



# A SERIES

AIR COMPRESSOR

## Air-cooled reciprocating air compressor Internal structure



### 1. Cooling copper tubing

Equipped with highly efficient heat dissipating fins, the copper tubing allows the heat generated to dissipate effectively, thus improving the air compression efficiency.

### 2. Inlet and outlet valves

The valve disc is made of special steel imported from Sweden. The disc is machined, milled and removed of stress, giving it high strength, ductility and impact resistance in high temperature.

### 3. Cylinder head

The concentrated, streamlined air flow allows for efficient heat dissipation.

### 4. Cylinder

The inner diameter is machined and milled using CNC techniques, giving the cylinder good wearing resistance and durability.

### 5. Crankshaft

Forged with high-quality steel, the crankshaft features high strength. The wearing parts are surface-toughened for extremely high wearing resistance. A counterweight minimizes vibrations.

### 6. Piston ring

The compression ring and oil ring are precision-machined to minimum lubricant consumption. This feature keeps the valve from carbon deposit or being burned for loss of lubricant.

### 7. Connecting rod

The links are precision-machined. The boring and alignment are kept within the ideal design requirements, allowing the compressor to run more smoothly and effortlessly.

### 8. Bearing

High-quality imported bearings are used for longer service life.

### 9. Air filter

The filter cleans the air sucked in while serving as a muffler to remove excessive noises.

### 10.

#### Automatic unloading device

The sophisticated design ensures the safety of operations.

### 11.

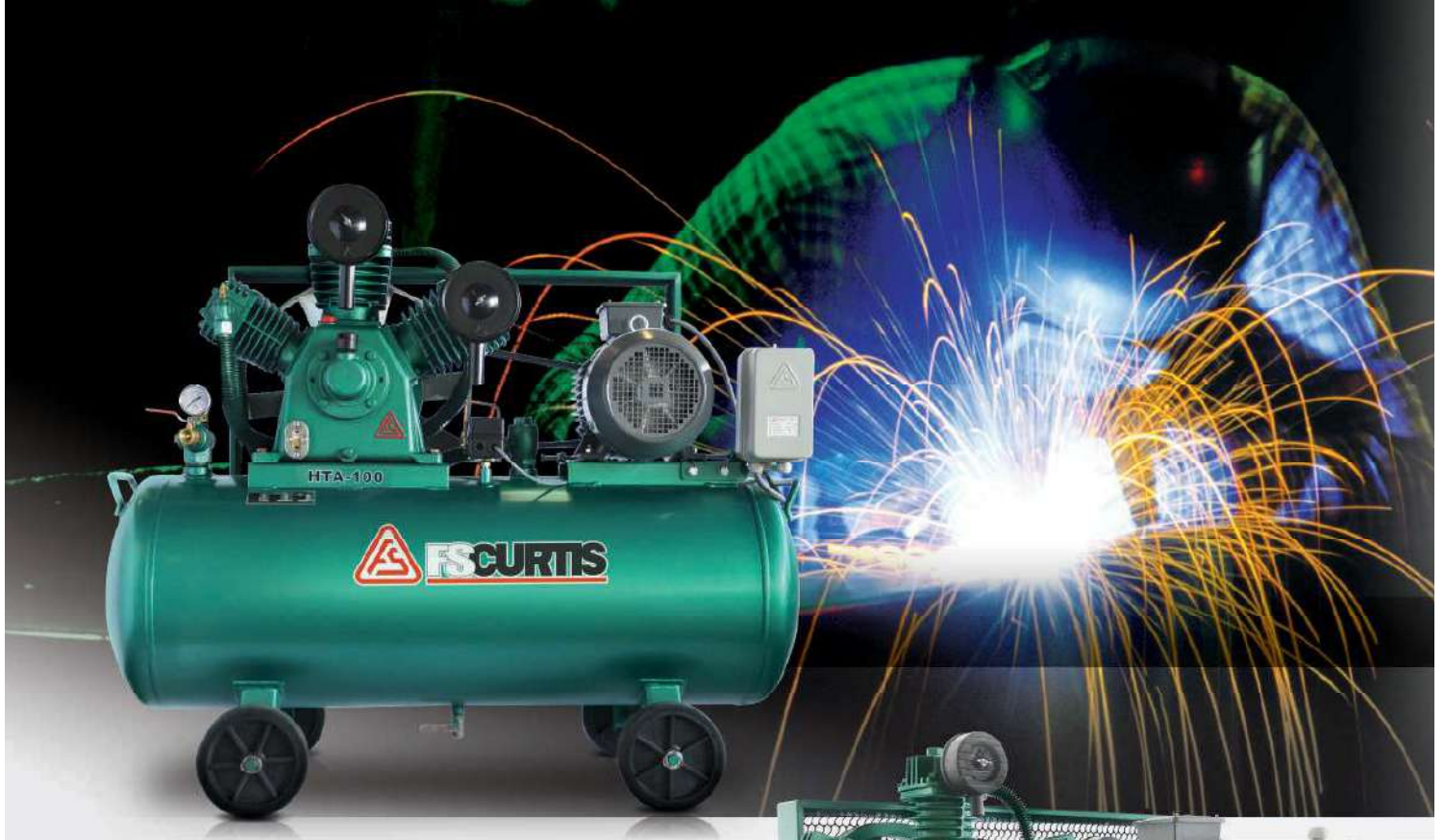
#### Belt-driven pulley for the compressor

The pulley is carefully balanced and calibrated for stable operations of the compressor.

### 12. Crankcase

The center hole and surfaces of the bearing are machined in one run by a single CNC workstation, ensuring the alignment and verticality.





# A SERIES

## AIR COMPRESSOR


Heavy-duty, low-speed

### Single-stage air-cooled air compressor

The single-stage air compressor operates at the pressure range between 0-0.8 MPa . It produces more compressed air per horsepower than a two-stage compressor. However, if the operating pressure goes beyond 0.8 MPa , a two-stage air compressor produces more compressed air for every horsepower. Therefore, a two-stage air compressor is recommended for operating pressure more than 0.9 MPa .

### Two-stage air-cooled air compressor

The two-stage air compressor operates at the pressure range between 0.8 -1.25 MPa . The compressed air is subject to have proper cooling and compression ratio as it exits from first stage compression and enters into second stage compression. Therefore, the efficiency is better than single-stage compressor, thus more power saving.



## Air compressor choice of models

### Determine operating pressure, MPa

The discharge pressure of an air compressor is based on the actual pressure, the pressure drop that comes from air supply piping and purification system need to be considered.

### Determine air demand, m<sup>3</sup>/min

Operating cycle, maximum peak air demand, air storage, possible leaks and future expansion shall be considered when determining the actual air demands. In general, extra 20% is considered in addition to the actual air demands.

### Choose the right model

As the two factors above are determined, then can choose the right model from this catalogue. (Special care is advised as the choice should be made based on the “actual displacement” under the operating pressure.) In general, the actual displacement is single stage x 0.65 or two stage x 0.8. Please refer to the specifications of respective models.

### Choose the motor

Based on the air compressor model selected and the conditions of environment in operation; for example, 110V single phase, or 220V or 380V 3-phase.

### Others

It is recommended to use a 3-phase motor for Fusheng's air-cooled compressor of 2HP or more. When a 3-phase motor is used, it is recommended to install an electromagnetic switch for a fully automatic model, or there is a risk of motor damage.

### Determine how the compressor operates

#### Semi-automatic



#### Fully automatic



Choose the appropriate way of operating based on it is used.

#### Semi-automatic model:

For a semi-automatic model, a pilot valve is used to control the unload and load conditions of the compressor. When the system pressure reaches the upper pressure limit defined ( 0.8 MPa for example ), the pilot valve opens and drives the suction unloader, thus allowing the compressor to run unloading. When the system pressure drops below the lower pressure limit defined ( 0.7 MPa for example ), the pilot valve closes to allow the compressor to run loading. The semi-automatic model is suitable for where the compressed air is used frequently.

#### Fully automatic model:

The fully automatic model controls the unload and load conditions of the compressor using a pressure switch. When the system pressure reaches the upper pressure limit defined ( 0.8 MPa for example ), the pressure switch on to cut the motor's power off, and therefore the motor stops. When the system pressure drops below the lower pressure limit defined ( 0.6 MPa for example ), the pressure switch turns the motor's power back on, thus, the compressor start running again. The fully automatic model is suitable for intermittent operations. For the protection of motor and electromagnetic switch, the compressor should not be turn on and off more than 6 times per hour.

We hope the explanation above helps you find the model that fits your needs. For any question, please do not hesitate to call the dealer nearest to you.



## Technical specifications — single-stage air-cooled air compressor

Model	Motor Power		Cylinder		Revolution	Valume Flow		Rated Discharge Pressure	Dimension	Air Tank	Net Weight
	HP	kW	Bore aia x no. of cylinder mm x pcs	Stroke mm	rpm	m <sup>3</sup> /min	cfm	Mpa	LxWxH mmxmmxmm	Capacity	kg
VA-65	1	0.75	ψ65x2	44	530	0.08	2.83	0.8	1250x470x780	110	113
TA-65	2	1.5	ψ65x3	78	635	0.17	6	0.8	1250x470x840	110	126
VA-80	3	2.2	ψ80x2	60	950	0.36	12.71	0.8	1438x520x955	170	172
									1534x590x1010	230	185
TA-80	5	3.7	ψ80x3	60	875	0.5	17.66	0.8	1534x590x1115	230	229
									1558x590x1170	300	243
VA-100	7.5	5.5	ψ100x2	70	950	0.67	23.66	0.8	1482x590x1100	230	265
									1560x590x1145	300	280
TA-100	10	7.5	ψ100x3	70	900	0.95	33.55	0.8	1560x620x1240	300	360
									1880x660x1400	500	418
TA-120	15	11	ψ120x3	80	800	1.5	52.97	0.8	1604x670x1420	360	470
									1880x705x1480	500	506

## Technical specifications — two-stage air-cooled air compressor

Model	Motor Power		Cylinder		Revolution	Valume Flow		Rated Discharge Pressure	Dimension	Air Tank	Net Weight
	HP	kW	Bore aia x no. of cylinder mm x pcs	Stroke mm	rpm	m <sup>3</sup> /min	cfm	Mpa	LxWxH mmxmmxmm	Capacity	kg
HTA-65	2	1.5	L: ψ 65x2	48	740	0.18	6.36	1.2	1250x470x840	110	139
			H: ψ51x1								
HTA-65H	3	2.2	L: ψ 65x2	48	950	0.22	7.77	1.2	1440x520x910	170	171
			H: ψ51x1						1536x590x960	230	187
HTA-80	5	3.7	L: ψ 80x2	60	950	0.45	15.89	1.2	1436x590x1115	230	244
			H: ψ 65x1						1560x590x1180	300	255
HTA-100	7.5	5.5	L: ψ 100x2	70	680	0.6	21.18	1.2	1543x620x1170	230	318
			H: ψ 80x1						1560x625x1220	300	325
HTA-100H	10	7.5	L: ψ 100x2	70	920	0.8	28.25	1.2	1560x640x1210	290	348
			H: ψ 80x1						1882x665x1390	500	432
HTA-120	15	11	L: ψ 120x2	80	860	1.22	43.08	1.2	1710x680x1320	320	468
			H: ψ 100x1						1882x705x1480	500	541

\*There are other high-pressure and special models on request. Please call for availability.

## 100% oil free, 100% duty cycle



### Intake valve:

corrosion free leaf valve made by stainless steel coated with high temperature-resistant material effectively reduces noise and improves service life. 100% duty cycle is assured .



### Piston:

casting with compact ingredient. Precise machining followed by grinding. Surface coating with self-lubricated material.



### Compression ring and guide ring :

High precision machining along with self-lubricated material which resists wear and high temperature. Stainless and elastic structure enhances sealing effect and durability.



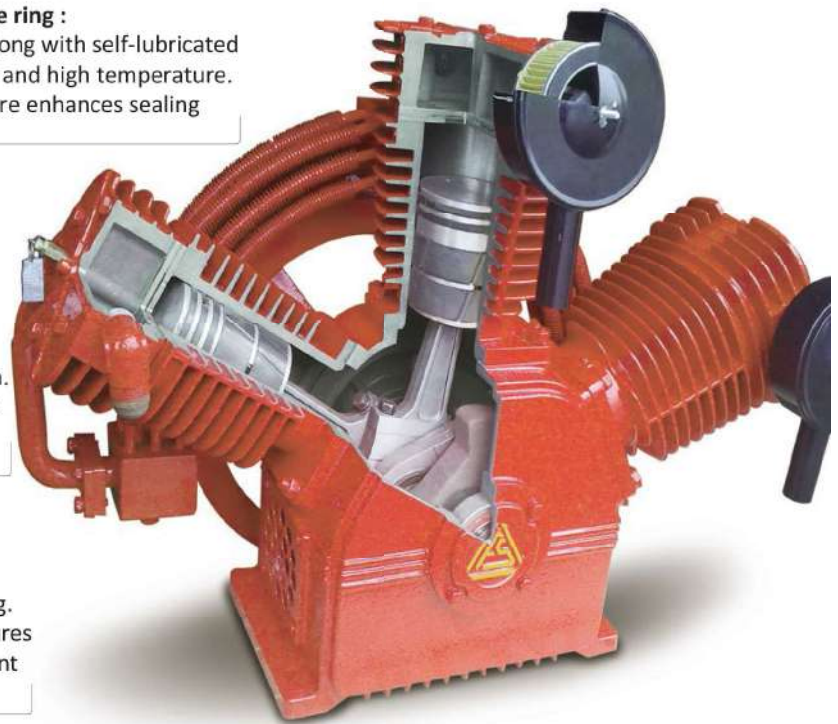
### Connecting rod:

made by die-casting aluminum alloy is highly rust-resistant with great strength. CNC precise machining process ensures compressor stable operation.



### Bearing :

High precision grease-lubricated bearing. High temperature-resistant grease ensures long service long service life and constant operation.



### Ventilation of crankcase:

crankcase fitted with ventilation system on both sides enormously reduces operating temperature to increase bearing service life.



## Oil-free, Air Cooled Piston Air Compressor



Model		VW-30	VW-50	TW-75	TW-100	TW-150	TW-200	THW-200	TW-300*	TW-350*
Air Delivery	m <sup>3</sup> /min	0.22	0.42	0.65	0.9	1.35	1.65	1.8	2.7	3.0
Operating pressure	Mpa	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Motor	kW	2.2	4	5.5	7.5	11	15	15	22	26
Revolution	rpm.	400	700	740	580	660	760	800	660/660	660/760
Air receiver	m <sup>3</sup>	0.114	0.114	0.22	0.26	0.26	0.41	0.41	0.5	0.5
Connection size	"	1/2"	1/2"	3/4"	3/4"	3/4"	3/4"	3/4"	1"	1"
Length	mm	1334	1440	1555	1680	1680	1832	1832	1860	1860
Width	mm	538	500	655	667	600	722	722	1673	1673
Height	mm	966	975	1270	1350	1350	1519	1519	1640	1680
Weight	kg	205	222	410	485	530	663	665	1000	1100

\* TW300 and TW350 are two-head, two-motor models, and the marked power is the total motor power.

\*\* All are two stage compressor series except VW30 and VW50 .

## Oil-free, Air Cooled Piston Air Compressor



Model		TW-75H	TW-100H	TW-150H	TW-200H	TW-300H*	TW-350H*
Air Delivery	m <sup>3</sup> /min	0.6	0.83	1.1	1.5	2.2	2.6
Operating pressure	Mpa	1.0	1.0	1.0	1.0	1.0	1.0
Motor	kW	5.5	7.5	11	15	22	26
Revolution	rpm.	740	900	560	700	660/660	660/760
Air receiver	m <sup>3</sup>	0.22	0.22	0.26	0.41	0.5	0.5
Connection size	"	3/4"	3/4"	3/4"	3/4"	1"	1"
Length	mm	1555	1555	1680	1832	1860	1860
Width	mm	611	600	700	715	1673	1673
Height	mm	1271	1350	1350	1524	1640	1680
Weight	kg	410	425	532	665	1000	1100

\* TW300H and TW350H are two-head, two-motor models, and the marked power is the total motor power.

\*\* All are two stage compressor series.



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