

**RENNER screw compressors**

## RSW / RSWF Water-injected

 Made in  
Germany

**oil-free**  
Made in Germany 



**Motor power: 37.0 to 120 kW**



## RENNER water-injected screw compressors

RENNER oil-free, water-injected, screw compressors are particularly suited to applications that place very high demands on clean compressed-air, and eliminate the risks of oil contamination and resulting loss of production; the result - 100% oil-free compressed air. The high level of reliability and the low operating and maintenance cost speak volumes for RENNER RSW compressors.

Their competitive edge comes from clean compressed air, generated 100% oil-free!

The RSW and RSWF series, water-injected screw compressors have been developed for economic production of oil-free compressed air, within the 37 to 120 kW range.

A particular feature of these compressors, which are protected by a utility model, is that the compressor oil has been completely banished from the compression. This task is now taken care of by the most natural of all raw materials, water. As an ideal heat conductor, it extracts the compression heat from the compressor, thus ensuring low temperatures in the system. The advantage of the low temperatures is almost isothermal compression.

### System Water Treatment

Full water-treatment is integrated into the compressor system, above the mixed-bed ion exchanger and the water filter, so that the circulating water is always of a very high quality, with consistent lubrication and cooling properties.

There are no calcium deposits, because all free-floating ions are bound. The important thing for water-injected screw compressors is continuous monitoring of water quality; with RSW this is standard.

### RENNER RSW compressors give you:

- Ongoing water treatment ensures a long service-life for the machine:
  - Easy monitoring and documentation of water quality
  - Optimum cooling: The water-injection temperature remains at 29°C
  - Demineralisation by mixed bed ion-exchange - all ions are removed from the water
  - Very powerful, ribbed water-filters made of cellulose, for consistent, excellent water quality
  - Low water-quality alerts.
- The German laboratory analysts SGS Institut Fresenius have certified RSW machinery as follows:
  - No additional oil vapours or oil aerosols are fed into the outgoing compressed air after the compressor;
  - Exiting compressed-air is free of any microbiological load, and thus sterile, and this in spite of the initial concentration of bacteria and fungi ascertained;
  - Measurement of particle contamination at the intake and at the compressed-air outlet showed that the initial particle content was reduced by 99% in the compressed-air system



Clear structuring of equipment means that all parts are easily accessible.

### Cooling

- All RENNER water-injected compressors are either air- or water-cooled
- The external air coolers can be deployed spatially separated from the compressor
- The air cooler can also be set up outdoors. An external air cooler increases flexibility, saving space, and energy is used efficiently
- The RSW machines are simply connected to an existing cooling-water circuit.



### Advantages of a RENNERtronic Plus control system:

- Automatic adjustment of flow rate
- Evaluation and regulation of water quality via automatic conductivity measurements
- Also available in real-time
- Integrated clock with 7 channels
- Digital input
- Voltage-free output
- Evaluation of operating and load hours
- Fault alarm

With calculation of:

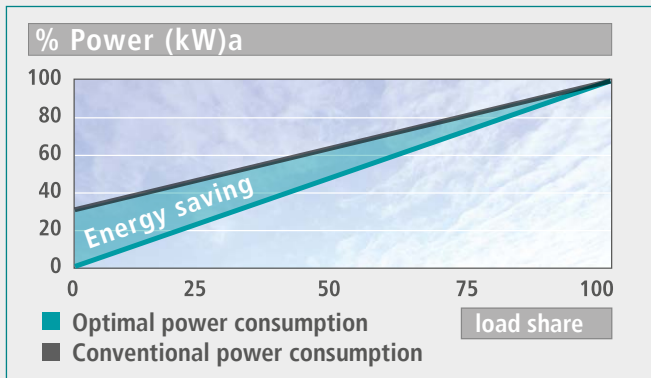
- Power consumption
- Network pressure within easily adjustable pressure-limits
- Compressor temperature
- Maintenance intervals

Simple operability with text display of all messages, with complementary LEDs.



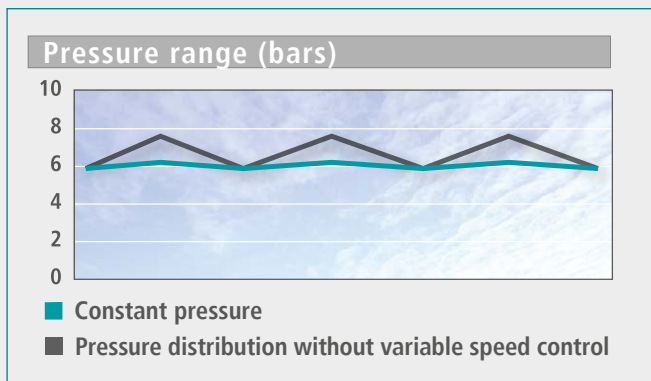
## RENNER variable speed control: Avoid idling time and pressure fluctuations.

### 1. Energy saving:



Energy requirements are reduced to a minimum by reducing the power consumption, based on the given operational demand.

### 2. Non-destructive:



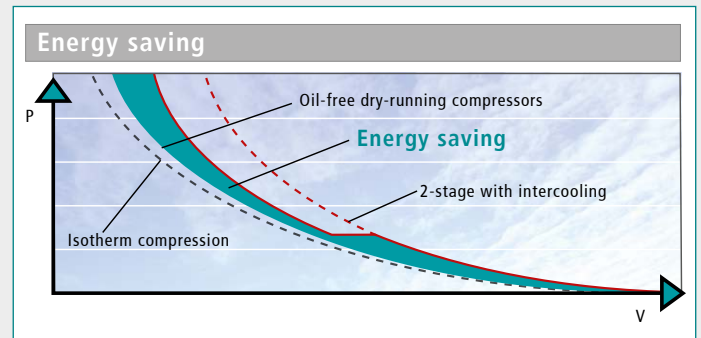
Minimized burden of wear and use of components.

- Low maintenance costs and longer service-life
- Smooth start-up with no current spikes

### 4. Reduction of discharge losses:

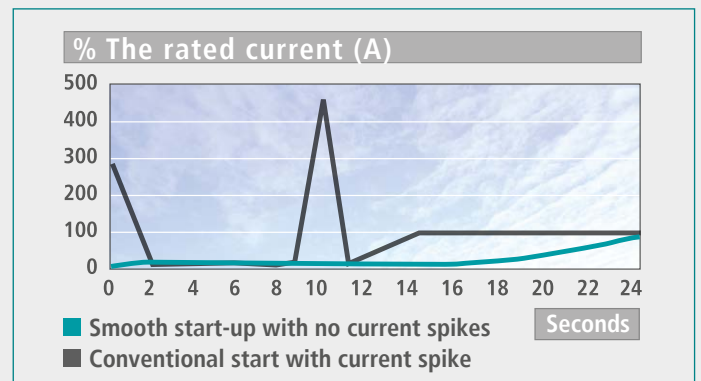
By eliminating idling, unnecessary power consumption is also eliminated.

### 1.1 Optimal energy balance:



Practically isothermal compression, high compression efficiency with a lower operating temperature, as a result of water-injection and energy savings from variable speed control.

### 3. Pressure optimization:



A lower final pressure level is made possible by keeping to the 0.2 bar pressure band.

- When lowering the discharge pressure to 1 bar, power consumption is reduced by about 8%.

### 5. Reduction of CO<sub>2</sub> emissions by reducing power consumption.

## Energy Efficiency

- Variable speed control enables optimal performance of the compressor, and therefore minimal energy consumption.
- Continuously variable speed control of the compressor, according to the customer's current compressed-air requirement.
- The converter provides for smooth starting of the compressor, from zero to full load.
- Mechanical stress on the components is reduced to a minimum, thereby extending the compressors' service life.



## ► Water-injected screw compressors

RSW 37,0 – 75,0 D direct-driven  
RSWF 37,0 – 120,0 D direct-driven with variable speed control,  
with electronic control RENNERtronic Plus and IE3 energy-saving motor

High-efficiency  
IE3 motor

Mixed-bed  
ion exchanger

Heat exchangers

Air filter

Intake control

Compressor

Water filter

Water separation container

### A new way to save energy

All RSW RENNER compressors are equipped with modern IE3 motors. RENNER is setting new standards through the excellent efficiency of the motor, thus ensuring short payback periods. As of 37 kW, the compressors also optionally come with variable speed-control. Thus energy costs can be significantly reduced.

Significantly greater efficiency over the entire speed range offers:

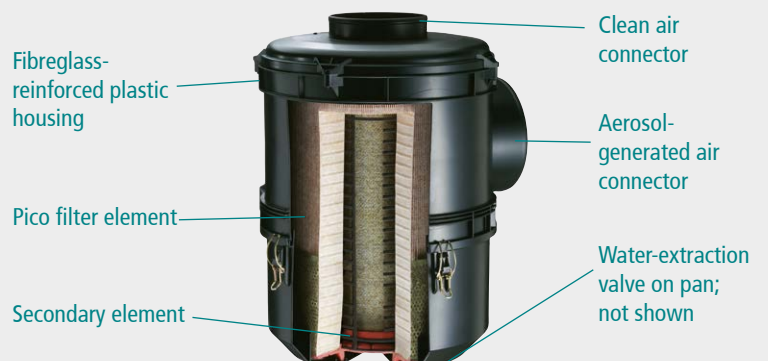
- Reduced energy costs
- Greater durability and easier maintenance

Variable-speed motor:

- Constant torque throughout the speed range
- Optimized performance with variable torque

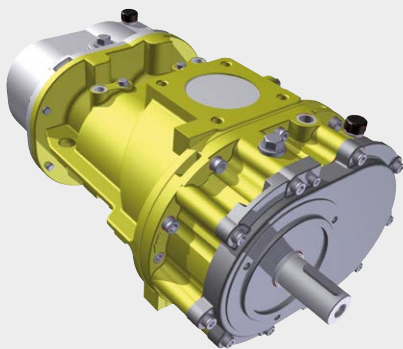
### Clean Air: 2-stage intake filter

- particularly high filtration performance
- simple element change, without use of tools
- corrosion-free, robust housing
- particularly low pressure-loss



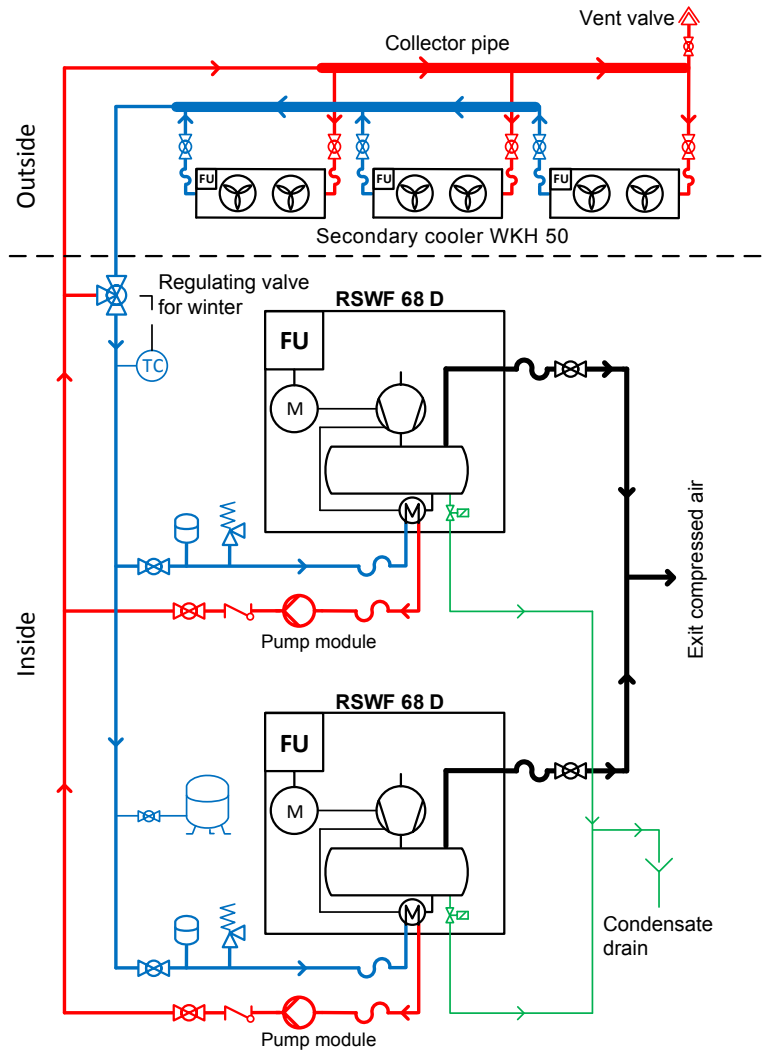


Water filter with replaceable filter-cartridges



Air end

**Installation example**



**RSW 37,0 – 75,0 D / RSWF 37,0 – 120,0 D**

Model	Free air delivery m <sup>3</sup> /min / cfm								Motor power kW / HP	Compressed air outlet inches	Dimensions D x W x H mm	Weight kg	Secondary cooler	
	6 bar		8 bar		10 bar		13 bar							
RSW 37,0 D	5.80	205	5.65	200	5.60	198	–	–	37	49	G2	2060x1260x1732	1520	WKH 40
RSW 45,0 D	5.80	205	5.65	200	5.60	198	5.40	191	45	60	G2	2060x1260x1732	1550	WKH 50
RSWF 37,0 D	1.55-7.10	55-250	1.55-6.49	55-20	1.55-5.54	55-196	1.55-4.77	55-168	37	49	G2	2060x1260x1732	1580	WKH 40
RSWF 45,0 D	1.55-8.00	55-283	1.55-7.74	55-274	1.55-6.58	55-232	1.55-5.65	55-200	45	60	G2	2060x1260x1732	1650	WKH 50
RSWF 50,0 D	1.55-10.30	55-364	1.55-9.60	55-339	1.55-8.00	55-283	–	–	50	67	G2	2060x1260x1732	1650	WKH 50
RSWF 68,0 D	1.55-11.25	55-398	1.55-11.20	55-396	1.55-10.25	55-362	–	–	68	91	G2	2060x1260x1732	1650	2 x WKH 40
RSWF 85,0 D <sup>(1)</sup>	1.55-12.40	55-438	1.55-12.36	55-436	1.55-12.17	55-430	1.55-10.17	55-359	85	114	G2	2060x1260x1732	1750	2 x WKH 50
RSW 75,0 D	12.00	424	11.85	418	11.75	415	11.50	406	75	100	G2½	2200 x 1500 x 1832	2050	2 x WKH 50
RSWF 90,0 D	3.41-16.60	120-586	3.41-15.80	120-558	3.41-14.30	120-505	3.41-11.90	120-420	90	120	G2½	2525 x 1571 x 1832	2280	2 x WKH 50
RSWF 120,0 D	3.41-20.60	120-728	3.41-20.30	120-717	3.41-17.65	120-623	3.41-15.40	120-544	120	161	G2½	2525 x 1571 x 1832	2390	3 x WKH 40

D = direct driven <sup>(1)</sup> with synchronous IE4 motor, with permanent magnet

**Standard equipment:**

RENNERtronic Plus

Integrated water treatment by mixed-bed ion exchanger, with continuous monitoring of water quality

Also order suitable secondary cooler and pump module for air-cooled configuration

## RENNER – THE SPECIALIST IN COMPRESSORS




Founded in 1994, this family run company employs a highly motivated and successful team specialising in the development and production of economic compressor systems. The structure and size of the company guarantees flexible decision-making and quick realisation, thus ensuring that new developments meet the needs of the market.

### THE RENNER MANUFACTURING AND SUPPLY PROGRAMME:

We can supply you with the right compressor for any application – guaranteed.

#### SCREW COMPRESSORS:

- from 2.2 – 355.0 kW, also for oil-free compressed air of breathable quality
- water-injected screw compressors from 18.5 – 120.0 kW 
- up to 40 bar, e.g. for manufacture of PET bottles
- as compact units with compressed air tank, refrigerant drier and frequency control
- special version with plate heat exchanger – save energy and money!
- customised models, mobile/portable, built-in units, designed to customer specifications
- for special applications: gas compression, operation of drilling apparatus, rail and special-purpose vehicles

#### SCROLL COMPRESSORS:

- for oil-free compressed air from 1.5 – 30.0 kW



#### PISTON COMPRESSORS:

- from 1.5 – 11.0 kW
- stationary or mobile, with or without sound insulation

#### COMPRESSED AIR ACCESSORIES:

- compressed air filters, air receivers, refrigeration dryers, adsorption dryers, condensate drains and oil/water separation systems

Supplied by your RENNER distributor:

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