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APPLICATION FOR AIR COMPRESSORS IN THE PET BOTTLING INDUSTRY: HIGH EFFICIENCY AND OIL-FREE

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In PET bottling, the compressed air system serves not only as a critical power source but also as a key component for ensuring product quality, production continuity, and cost control. The solution addresses core challenges associated with traditional compressed air systems—including downtime risks, oil contamination, and high total cost of ownership (TCO)—by employing an innovative hybrid system set-up, Class 0 oil-free technology, and intelligent monitoring services to deliver efficient, reliable, and sustainable operation for PET bottling plants.

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ANALYSIS OF CORE CHALLENGES AND PROBLEMS IN PET PRODUCTION

In the PET bottle blowing and filling process, even minor fluctuations in the compressed air system can trigger a chain reaction, directly impacting a company's profitability and brand reputation. Currently, manufacturers face three primary challenges:

1 Downtime Risks and Production Continuity
Malfunction or unplanned shutdowns are the direct causes of production line halts. In the PET filling industry, which demands peak production efficiency, downtime means zero output and no revenue, while restarting production lines often entails substantial commissioning costs and material waste. Therefore, equipment reliability and round-the-clock (24/7) operational capability are paramount considerations .

2 Air Quality and Product Safety
As food-grade packaging containers, PET bottles impose extremely stringent requirements on compressed air quality. Traditional oil-based or lubricated compressors pose a risk of oil contamination entering the compressed air system; if oil contaminates PET bottles, it not only alters the beverage's color and odor but may also pose health risks to consumers, leading to severe quality issues and brand reputation crises. Therefore, certified oil-free technology must be employed to eliminate contamination at the source.

3 Total Cost of Ownership (TCO)
The cost structure of compressed air systems is complex, with equipment procurement costs (CAPEX) representing only the tip of the iceberg. Over their decade-long lifecycle, energy costs (OPEX) typically account for more than 80% of total expenses. Additionally, high-pressure pipeline installation, civil engineering work for soundproofed rooms, and potential downtime losses due to system instability all constitute significant hidden costs. Enterprises urgently require a systematic solution that can substantially reduce overall lifecycle costs.





ANALYSIS OF COMMON TECHNICAL PAIN POINTS AND THEIR ROOT CAUSES

In addressing these challenges, traditional compressed air systems often exhibit the following technical shortcomings in practical operation:

Oil contamination risk: The root cause lies in the use of oil-containing compressors or aged, failed seals. Solution: Oil-free compressors certified to ISO 8573-1 Class 0 must be employed to ensure absolute air purity.

Overheating and inefficiency: Traditional three-stage compressors exhibit excessively high compression ratios under low-load conditions, leading to overheating that forces equipment shutdown for cooling and prevents continuous production. Solution: Adopting four-stage compression technology with reduced single-stage compression ratios combined with efficient intercooling ensures stable operation across a wide load range.

Balanced opposed-piston: Excessive vibration can compromise the accuracy of bottle-blowing molds, while high noise levels compel manufacturers to construct expensive soundproof rooms, increasing civil engineering costs and operational burdens. Solution: By employing balanced reverse piston technology and soundproof housing design, the system achieves low-vibration, low-noise operation, enabling direct installation at production sites.



SYSTEM SET-UP INNOVATION: HYBRID SOLUTION

In system set-up design, we have abandoned the traditional approach while adopting a hybrid solution that offers greater cost-effectiveness and flexibility.

1.Limitations of Traditional Set-up

Centralized system: All compressed air is centrally generated in the compressor room and transported via long-distance high-pressure stainless steel pipelines to the bottle-blowing machines. The drawbacks include extremely high costs of high-pressure pipelines (sometimes even exceeding those of the compressors themselves), as well as significant pressure loss and energy waste due to long-distance transmission.

Distributed configuration: A separate high-pressure compressor is installed beside each bottle blower. Although this reduces piping requirements, it involves substantial equipment investment and leads to decentralized management and maintenance, making energy efficiency optimization a great challenge.

2 Advantages of a Hybrid Set-up

The hybrid solution seamlessly integrates a "central low/medium-pressure screw compressor " with a "booster".

Significant reduction in CAPEX: High-pressure air is generated solely at the point of use (next to the bottle blowing machine), eliminating the need for expensive long-distance high-pressure pipeline networks and substantially reducing pipeline material and installation costs.

Optimized OPEX: Eliminates pressure losses during long-distance transmission, enabling precise pressure delivery as needed and preventing energy waste caused by overpressure.

Flexibility and Reliability: Medium-pressure air is centrally supplied from the main control room to meet general requirements such as instrument air; the high-pressure section operates independently without interference, enhancing the system's overall redundancy and reliability.



CORE PRODUCTS AND TECHNOLOGICAL ADVANTAGES

Based on hybrid set-up, we have launched two core product lines—to meet diverse application requirements.

Hybrid A

The high-pressure piston booster employs multi-stage (typically 3–4 stage) compression to reach 30–40 bar, while the oil-free screw stage supplies stable medium-pressure air.

Ultra-high energy efficiency: Featuring a four-stage compression configuration, it achieves 10% higher thermodynamic efficiency than traditional three-stage systems; optional variable-speed drive (VSD) allows speed adjustment based on actual gasdemand, delivering additional energy savings of up to 35%.

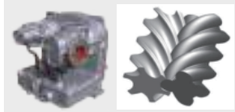
Waste heat recovery: The system can recover up to 80-90% of compressed waste heat for factory heating, boiler makeup water, or process cleaning, further reducing carbon emissions and energy costs.

Space and installation optimization: The equipment features a low-vibration, low-noise design, requiring no special foundation or soundproof enclosure, allowing direct installation in production areas and significantly reducing civil construction costs and space requirements.

Medium-pressure utilization: An innovative solution that captures medium-pressure air before compression, eliminating the need for additional medium-pressure compressors and achieving "multi-functional equipment."

DRY OIL-FREE SCREW AIR COMPRESSOR







Industry-leading original oil-free air end

1. The air compression chamber is completely separated from the oil chamber. The air compression chamber uses a The airend features non-contact rotors and corrosion-resistant coated rotors, sealed by multi-stage labyrinth seals with conditioned sealing air, ensuring absolute oil-free compression. The oil chamber has a wear-free sealing system with seal. The two do not contact ;
2. The compressed air passing through the cooler after thefirst stage of compression has inseparable water vapor. In order to prevent the water vapor from corroding the surface of the compressor's second-stage main machine rotor, the second-stage rotor is made of stainless steel, which is more reliable
3. The industry's first-class super coating (UITRACOAT) is applied to the rotor and compression chamber inner wall of the main machine. It can effectively prevent softening and shedding that are easy to occur with general coatings such as Teflon. It has excellent anti-corrosion and reduces meshing clearance.During the whole life cycle, there is no significant decrease in air volume
4.Filtered lubricating oil is used for cooling in the cabinet compartment of the air end. Efficient cooling, avoiding the scale caused by water cooling, thus improving the reliability of operation.



Smart electronic control system

Large-size color LCD touch screen, with a good human-machine communication interface; custom vector inhuman, perfectly matched with the motor; a special program, fully monitoring the parameters of the machine, automatically control the state of the machine, no need for special care; independent air duct design, suitable for each kinds of working condition.



Independent air intake system

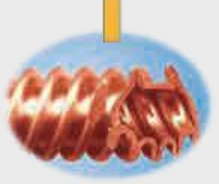
Independent air intake to ensure that the intake air temperature is equal to the ambient temperature. Large-capacity air filter is used,which has better filtering effect, lower intake pressure loss, energy saving and high efficiency.Maintenance and
replacement are more convenient



Noise reduction sheet metal design

The multiple noise reduction design iscalculated according to the noise theory. The special flame retardant muffler cotton is attached inside to reduce the noise of the unit and provide a quieter environment for use.





Efficient water cooler

Sollant dry screw air compressor water cooler uses a new type of threaded finned tube shell and tube heat exchanger. Compressed air goes inside the tube, cooling water goes to the shell side, and the tube nest is a new plum blossom copper tube, which is more conventional than water cooling. For the heater, the advantages are as follows
1. Compressed air goes through the tube and the pressurebearing capacity of the outer finned tube is improved ;
2. Cooling water walks on the shell side. Compared with the process selection in the walking pipe, the cooling water passes through multiple sets of baffle parts, the degree of turbulence increases, the probability of the formation of dirt attached to the pipe wall is reduced, the equipment cleaning cycle is extended, and the user's maintenance cost is reduced.
3. The gas travels along the tube and the fins extend axially in the tube. Compared with the outer fins sweeping the wind, the pressure drop generated by the unit windward area is lower than that of the outer fins. It is safe and reliable to use, and the fins are not easy to fall off ;
4. The installation of the heat exchanger is simple and the same as that of the conventional shell and tube heat exchanger ;
5. The side of the tube is made of stainless steel to prevent corrosion and rust of the cooler due to high temperature and high pressure, which affects the life of the compressor and air quality
6. The tube nest can be disassembled independently, which is convenient for users to maintain
7. Compressed air goes to the tube side and water goes to the shell side to reduce the noise generated by compressed air.



Noise reduction venturi

The first and second air ends of the air compressor all adopt the newly developed venturi muffler, and there is also an impedance integrated muffler, which can greatly eliminate the noise emitted by the compressor pipeline.



Reliable hydraulic intake valve

High-efficiency intake valve adopts hydraulic control, the work is more stable and reliable, avoiding the regular replacement of pneumatic components, reducing unnecessary downtime and maintenance costs.



Silent centrifugal fan

Silent centrifugal fan Sollant dry screw air compressor adopts the latest centrifugal fan, which has large cooling air volume, low noise, stable and uniform wind pressure, so that the cooling area of the cooler is fully utilized, and the noise of the air compressor is greatly reduced by 6-8dB(A). Give customers a quiet environment

Dry Oil-Free Variable Speed Screw Air Compressor

Model	Working pressure		Capacity		Power		Noise	Air outlet pipe diameter	Net weight		Dimensions(mm)					
											Air-cooled L*W*H			Water-cooled L*W*H		
	bar	psig	m^3/min	cfm	kW	hp	dB		Air-cooled	Water-cooled						
SLTOF-45VD	7	102	4.5-7.8	159-275	45	60	69±3	DN50	1800	1850	2200	1400	2000	2200	1500	1720
	8	116	4.0-6.8	141-240	45	60	69±3	DN50	1800	1850	2200	1400	2000	2200	1500	1720
	10	145	3.7-6.4	132-226	45	60	69±3	DN50	1800	1850	2200	1400	2000	2200	1500	1720
SLTOF-55VD	7	102	5.7-9.8	202-346	55	75	69±3	DN50	1900	1950	2200	1400	2000	2200	1500	1720
	8	116	5.2-9.0	182-318	55	75	69±3	DN50	1900	1950	2200	1400	2000	2200	1500	1720
	10	145	4.4-7.8	157-275	55	75	69±3	DN50	1900	1950	2200	1400	2000	2200	1500	1720
SLTOF-75VD	7	102	7.6-13.0	268-459	75	100	70±3	DN50	2000	2050	2200	1400	2000	2200	1500	1720
	8	116	7.2-12.2	253-431	75	100	70±3	DN50	2000	2050	2200	1400	2000	2200	1500	1720
	10	145	6.6-11.2	234-396	75	100	70±3	DN50	2000	2050	2200	1400	2000	2200	1500	1720
SLTOF-90VD	7	102	9.6-16.0	332-565	90	120	71±3	DN50	2100	2150	2200	1400	2000	2200	1500	1720
	8	116	8.1-13.8	286-487	90	120	71±3	DN50	2100	2150	2200	1400	2000	2200	1500	1720
	10	145	7.6-13.1	269-463	90	120	71±3	DN50	2100	2150	2200	1400	2000	2200	1500	1720
SLTOF-110VD	7	102	12.1-20.6	429-727	110	150	71±3	DN65	3100	3150	3000	1990	2180	2800	1900	1990
	8	116	11.6-19.5	408-689	110	150	71±3	DN65	3100	3150	3000	1990	2180	2800	1900	1990
	10	145	11.1-19.5	391-664	110	150	71±3	DN65	3100	3150	3000	1990	2180	2800	1900	1990
SLTOF-132VD	7	102	14.7-24.8	518-876	132	175	73±3	DN65	3200	3250	3000	1990	2180	2800	1990	1990
	8	116	13.6-23.0	480-812	132	175	73±3	DN65	3200	3250	3000	1990	2180	2800	1990	1990
	10	145	11.5-19.5	406-689	132	175	73±3	DN65	3200	3250	3000	1990	2180	2800	1990	1990
SLTOF-160VD	7	102	16.9-28.5	596-1006	160	215	73±3	DN65	3300	3400	3000	1990	2180	2800	1900	1990
	8	116	15.6-26.3	550-929	160	215	73±3	DN65	3300	3400	3000	1990	2180	2800	1900	1990
	10	145	14.1-23.8	497-840	160	215	73±3	DN65	3300	3400	3000	1990	2180	2800	1900	1990
SLTOF-185VD	7	102	19.5-32.8	687-1158	185	250	74±3	DN65	3400	4500	3000	1990	2180	2800	1990	1990
	8	116	17.1-28.9	605-1021	185	250	74±3	DN65	3400	4500	3000	1990	2180	2800	1990	1990
	10	145	16.3-27.5	575-971	185	250	74±3	DN65	3400	4500	3000	1990	2180	2800	1990	1990
SLTOF-200VD	7	102	20.0-33.6	706.3-1186.6	200	270	74±3	DN100	5570	5000	4500	2000	2150	3100	2200	2103
	8	116	20.0-33.6	706.3-1186.6	200	270	74±3	DN100	5570	5000	4500	2000	2150	3100	2200	2103
	10	145	17.3-29.2	610.9-1031.2	200	270	74±3	DN100	5570	5000	4500	2000	2150	3100	2200	2103
SLTOF-250VD	7	102	27.3-46.0	964-1624	250	335	74±3	DN100	5800	5200	4500	2000	2150	3100	2200	2103
	8	116	25.3-42.0	893-1511	250	335	74±3	DN100	5800	5200	4500	2000	2150	3100	2200	2103
	10	145	22.7-38.2	803-1348	250	335	74±3	DN100	5800	5200	4500	2000	2150	3100	2200	2103

Dry Oil-Free Fixed Speed Screw Air Compressor

Model	Working pressure		Capacity		Power		Noise	Air outlet pipe diameter	Net weight		Dimensions(mm)					
											Air-cooled L*W*H			Water-cooled L*W*H		
	bar	psig	m^3/min	cfm	kW	hp	dB		Air-cooled	Water-cooled						
SLTOF-45FD	7	102	7.8	275.5	45	60	69±3	DN50	1900	1950	2200	1400	2000	2200	1500	1720
	8	116	6.8	240.1	45	60	69±3	DN50	1900	1950	2200	1400	2000	2200	1500	1720
	10	145	6.4	226.2	45	60	69±3	DN50	1900	1950	2200	1400	2000	2200	1500	1720
SLTOF-55FD	7	102	9.8	346.1	55	75	69±3	DN50	2000	2050	2200	1400	2000	2200	1500	1720
	8	116	9.0	317.8	55	75	69±3	DN50	2000	2050	2200	1400	2000	2200	1500	1720
	10	145	7.8	275.5	55	75	69±3	DN50	2000	2050	2200	1400	2000	2200	1500	1720
SLTOF-75FD	7	102	13.0	459.1	75	100	70±3	DN50	2150	2200	2200	1400	2000	2200	1500	1720
	8	116	12.2	430.8	75	100	70±3	DN50	2150	2200	2200	1400	2000	2200	1500	1720
	10	145	11.2	395.5	75	100	70±3	DN50	2150	2200	2200	1400	2000	2200	1500	1720
SLTOF-90FD	7	102	16.0	565.0	90	120	71±3	DN50	2250	2300	2200	1400	2000	2200	1500	1720
	8	116	13.8	487.3	90	120	71±3	DN50	2250	2300	2200	1400	2000	2200	1500	1720
	10	145	13.1	462.6	90	120	71±3	DN50	2250	2300	2200	1400	2000	2200	1500	1720
SLTOF-110FD	7	102	20.6	727.5	110	150	71±3	DN65	3360	3400	3000	1990	2180	2800	1900	1990
	8	116	19.5	688.6	110	150	71±3	DN65	3360	3400	3000	1990	2180	2800	1900	1990
	10	145	18.8	663.9	110	150	71±3	DN65	3400	3400	3000	1990	2180	2800	1900	1990
SLTOF-132FD	7	102	24.8	875.8	132	175	73±3	DN65	3500	3550	3000	1990	2180	2800	1900	1990
	8	116	23.0	812.2	132	175	73±3	DN65	3500	3550	3000	1990	2180	2800	1900	1990
	10	145	19.5	688.6	132	175	73±3	DN65	3500	3550	3000	1990	2180	2800	1900	1990
SLTOF-160FD	7	102	28.5	1006.5	160	215	73±3	DN65	3750	3850	3000	1990	2180	2800	1900	1990
	8	116	26.3	928.8	160	215	73±3	DN65	3750	3850	3000	1990	2180	2800	1900	1990
	10	145	23.8	840.5	160	215	73±3	DN65	3750	3850	3000	1990	2180	2800	1900	1990
SLTOF-185FD	7	102	32.8	1158.3	185	250	74±3	DN65	3860	3960	3000	1990	2180	2800	1900	1990
	8	116	28.9	1020.6	185	250	74±3	DN65	3860	3960	3000	1990	2180	2800	1900	1990
	10	145	27.5	971.2	185	250	74±3	DN65	3860	3960	3000	1990	2180	2800	1900	1990
SLTOF-200FD	7	102	36.8	1299.6	200	270	74±3	DN100	5730	5230	4500	2000	2150	3100	2200	2103
	8	116	34.6	1221.9	200	270	74±3	DN100	5730	5230	4500	2000	2150	3100	2200	2103
	10	145	30.6	1080.6	200	270	74±3	DN100	5730	5230	4500	2000	2150	3100	2200	2103
SLTOF-250FD	7	102	46.0	1624.5	250	335	74±3	DN100	7000	6000	5070	2200	2300	3100	2200	2103
	8	116	42.8	1511.5	250	335	74±3	DN100	7000	6000	5070	2200	2300	3100	2200	2103
	10	145	38.2	1347.7	250	335	74±3	DN100	7000	6000	5070	2200	2300	3100	2200	2103

ZERO LOSS BLOWER HEAT
Desiccant Air Dryer



Technical Indicators	
Inlet Temperature	≤38℃
Working Pressure Range	0.6~1.0MPa
Ambient Temp	≤-40℃
Regen Mode	Blower Heated Regeneration
Pressure Dew Point	≤-40℃
Inlet Oil	≤0.1ppm
Power	AC/380V/50HZ
Standard Adsorption Cycle	8h
Regenerative Air Consumption	0

Note: Other special standards can be customized; more details please contact us.

High-density adsorbent filling with vibration compaction to prevent channeling and ensure long service life

Reliable Adsorption: With a specific surface area of 350 m2/g, this high-efficiency adsorbent developedin collaboration with upstream suppliers has an excellent adsorption rate to ensure the stable dewpoint.

Durable Performance: Vacuum negative pressure filing, ensuring tightness and anti-pulverization forlonger service life.

Intelligent Energy Saving: Equipped with a PLC controller, it enables real-time monitoring and datastorage, integrating time, load and dew point control for high energy efficiency.

Patented Design: Patented zero loss blow heat dual cooler; after blast cooling, the adsorbent bed stayslow-temperature with no dew point drift.

Smart loT Integration: With loT functionality, it supports easy remote control, centralized management, intelligent analysis and prediction to optimize operation.

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Inlet Oil Content: ⩽0.01 mg/m³ (ISO 8573-1 Class 0 / Class 1)

MODEL	HANDLING CAPACITY	DIMENSIONS(mm)			AIR INLET/ OUTLET	HEATED POWER (kw)	BLOWER POWER (kw)	WEIGHT(KG)
	m³/min	LENGTH	WIDTH	HEIGHT				
SLTADG-14ONLA/W	14	1950	1340	2196	DN65	10	1.6	1250
SLTADG-180NLA/W	18	2100	1470	2203	DN65	10	1.6	1410
SLTADG-220NLA/W	22	2100	1490	2521	DN80	10	2.2	1650
SLTADG-300NLA/W	30	2200	1542	2541	DN80	12	3	1780
SLTADG-38ONLA/W	38	2300	1600	2622	DN100	17	4.3	2150
SLTADG-460NLA/W	46	2380	1680	2687	DN100	17	4.3	2650
SLTADG-550NLA/W	55	2440	1700	2806	DN125	17	4.3	3100
SLTADG-670NLA/W	67	2500	1780	2796	DN125	21	5.5	3460
SLTADG-75ONLA/W	75	2500	1850	2996	DN125	30	7.5	3650
SLTADG-850NLW	85	2600	2070	2934	DN150	30	7.5	4400
SLTADG-1000NLW	100	2950	2100	2994	DN150	34	8.5	5200
SLTADG-1200NLW	120	3100	2150	3034	DN150	40	12.5	6200
SLTADG-1500NLW	150	3400	2400	3350	DN200	50	12.5	7000
SLTADG-1800NLW	180	3700	2600	3350	DN200	64	20	10800
SLTADG-2000NLW	200	3900	2700	3400	DN200	64	20	11500
SLTADG-2500NLW	250	4500	3000	3600	DN250	85	18.5	14500
SLTADG-3000NLW	300	4600	3500	3700	DN250	110	25	17000
SLTADG-3500NLW	350	5500	4000	3900	DN300	125	25	19250
SLTADG-4000NLW	400	5500	4000	4300	DN300	144	30	22000
SLTADG-4500NLW	450	6000	4200	4400	DN300	160	30	24000
SLTADG-5000NLW	500	6100	4300	4600	DN350	175	30	26000

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OIL-FREE WATER-COOLED PET BOOSTER

provides the best performance and saves energy up to 15%



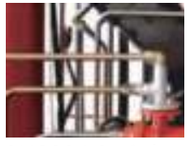
81Z



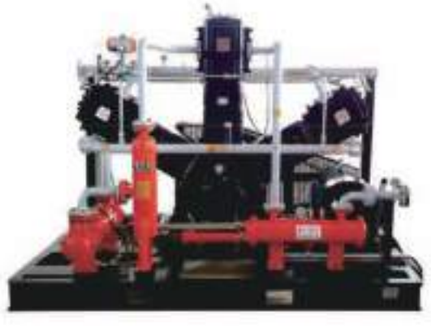
82V



SUS304 Stainless SteelPipeline



SUS304 Stainless SteelWater-cooled Pipeline



83W

Technical Parameters

Main Uni	Model	Air Displacement (Nm³/min)	Suction Pressure (MPa)	Discharge Pressure (MPa)	Start Mode	Motor Power (kW)	Rotational Speed (r.p.m)	Dimensions L*W*H(mm)	Weight (kg)	High Pressure Outlet Size (DN)	Cooling Water Inlet & Outlet Size (DN)
81Z	SLTZZ-4.0/10-40	4	1.0	3.0-4.0	PLC Touch screen PLC	15	500	11700*1200*1850	1000	32	40
82V	SLTVZ-6.0/8-40	6	0.8	3.0-4.0		30	520	2000*1400*1650	1800	32	40
	SLTVZ-8.0/10-40	8	1.0	3.0-4.0		37	500	2000*1400*1650	2000	32	40
	SLTVZ-10.0/8-40	10	0.8	3.0-4.0		45	420	2600*1500*1850	2600	40	40
	SLTVZ-12.0/10-40	12	1.0	3.0-4.0		55	460	2600*1500*1850	2900	40	40
83W	SLTVZ-16.0/8-40	16	0.8	3.0-4.0		75	350	2800*1800*2100	3700	50	50
	SLTVZ-20.0/8-40	20	0.8	3.0-4.0		90	420	2800*1800*2100	3900	65	50
	SLTVZ-24.0/10-40	24	1.0	3.0-4.0		110	460	2800*1800*2100	4100	80	50

ENERGY-SAVING SUPERCHARGERS FOR REDUCING MAINTENANCE COSTS AND EMISSION



SLTWZ-6.0/10-40



SLTWZ-8.0/10-40

Technical Parameters

Main Uni	Model	Air Displacement (Nm³/min)	Suction Pressure (MPa)	Discharge Pressure (MPa)	Compression Stages	Motor Power (kW)	Rotational Speed (r.p.m)	Dimensions L*W*H(mm)	Weight (kg)	Low Oil Level Protection	Pressure Regulating Module
51Z	SLTZZ-2.0/10-40	2.0	1.0	4.0	One stage	9	790	1540*850*1210	480	★	Air-electricmixing
64V	SLTVZ-4.0/10-40	4.0	1.0	4.0		15	790	1420*930*11102	560	★	
	SLT2-VZ-4.0/10-40	8.0	1.0	4.0		2*151	790	100*800*1600	1400	★	
66W	SLTVZ-10.0/10-40	10.0	1.0	4.0		5+22	710	2400*850*1600	2100	★	
	SLTWZ-3.0/10-50	3.0	1.0	5.0		22	710	2400*850*1600	750	★	
	SLTWZ-6.0/10-40	6.0	1.0	4.0		22	710	1600*960*1200	700	★	
	SLT2-WZ-6.0/10-40	12.0	1.0	4.0		2*22	710	2360*1860*1200	1420	★	
68S	SLTSZ-8.0/10-40	2-S8.0	1.0	4.0		30	710	1940*950*1170	780	★	
	SLTZ-8.0/10-40	16.0	1.0	4.0		2*30	710	2490*2020*1300	1800	★	

★ - Standard features



High-pressure Booster Air Compressor

Advantages of High-pressure Booster Air Compressor

This high-pressure booster air compressor has superior energy-saving effect and delivers stable high-pressure compressed air, capable of long-term uninterrupted stable operation. It features compact overall structure, small floor space and flexible layout, which is easy to install, debug and move. The equipment operates smoothly with low noise and low vibration, creating a comfortable working environment. It is equipped with mature intelligent control system and multiple safety protection functions, ensuring safe and stable operation all the time.

Adopting high-quality core accessories, this booster compressor is sturdy and durable with long service life and low later maintenance cost. It can be perfectly matched with ordinary medium and low pressure air compressors without large-scale modification, effectively reducing application costs. It is widely applicable for PET bottle blowing, laser cutting, fire fighting, petrochemical industry and other fields that need high-pressure air source.

High-pressure Booster Air Compressor

Model	Capacity (Nm3/Min)	Suction pressure (MPa)	Discharge pressure (MPa)	Compression stage	Motor power (KW)	Speed (r.p.m)	Dimensions(mm)	Weight kg	Low oil level protection	Pressure regulation mode
SLTPB-4.0/10-40	4.0	1.0	4.0	One stage	15	790	1420-930*1110	560	☆	Air-electric mixing
SLTPB-8.0/10-40	8.0	1.0	4.0		2*15	790	2100-800+1600	1400	☆	
SLTPB-10/10-40	10.0	1.0	4.0		15+22	710	2400+850+1600	2100	☆	
SLTPB-3.0/10-50	3.0	1.0	5.0		22	710	2400-850*1600	750	☆	
SLTPB-6.0/10-40	6.0	1.0	4.0		22	710	1600-960*1200	700	☆	
SLTPB-12/10-40	12.0	1.0	4.0		2*22	710	2360*1860*1200	1420	☆	
SLTPB-8.0/10-40	8.0	1.0	4.0		30	710	1940*950*1170	780	☆	
SLTPB-16/10-40	16.0	1.0	4.0		2*30	710	2490+2020+1300	1800	☆	



OIL FREE BOOSTER COMPRESSOR

INLET PRESSURE:1-16BAR
EXHAUST PRESSURE:8-80BAR

In the process of PET blowing bottles, a lot of high-pressure air is often consumed. But with the improvement of blowing technology, the blowing machine can recover a considerable 5-15 bar of low-pressure air. The oil-free booster can be boosted to 40 bar through a two-stage oil-free booster, The system is simple and reliable, and the energy-saving effect is obvious. And it canbe used as a separate 40bar system.

100% Oil-free
This series of boosters are designed according to lSO 8573-1 Class 0,which means that no oil will enter your air or gas network from the booster.

Good adaptability
The design of SLT booster makes it have good adaptability.According to the type of gas that you need to pressurize in your process, we can provide booster with or without chassis.

Technical Parameter

Model	FAD m^3/min	Inlet pressure	Exhaust pressure	Speed r.p.m	Motor KW	Note
SLTBF -10/8-40	10.0	1-10bar	40bar	420	45	V-type 2-column 2-stage
SLTBF -12/8-40	12.0	1-10bar	40bar	460	55	
SLTBF -16/8-40	16.0	1-10bar	40bar	480	75	
SLTBF -18/8-40	18.0	1-10bar	40bar	535	75	
SLTBF -20/8-40	20.0	1-10bar	40bar	480	90	D-type 2-column 2-stage
SLTBF -25/8-40	25.0	1-10bar	40bar	500	110	
SLTBF -30/8-40	30.0	1-10bar	40bar	600	132	
SLTBF -35/10-40	35.0	1-10bar	40bar	500	132	
SLTBF -40/10-40	40.0	1-10bar	40bar	580	160	

ANALYSIS OF COMMON TECHNICAL PAIN POINTS AND THEIR ROOT CAUSES

For scenarios with limited space or no water cooling options, the B series offers a streamlined solution.

Plug-and-play: Integrates cooling, drying, gas storage, and control systems without requiring a cooling water circuit, cooling tower, or pumps; features an extremely short installation

- Air-cooled B series: no cooling tower/chiller required.
- Water-cooled B series (optional): for high-temperature or noise-sensitive sites, with closed-loop cooling tower.

Environmental adaptability: A air-cooled system specifically designed for high-temperature environments, ensuring stable operation under harsh conditions.

Silent and compact design: Featuring a fully enclosed soundproof enclosure that keeps noise levels below 78 dB, with a small footprint ideal for installation near production lines.(measured at 1 m distance, free field, in full acoustic enclosure / at 75% load)

APPLICATION SCENARIOS OF AIR-COOLED UNITS



INTELLIGENT MONITORING AND FULL LIFE CYCLE SERVICES

Hardware reliability relies on powerful software and services. We provide a comprehensive support system ranging from real-time monitoring to end-to-end maintenance solutions.

SOLLANT Remote Monitoring System

SOLLANT integrates compressors with the Internet of Things to enable data transparency:

Real-time status monitoring: View device operating parameters, energy efficiency metrics, and historical trends anytime via smartphone or computer. * Predictive maintenance: Deliver early warnings based on data analysis before failures occur, transforming unexpected downtime into scheduled maintenance to ensure production continuity.

Full Life Cycle Service Commitment

Original factory spare parts: Ensure no performance degradation of the equipment and extend its service life.

Preventive maintenance plan: Certified engineers conduct regular inspections and develop customized maintenance plans based on site conditions to prevent issues before they occur.

Responsibility Plan (Full Coverage Service): Provides a fixed-cost full-service package covering all maintenance, repairs, spare parts, and risk coverage. Customers don't need to worry about unexpected expenses and can focus on their core business operations.



SUMMARY AND VALUE PROPOSITION

Omulti-stage high-pressure booster + VSD screw + heat recovery”。:

1.Risk reduction, reputation protection: Class 0 oil-free air completely eliminates contamination risks, ensuring food safety and brand reputation; its high-reliability design guarantees 24/7 continuous production and prevents downtime losses.

2.Significantly reduces total cost of ownership (TCO): The hybrid set-up substantially cuts capital expenditure (CAPEX) on high-pressure pipelines; four-stage compression, variable-speed drive (VSD) technology, and waste heat recovery significantly lower operating expenses (OPEX); the plug-and-play design reduces civil engineering and installation costs.

3.Enhancing efficiency and sustainability: Intelligent monitoring and predictive maintenance maximize equipment utilization; waste heat recovery and energy efficiency optimization help enterprises achieve low-carbon goals and fulfill their social responsibilities.

We are committed to becoming your most trusted compressed air partner, providing professional technology and services to support your PET production process and achieve a win-win outcome for both economic and environmental benefits..



