	100	68±3	G2	2550	2160	1350	1750
	13	189	3.6-12.3	127-434	75	100	68±3	G2	2550	2160	1350	1750
SLT-90VT	8	116	6.0-20.1	212-710	90	120	70±3	DN65	3250	2420	1530	1720
	10	145	5.2-17.3	184-611	90	120	70±3	DN65	3250	2420	1530	1720
	13	189	4.8-15.9	170-562	90	120	70±3	DN65	3250	2420	1530	1720
SLT-110VT	8	116	7.1-23.5	251-830	110	150	72±3	DN80	3600	2650	1600	1850
	10	145	5.9-19.8	210-699	110	150	72±3	DN80	3600	2650	1600	1850
	13	189	5.3-17.8	187-629	110	150	72±3	DN80	3600	265	1600	1850
SLT-132VT	8	116	8.0-28.1	283-992	132	175	74±3	DN80	3700	2650	1600	1850
	10	145	7.3-24.3	257-858	132	175	74±3	DN80	3700	2650	1600	1850
	13	189	6.1-20.2	214-713	132	175	74±3	DN80	3700	2650	1600	1850
SLT-160VT	8	116	10.1-33.6	356-1187	160	215	75±3	DN100	4250	3350	1900	1950
	10	145	9.2-30.5	323-1077	160	215	75±3	DN100	4250	3350	1900	1950
	13	189	8.4-28.0	297-989	160	215	75±3	DN100	4250	3350	1900	1950
SLT-185VT	8	116	12.4-38.7	438-1367	185	250	76±3	DN100	4650	3350	1900	1950
	10	145	10.4-34.8	369-1229	185	250	76±3	DN100	4650	3350	1900	1950
	13	189	9.7-32.3	342-1141	185	250	76±3	DN100	4650	3350	1900	1950
SLT-200VT	8	116	12.8-42.6	451-1504	200	270	76±3	DN100	5550	3350	1900	1950
	10	145	12.2-40.5	431-1430	200	270	76±3	DN100	5550	3350	1900	1950
	13	189	10.6-35.1	374-1240	200	270	76±3	DN100	5550	3350	1900	1950
SLT-220VT	8	116	14.2-47.3	501-1670	220	300	78±3	DN100	5650	3700	2060	2150
	10	145	12.8-42.5	450-1501	220	300	78±3	DN100	5650	3700	2060	2150
	13	189	12.0-37.4	424-1321	220	300	78±3	DN100	5650	3700	2060	2150
SLT-250VT	8	116	18.5-52.8	653-1865	250	350	78±3	DN100	6450	3700	2060	2150
	10	145	15.1-48.3	533-1706	250	350	78±3	DN100	6450	3700	2060	2150
	13	189	13.3-43.0	470-1518	250	350	78±3	DN100	6450	3700	2060	2150