

ENERGY SAVING AIR COMPRESSOR



Main Business Areas

1. Design, construction and after-sales service of air compressor

-SCREWS: (7.5kw ~ 300kw) SINGLE & TWO STAGE COMPRESSOR

-TURBO: 75kw ~ 2,250kw

-AIR DRYER & NITROGEN GENERATOR: 2.2 ~ 15,000m³/min

2. BLOWER

-Roots BLOWER, Turbo BLOWER, BLOWER AERATION

3. Cooling tower design and construction, scale treatment device

-Cooling tower, Pump design and construction, scale removal electrode type

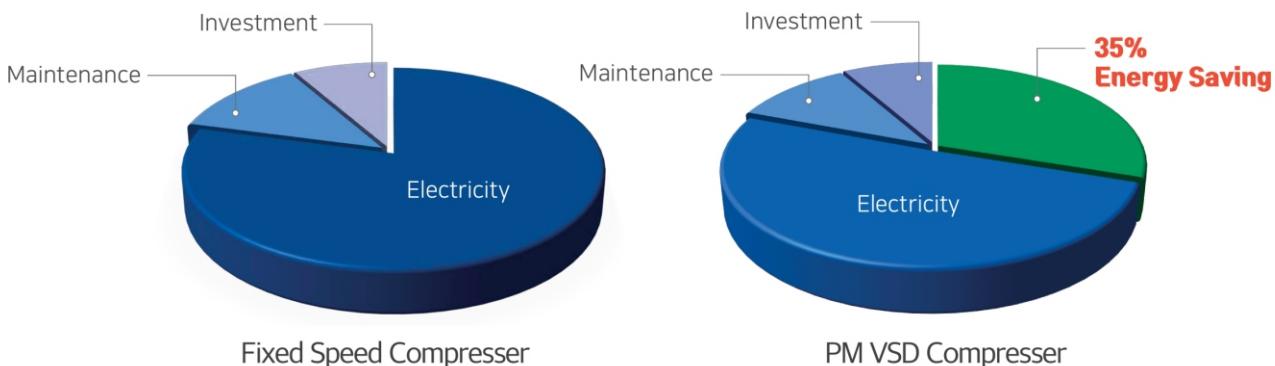
4. HMI automatic control, design and construction of automatic control valves

-Design and construction automatic control panel, valve control.

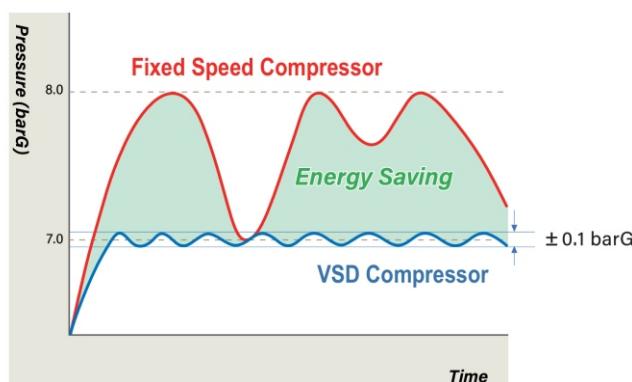


Solver 3rd Generation PM VSD Screw Air Compressor: 20–50% Energy savings

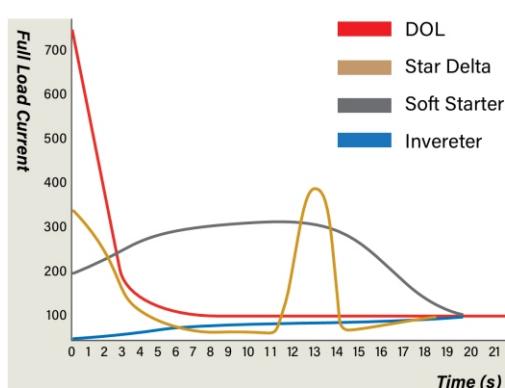
- Variable speed constant pressure control operation according to the compressed air usage required in the factory (PM Motor + Inverter) Life cycle cost reduction of up to 35%
- The energy cost of an air compressor accounts for more than 80% of the life cycle cost, and the amount of compressed air required on site fluctuates frequently, showing a large difference from 40 to 80% per month.



- VSD (Variable Speed Drive) Screw Air Compressor :
Energy savings through constant pressure control operation

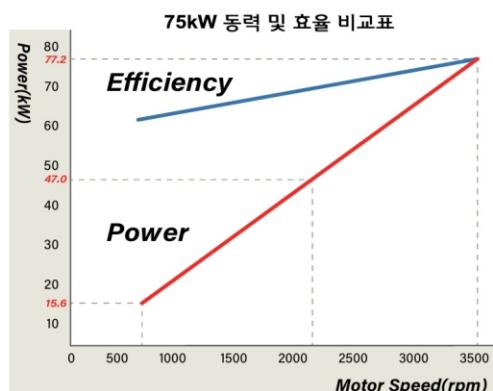
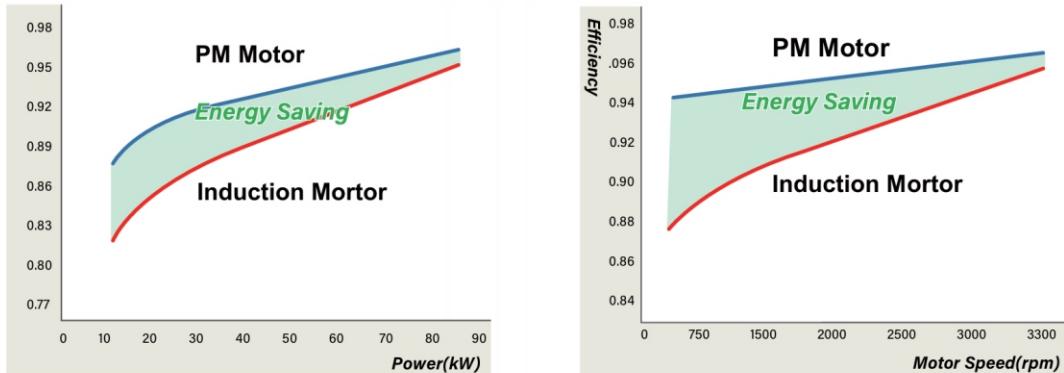


- No need to invest in additional electrical equipment with INVERTER operation
 - Apply high-efficiency inverter: Dual control (PM Main Motor + Fan Motor)
 - No peaks in current and torque when 100% starting current.



❶ Apply the highest efficiency PMSM (Permanent Magnet Synchronous Motor)

- High efficiency motor with IE4 rating or higher, up to 9% more efficient than induction motor
- Motor optimized for VSD, maintaining high efficiency even at low speed RPM
- Direct connection with air end, to reduce power loss and increases system efficiency.
- With 100 horsepower screw compressor test result: 48.5% energy savings when operating at 50% loading.



❷ Intelligent Control System

All functions of the compressor will be controlled in real time according to the compressed air usage of the factory, operating the compressor under optimal conditions.

- High resolution 7"Color Touch Screen
- Fully automatic operation, alarm for abnormality, self protection function
- Motor power, frequency, pressure, and temperature display function.
- Automatic consumables replacement cycle notify function.
- Password protection function for compressor protection
- Fault history storage function
- Reverse phase, overcurrent protection, and power accumulation functions
- Multiple language selection



PM VSD Screw Air Compressor

- 3rd generation PM VSD screw air compressor (PM Motor + Inverter)
 - 20% to 50% energy savings with constant pressure control.
- High efficiency and high reliability guaranteed with the highest quality screw air end designed by German TORIN engineers.
- Compressor with Intelligent control system and easy-to-maintain
 - 7" Color Touch Screen control screen
- Compact product size, minimum installation space.



Technical Specifications: Oil-flooded 1-stage PM VSD / Fixed Speed Screw Compressor

Model		GSS-10AI(PMV)	GSS-20AI(PMV)	GSS-30AI(PMV)	GSS-50AI(PMV)	GSS-75AI(PMV)	GSS-100AI(PMV)	GSS-120AI(PMV)
PM Motor Power	kW	7.5	15	22	37	55	75	90
Effective Working Pressure	barG			7,5~12,5				
Air Flow Capacity(Min/Max)	m³/min	0,22~1,2	0,42~2,58	0,61~3,75	1,16~6,51	2,0~11,0	2,55~13,8	3,08~17,8
Power Supply				380~440V / 3Ph / 60Hz				
Starting Method				Inverter				
Drive Method				Integrated Shaft				
Main Motor Efficiency				IE4				
Motor Protection Level				IP23				
Cooling Method				Air Cooled				
Discharge Connection		G1/2	G3/4	G1	G1 1/2	G2	G2	DN65
Noise Level	dbA	60	65	65	68	72	72	75
Dimension(mm)	Length	700	880	880	1,000	1,400	1,400	1,900
	Width	650	780	800	900	1,100	1,100	1,315
	Height	875	1,080	1,350	1,420	1,510	1,510	1,680
Weight	kg	260	330	510	600	1,500	1,800	2,000

Model		GSS-150AI(PMV)	GSS-180AI(PMV)	GSS-220AI(PMV)	GSS-250AI(PMV)	GSS-300AI(PMV)	GSS-350AI(PMV)
PM Motor Power	kW	110	132	160	185	220	250
Effective Working Pressure	barG			7,5~12,5			
Air Flow Capacity(Min/Max)	m³/min	3,7~22,0	4,45~25,7	5,25~30,0	5,87~34,5	7,2~39,5	8,3~43,8
Power Supply				380~440V / 3Ph / 60Hz			
Starting Method				Inverter			
Drive Method				Direct Driven			
Main Motor Efficiency				IE4			
Motor Protection Level				IP55			
Cooling Method				Air Cooled or Water Cooled			
Discharge Connection		DN65	DN80	DN100	DN100	DN125	DN125
Noise Level	dbA	75	78	78	78	82	82
Dimension(mm)	Length	2,286	2,400	2,966	2,966	3,000	3,000
	Width	1,486	1,500	1,788	1,788	1,700	1,700
	Height	1,890	1,960	2,060	2,060	2,400	2,400
Weight	kg	2,400	2,800	3,500	4,000	5,000	5,200

1. Above dimensions for 8,5 barG Discharge Pressure. Refer to the Actual Drawings for Other Pressure Variants.

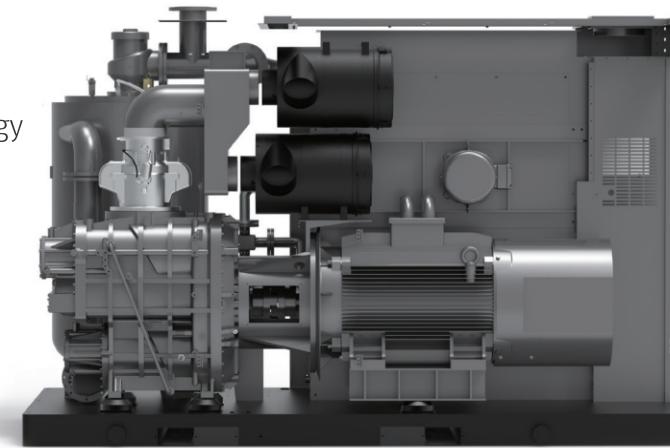
2. Water Cooled(Above 90kw: Optional)

The ultimate energy-saving screw compressor with the highest efficiency

- High-efficiency 2-stage air end: Up to 23% energy savings compared to single stage compressor.
- Application of large-capacity cooling fan and oil system

Advantages of a 2-stage air end

- Low compression ratio
- Low temperature rise
- Low air leakage



Technical Specifications : Oil-flooded 2-stage PM VSD Screw Air Compressor

Model		GST50A PMV	GST75A PMV	GST100A PMV	GST120A PMV	GST150A PMV	GST180A PMV
PM Motor Power	kW	37	55	75	90	110	132
Effective Working	barG			6.0~13.0			
Air Flow Capacity(Min/Max)	m³/min	5.4~7.5	8.0~13.8	11.0~18.0	14.0~22.0	16.5~25.8	19.0~32.0
Power Supply				380~440V / 3Ph / 60Hz			
Starting Method				Inverter			
Drive Method				Direct Driven			
Main Motor Efficiency				IE4			
Motor Protection Level				IP55			
Cooling Method	Air Cooled			Air Cooled or Water Cooled			
Discharge Connection	G1 1/2	G1 1/2	G1 1/2	DN65	DN65	DN65	
Noise Level	dbA	68	70	70	73	73	73
Dimension(mm)	Length	1,400	2,100	2,100	2,440	2,800	3,250
	Width	1,100	1,440	1,440	1,700	1,900	2,100
Height		1,450	1,650	1,650	1,760	1,890	2,200
Weight	kg	850	1,700	1,800	2,400	2,800	4,000

Model		GST220A PMV	GST250A PMV	GST300A PMV	GST350A PMV	GST380A PMV	GST420A PMV
PM Motor Power	kW	160	185	220	250	280	315
Effective Working	barG			6.0~13.0			
Air Flow Capacity(Min/Max)	m³/min	26.0~38.5	29.0~43.8	35.0~53.0	40.5~58.0	43.0~63.5	52.0~81.0
Power Supply				380~440V / 3Ph / 60Hz			
Starting Method				Inverter			
Drive Method				Direct Driven			
Main Motor Efficiency				IE4			
Motor Protection Level				IP55			
Cooling Method				Air Cooled or Water Cooled			
Discharge Connection		DN100	DN125	DN125	DN125	DN150	DN150
Noise Level	dbA	78	78	80	82	85	85
Dimension(mm)	Length	3,250	3,350	3,350	3,760	3,760	4,300
	Width	2,100	2,300	2,300	2,260	2,260	2,300
	Height	2,200	2,300	2,300	2,200	2,200	2,430
Weight	kg	4,300	5,500	6,300	7,000	7,500	8,500

1. Above Dimensions are For Air Cooled and 8.5 barG Discharge Pressure.

Refer to the Outline Drawings for Water Cooled and Other Pressure Variants.

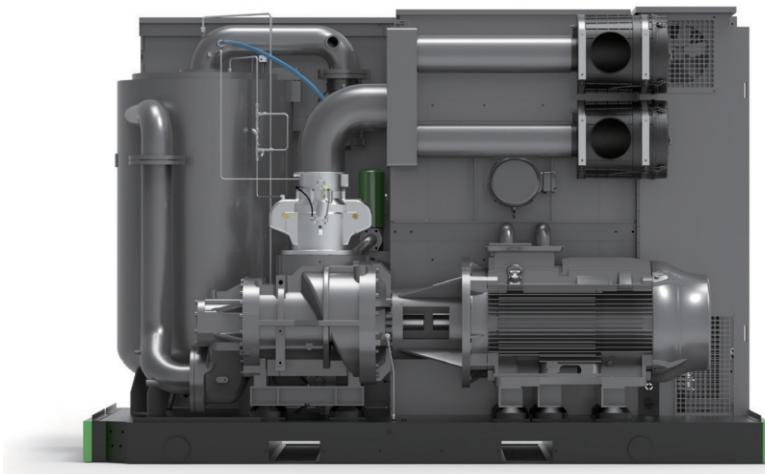
2. Water Cooled(Above 55kw : Optional)

3. Above 75Kw : Centrifugal Cooling Fan

Technical Specifications: Oil-flooded 2-stage Screw Air Compressor (Fixed speed)

Model		GST-75A	GST-100A	GST-125A	GST-150A	GST-180A
PM Motor Power	kW	55	75	90	110	132
Effective Working	barG	6,0~13,0				
Air Flow Capacity(Min/Max)	m³/min	8.0~13.8	11.0~18.0	14.0~22.0	16.5~25.8	19.0~32.0
Power Supply		380V/440V/660V/6KV/10KV/3Ph/60Hz				
Starting Method		Star-Delta				
Drive Method		Direct Driven				
Main Motor Efficiency		IE4				
Motor Protection Level		IP55				
Cooling Method		Air Cooled or Water Cooled				
Discharge Connection		G2 1/2	G2 1/2	DN65	DN80	DN100
Noise Level	dBa	73	73	78	78	78
Dimension(mm)	Length	2,100	2,100	2,450	2,600	3,250
	Width	1,400	1,440	1,700	1,900	2,100
Height		1,650	1,605	1,706	1,890	2,200
Weight	kg	1,700	1,800	2,400	2,800	4,000
Model		GST-220A	GST-250A	GST-270A	GST-300A	GST-350A
PM Motor Power	kW	160	185	200	220	250
Effective Working	barG	6,0~13,0				
Air Flow Capacity(Min/Max)	m³/min	26,0~38,5	29,0~43,8	31,5~48,8	35,0~53,0	40,5~50,0
Power Supply		380V/440V/660V/6KV/10KV/3Ph/60Hz				
Starting Method		Star-Delta				
Drive Method		Direct Driven				
Main Motor Efficiency		IE4				
Motor Protection Level		IP55				
Cooling Method		Air Cooled or Water Cooled				
Discharge Connection		DN100	DN125	DN125	DN125	DN125
Noise Level	dBa	78	78	78	78	80
Dimension(mm)	Length	3,250	3,550	3,550	3,550	3,760
	Width	2,100	2,300	2,300	2,300	2,200
Height		2,200	2,300	2,300	2,300	2,200
Weight	kg	4,300	5,500	5,800	6,300	7,000
Model		GST-380A	GST-420A	GST-480W	GST-540W	GST-600W
PM Motor Power	kW	280	315	355	400	450
Effective Working	barG	6,0~13,0				
Air Flow Capacity(Min/Max)	m³/min	43,0~63,5	52,0~81,0	56,0~85,0	64,0~92,5	79,0~106,1
Power Supply		380V/440V/660V/6KV/10KV/3Ph/60Hz				
Starting Method		Star-Delta				
Drive Method		Direct Driven				
Main Motor Efficiency		IE4				
Motor Protection Level		IP55				
Cooling Method		Air Cooled or Water Cooled		Water Cooled		
Discharge Connection		DN150	DN150	DN150	DN150	DN200
Noise Level	dBa	85	85	85	88	88
Dimension(mm)	Length	3,760	4,300	4,700	4,700	4,600
	Width	2,260	2,300	2,250	2,250	2,400
Height		2,200	2,430	2,420	2,420	2,650
Weight	kg	7,500	8,500	9,500	10,000	13,500

1,Above dimensions are for air Cooled and 8,5 barG Discharge Pressure,
2,Water Cooled Optional 3,Power Supply of Medium Voltage : Optional 4,IE4 WEG Motor Installed.



Advantages of low pressure air end

- High efficiency characteristics rotor profile for low pressure
- Large air end, low speed operation: 1500 ~ 1800 RPM
- Long service life due to use SKF bearings
- Adoption of Saint-Gobain oil seals

Technical Specifications : Oil- flooded low pressure PM VSD screw air compressor (single stage)

Model	GSS50AL PMV	GSS75AL PMV	GSS100AL PMV	GSS120AL PMV	GSS150AL PMV	GSS180AL PMV
PM Motor Power	kW	37	75	55	90	110
Effective Working	barG		2.0~5.0			3.0~5.0
Air Flow Capacity(Min/Max)	m³/min	8.0~14.0	12.3~20.5	16.5~27.0	20.0~34.0	24.0~35.0
Power Supply			380~440V / 3Ph / 60Hz			
Starting Method				Inverter		
Drive Method				Direct Driven		
Main Motor Efficiency				IE4		
Motor Protection Level				IP55		
Cooling Method				Air Cooled		
Discharge Connection		DN65/80	DN65/125	DN65/125	DN80/125	DN80/150
Dimension(mm)	Length	2,100	2,400	2,950	2,950	3,250
	Width	1,440	1,750	1,840	1,840	2,100
	Height	1,650	2,000	2,203	2,230	2,200
Weight	kg	1,500	2,900	3,200	3,300	4,200
						5,000

Technical Specifications : Oil- flooded low pressure PM VSD screw air compressor (two stage)

Model	GST100AL PMV	GST125AL PMV	GST150AL PMV	GST180AL PMV	GST220AL PMV	GST250AL PMV
PM Motor Power	kW	75	90	110	132	160
Effective Working	barG		4.0~5.0			
Air Flow Capacity(Min/Max)	m³/min	19.5~20.5	23~24.5	27.5~28.0	34.0~36.0	42.0~46.0
Power Supply			380~440V / 3Ph / 60Hz			
Starting Method				Inverter		
Drive Method				Direct Driven		
Main Motor Efficiency				IE4		
Motor Protection Level				IP55		
Cooling Method				Air Cooled		
Discharge Connection		DN65	DN80	DN80	DN100	DN100
Dimension(mm)	Length	2,450	2,600	2,600	3,220	3,220
	Width	1,700	1,900	1,900	1,963	1,970
	Height	1,760	1,890	1,890	1,950	1,950
Weight	kg	2,400	2,800	2,900	3,100	4,400
						5,500

1. Above Dimension are for 3 barG Discharge Pressure. Refer to the Outline Drawings for other Pressure Variants

NTC SERIES

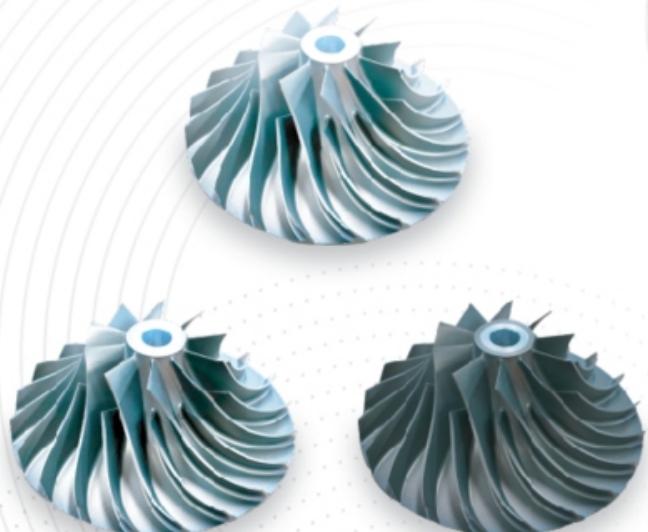
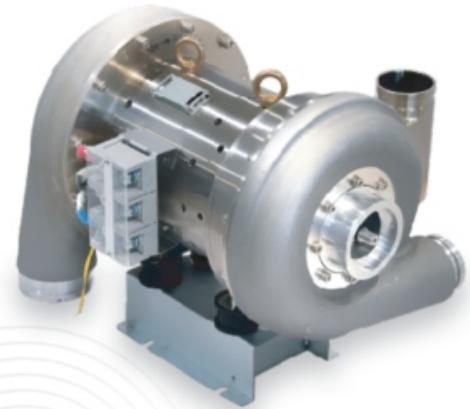
Structure





VS-PMS Motor

- Energy saving with maximum efficiency 90%
- 20,000 ~ 220,000 RPM operation
- Start-stop test: 80,000 ~ 100,000 times
- Accurate speed control



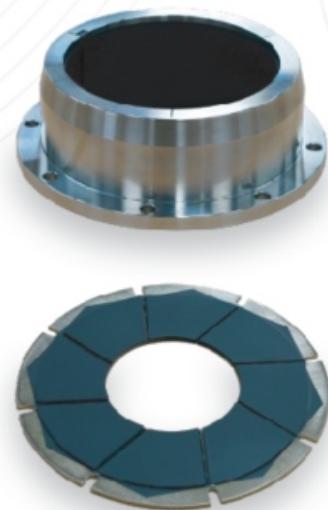
Aerodynamic Impeller

- Manufactured by Namwon TurboOne's technology
- High efficiency guaranteed through precise machining with sophisticated design
- High-strength heat-treated aluminum AL7075 - T6 material
- Surface strength strengthened with anodizing coating
- Light weight and high-efficiency wing manufactured with 3D design technique



Hygienic Aerostatic bearing

- EAir bearings that use air as a lubricant are 100% oil-free, non-contact, environmentally friendly bearings.
- Special coating reduces frictional wear between the rotor and bearings that occurs when starting and stopping, ensuring stability.
- Maintenance-free and robust enough to withstand high pressure
- Radial and thrust bearings developed by Namwon Turbo One through research and development extend the life of the product.



Control Maestor VFD

- Use of VFD control optimized for high-speed rotation
- Reduced power consumption by using high-efficiency VFD
- Maximized motor stability and efficiency by using VFD
- Realization of detailed speed control by linking with PLC



Shell & Tube Heat Exchanger



- Perfect cooling system to cool discharge air temperature and increase efficiency
- Significantly saving maintenance costs
- Strong durability & permanent use after installation
- Cooling water after heated can be reused in various ways (heating, hot water supply, etc.)



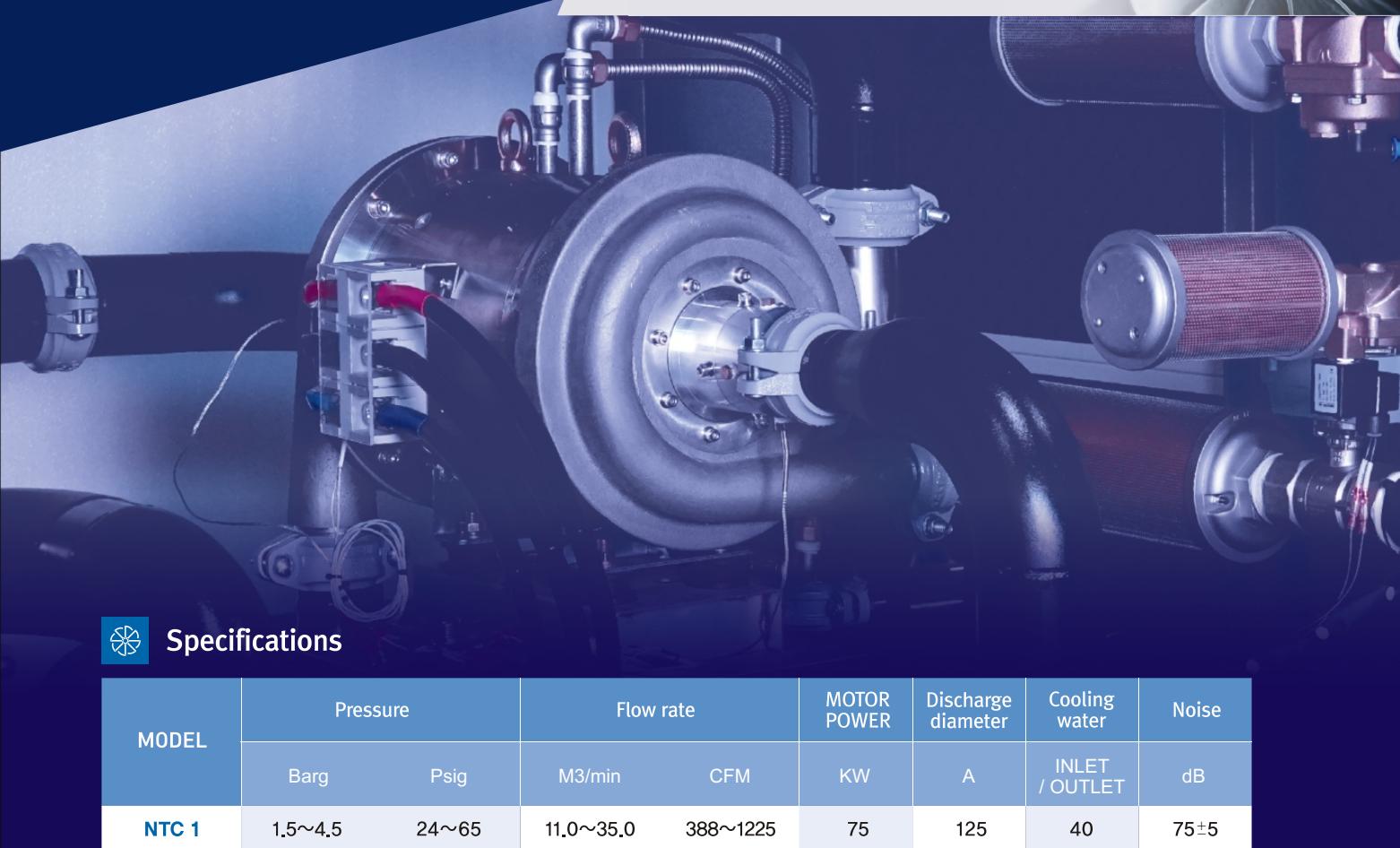
Safely Automatic Control

- Precise control with high stability
- Perfect automatic control system management after installation
- Remote control realized with Modbus RTU protocol support
- Compatible with various PLCs (SIEMENS, RS, AB, etc.)
- Surge protection with triple countermeasure system (bypass, BOV, safety valve)
- Real-time monitoring of operating status with user-friendly interface
- Equipped with UPS to protect the device even in sudden power outages



NTC SERIES

2-Stage Turbo Compressor

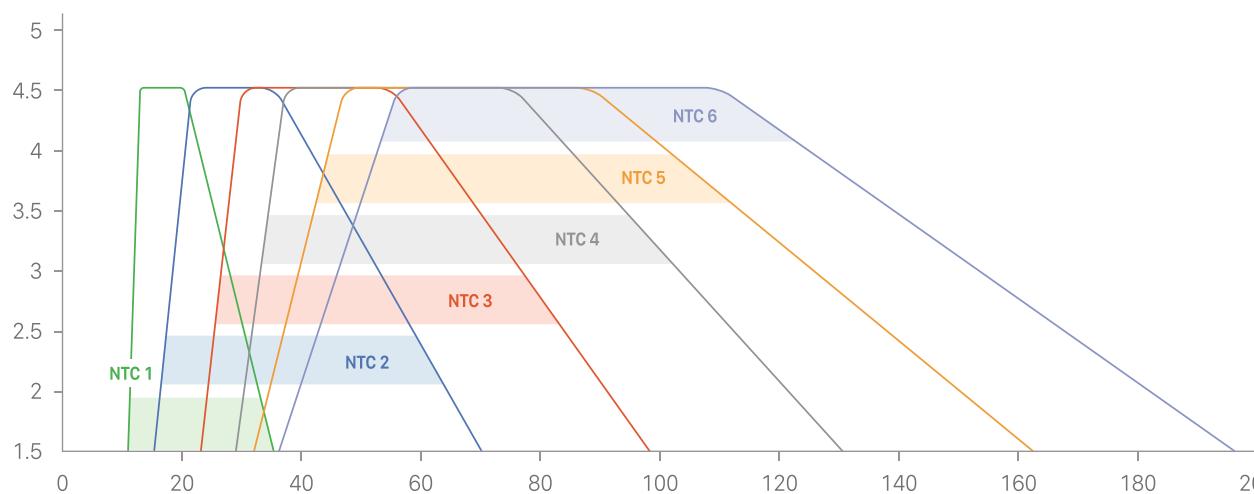


Specifications

MODEL	Pressure		Flow rate		MOTOR POWER	Discharge diameter	Cooling water	Noise
	Barg	Psig	M3/min	CFM	KW	A	INLET / OUTLET	dB
NTC 1	1.5~4.5	24~65	11.0~35.0	388~1225	75	125	40	75±5
NTC 2	1.5~4.5	24~65	16.0~70.0	553~2450	150	150	50	75±5
NTC 3	1.5~4.5	24~65	23.0~98.0	812~3430	225	150	65	75±5
NTC 4	1.5~4.5	24~65	29.0~130.0	994~4550	300	200	80	75±5
NTC 5	1.5~4.5	24~65	32.0~162.0	1109~5670	375	250	100	75±5
NTC 6	1.5~4.5	24~65	36.0~196.0	1260~6860	450	300	125	75±5

* Air-cooled up to 1.5 ~ 2.0 bar / Water-cooled up to 2.0 ~ 4.5 bar

Performance Graphic



NTC SERIES

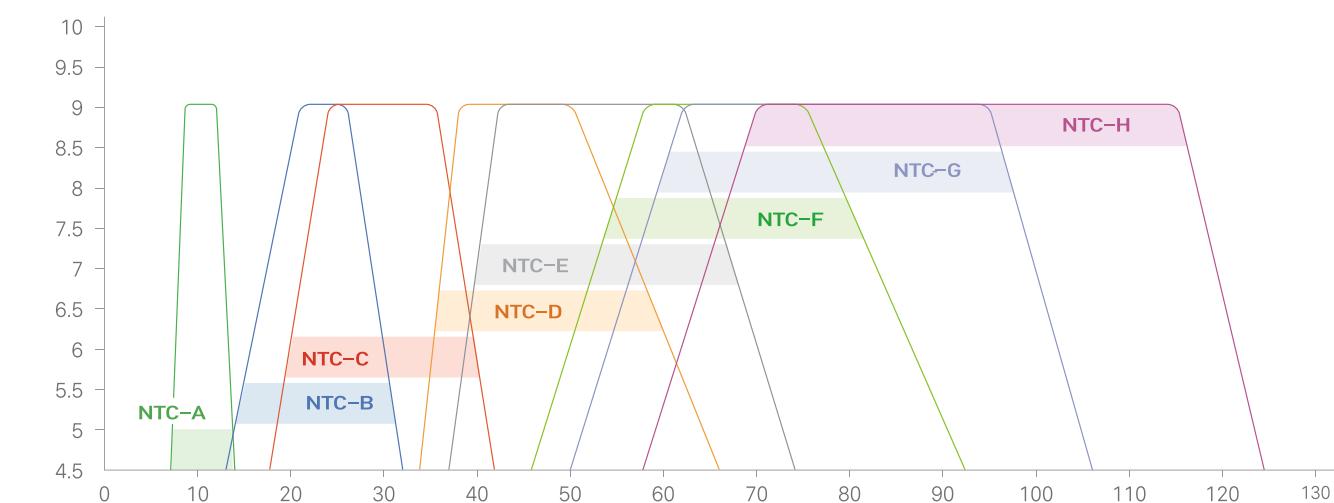
4-Stage Turbo Compressor



Technical Parameter Sheet

MODEL	Pressure		Flow rate		MOTOR POWER	Discharge diameter	Cooling water	Noise
	Barg	Psig	M3/min	CFM	KW	A	INLET / OUTLET	dB
NTC-A	6	87	15	544	75	65	65	75±5
	7	101	14	505				
	8	116	13	466				
NTC-B	6	87	33	1165	150	80	80	75±5
	7	101	32	1126				
	8	116	30	1048				
NTC-C	9	130	28	971	225	80	80	75±5
	6	87	46	1631				
	7	101	44	1553				
NTC-D	8	116	43	1514	300	100	100	75±5
	9	130	40	1398				
	6	87	66	2330				
NTC-E	7	101	65	2291	375	125	125	75±5
	8	116	61	2136				
	9	130	55	1942				
NTC-F	6	87	83	2912	450	150	150	75±5
	7	101	80	2835				
	8	116	75	2640				
NTC-G	9	130	69	2446	525	175	175	75±5
	6	87	99	3495				
	7	101	88	9106				
NTC-H	8	116	85	2990	600	200	200	75±5
	6	87	116	4077				
	7	101	109	3844				
NTC-H	8	116	103	3650				
	6	87	132	4660	600	200	200	75±5
	7	101	130	4582				
	8	116	121	4271				

Performance Graphic



ECO Type Screw Air Compressor (PM VSD)

PM Motor Screw Compressor: All-in-One product



Technical Parameter Sheet

Model		GSS-10AT	GSS-15AT	GSS-20AT	GSS-30AT	GSS-50AT
Power	kW	7.5	11	15	22	37
Pressure	Mpa	1.55	1.6	1.6	1.6	1.6
Volume Flow	m³/min	0.6	0.9	1.2	1.8	2.6
Power Supply		380V/3Ph/60Hz				
Starting Method		Inverter				
Drive Method		Direct Driven				
Main Motor Efficiency		IE4				
Motor Protection Level		IP23				
Cooling Method		Air Cooled				
Discharge Connection		G1/2	G3/4	G3/4	G1	G1/2
Dimension(mm)	Length	900	1,000	1,000	1,070	1,500
	Width	650	750	750	850	1,000
	Height	850	1,000	1,000	1,140	1,350
Weight	kg	180	300	320	420	600

Technical Parameter Sheet

Model		GSS-10ATD	GSS-15ATD	GSS-20ATD	GSS-30ATD	GSS-50ATD
Power	kW	7.5	11	15	22	37
Pressure	Mpa	1.55	1.6	1.6	1.6	1.6
Volume Flow	m³/min	0.6	0.9	1.2	1.8	2.6
Power Supply		380V/3Ph/60Hz				
Starting Method		Inverter				
Drive Method		Direct Driven				
Main Motor Efficiency		IE4				
Motor Protection Level		IP23				
Cooling Method		Air Cooled				
Discharge Connection		G1/2	G3/4	G3/4	G1	G1/2
Dimension(mm)	Length	1,800	1,800	1,800	1,800	1,500
	Width	750	750	750	850	1,000
	Height	1,400	1,550	1,550	1,650	1,350
Weight	kg	355	570	590	690	930

1. The above figures may be changed without prior notice for performance improvement.

2. For power and pressure, please contact us.

Economical Screw Air Compressor

- 3rd generation PM VSD screw compressor (PM Motor + Inverter) equipped with Hanbell Air End
- Consideration of intelligent control system and convenience of maintenance
- Compact product size, lightweight and minimal installation space



Technical Parameter Sheet: GSN Series

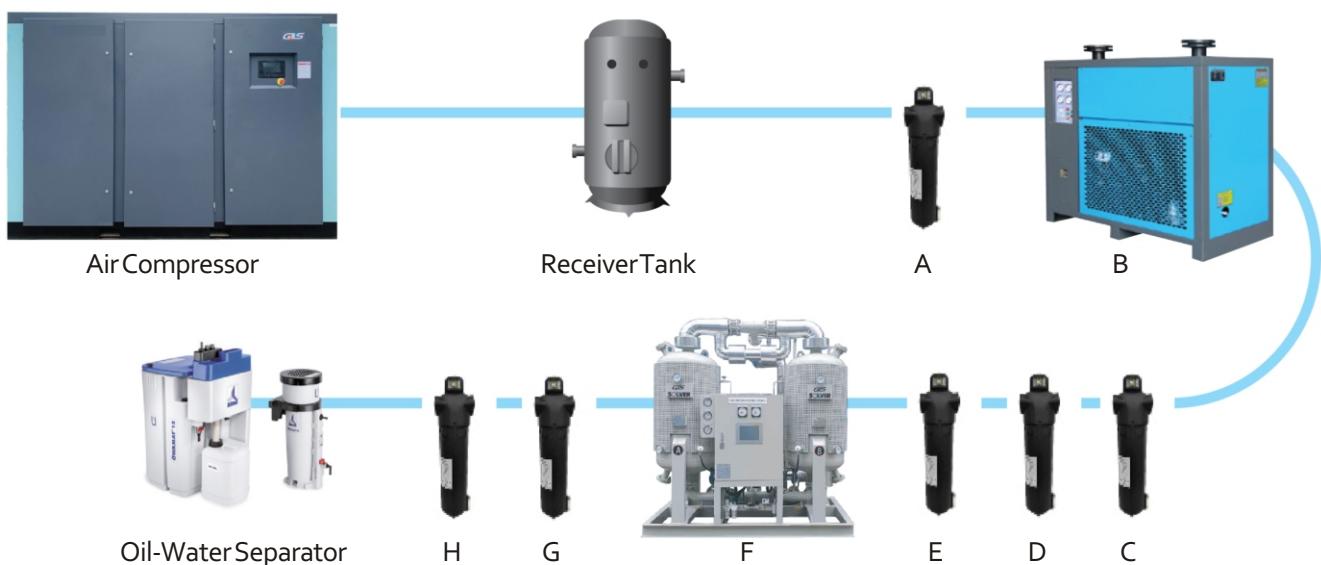
Model	Working Pressure		Capacity		Power		Noise dB	Air Outlet Pipe Diameter	Dimension	Weight
	bar	psig	(m³/min)	cfm	kw	HP			(mm)	(kg)
GSN-7A	8	116	0.2~1.2	7~42	7.5	10	55±3	G3/4"	690×540×980	150
	10	145	0.2~1.0	7~35						
	13	189	0.2~0.8	7~28						
GSN-11A	8	116	0.5~1.9	17~67	11	15	57±3	G1"	870×600×1,230	200
	10	145	0.3~1.6	11~57						
	13	189	0.3~1.2	11~42						
GSN-15A	8	116	0.6~2.5	21~88	15	20	58±3	G1"	870×600×1,230	250
	10	145	0.5~1.9	17~67						
	13	189	0.5~1.76	17~62						
GSN-22A	8	116	0.9~3.8	32~134	22	30	59±3	G1"	870×600×1,230	280
	10	145	0.9~3.3	32~117						
	13	189	0.7~2.57	25~91						
GSN-37A	8	116	1.7~6.8	60~240	37	50	62±3	G1 1/2"	1,040×720×1,400	450
	10	145	1.5~5.6	53~198						
	13	189	1.4~4.8	45~169						

1. The above figures may be changed without prior notice for performance improvement.

2. For power and pressure, please contact us.

④ COMPRESSOR AIR SYSTEM

Among the compressed air discharged from the air compressor, moisture, dust, and pollutants in the air are mixed in a concentrated state with various impurities such as the compressor's lubricating oil, causing serious damage to each element of the compressed air system. In order to complete the compressed air system used in all industrial fields today, such as electronics, shipbuilding, chemicals, machinery, and food, the installation of an air dryer is essential, and in particular, it helps prevent product defects, improve quality and productivity, and extend the life of production equipment.



A	B	C	D	E	F	G	H
3µm Particulate Filter	Refrigerated air dryer	1µm Coalescing Filter	0.01µm Coalescing Filter Oil removal efficiency 99.9%	0.01µm Coalescing Filter Oil removal efficiency 99.99%	Adsorption air dryer	1µm Particulate Filter	Adsorption Filter
NGF	CFL	NGF	NGF	NGF	CHLK	NGF	NGF

SYSTEM 1	For dry air lines	ABC	For pneumatic tools in general industrial fields, cylinders, general painting and instrumentation
SYSTEM 2	For dry, oil-free air lines	ABCD	For automatic control in general industrial fields such as machinery, textiles, and metals
SYSTEM 3	For dry, oil-free, odorless air lines	ABCDH	Transportation, stirring, drying and packaging in precision industrial fields such as medicine, food, and electronics
SYSTEM 4	For dry, oil-free, odorless air lines Removes even the finest oils	ABCDEH	Transportation, stirring, drying and packaging in precision industrial fields such as medicine, food, and electronics
SYSTEM 5	For ultra-dry, oil-free, odorless air lines Removes even the finest oils	ABCDEFGH	For chemical analysis, chemical product storage, transfer and super-drying in ultra-precision industrial fields such as chemicals, semiconductors, and powder coating



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