RENNER®
Kompressoren

Refrigeration Compressed Air Dryers

RDS 0020 A - 0125 A
RAT 0150 AE - 0850 AE

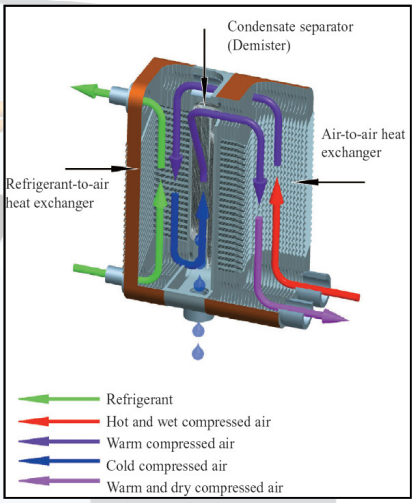
How the RENNER dryer works

Compressed air is fed into the dryer and is precooled in the air-to-air heat exchanger by the outgoing cold compressed air. The precooled air then passes through the refrigerant-to-air heat exchanger where it is further cooled down to the required pressure dewpoint. The moisture in the compressed air condenses out and is collected and discharged automatically.
Finally, the cold discharged air is re-warmed by the incoming compressed air. This saves energy and prevents any moisture forming beyond the dryer in the compressed air system by reducing the relative humidity.

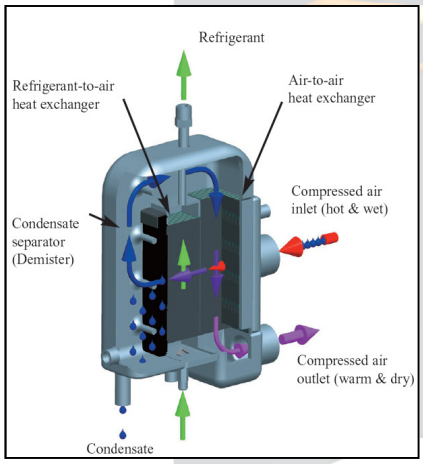
Two different types of Heat Exchangers

RDS 0020A - RDS 0125A

The RENNER RDS 0020A to RDS 0125A dryers are equipped with a stainless steel plate type heat exchanger. This type of heat exchanger has a number of advantages, but the unique advantage is that the water seperator is part of the heat exchanger. The result is a very compact design and a minimum of compressed air piping.



Inox steel plate heat exchanger



Aluminium plate heat exchanger

RAT 0150AE - RAT 0850AE

The RENNER RAT 0150AE to RAT 0850AE dryers are equipped with an aluminium plate type heat exchanger. This aluminium block with a very compact design is used as storage mass to ensure a quick response to load changes. Together with the microprocessor based control device energy savings up to 90 % are possible.

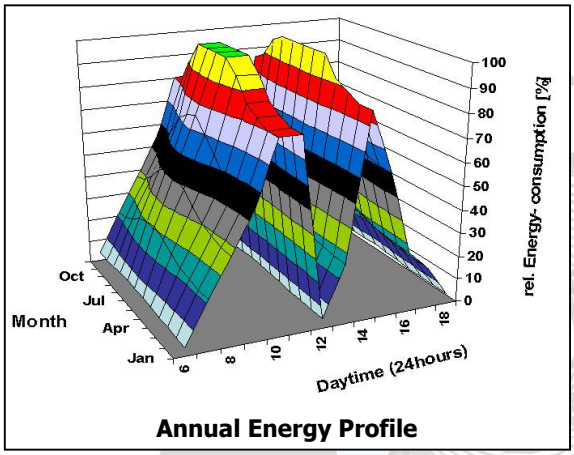
Significant advantages of the two heat exchangers

- Generously sized air-to-air and refrigerationto-air heat exchanger
- Integrated condensate separation
- Low pressure drop
- Corrosion resistant stainless steel or aluminium construction
- High thermal mass for wide range thermal efficiency (aluminium plate type heat exchanger)

Energy savings up to 90 % with the microprocessor

Several times per second the control device measures the temperature of the heat exchanger. The data is processed and the controller calculates if the refrigerant compressor should be switched on or off.

With the aluminium heat exchanger as storage mass, a quick response to load changes is ensured. The pressure dewpoint is shown with two LED lamps (green and red). In general the green lamp signals normal operation and red signals an alarm in the event of a malfunction.



Annual Energy Profile

Typical example of an industrial one-shift operations profile for energy consumption

The key advantages of the RENNER dryer range

- Dewpoint indicator as standard for all dryers
- Level-controlled drain "float drain"
- Energy saving controller from size RAT 0150AE as standard
- One component refrigerant R-134a
- Wide range of possible applications, because of high operation parameters
- Lightweight & compact design
- Easy to install
- Servicefriendly, the service panel of the housing is removable

Ozone-safe, 100 % chc free, R-134a standard refrigerant

All RENNER dryers are equipped with R-134a refrigerant as standard gas. R-134a has become the industry´s choice as the preferred refrigerant because of its ozone depletion factor being 0.0 and low GWP (global warming potential). R-134a is a one component refrigerant and, therefore, consistent in performance (no temperature glide) and easy to RDSvice (no mixture of different refrigerants).

1 Electrical wiring box

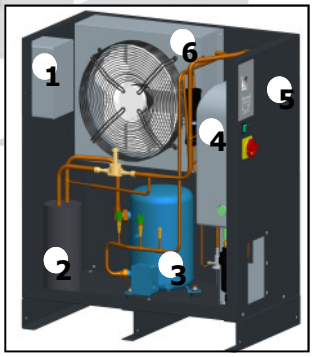
2 Refrigerant collector

3 Refrigerant compressor

4 Heat exchanger

5 Dewpoint indicator (display)

6 Condenser (aircooled)



RDS 0125 A dryer without service cover

Technical Data RENNER Dryer RDS 0020 A - RAT 0850 AE

Type	Airflow m³/h	Airflow m³/min	Power Supply	Power Consumption kWh 100% Full Load	50% Part Load	0% Zero Load	Cooling Air m³/h	Air connec-tion BSP	Weight kg	Dimensions in mm Width	Height	Depth
RDS 0020 A	20	0,33	230 V / 50-60Hz	0,15	0,13	0,11	380	½"	25	310	450	450
RDS 0035 A	35	0,58	230 V / 50-60Hz	0,16	0,14	0,12	380	½"	26	310	450	450
RDS 0050 A	50	0,83	230 V / 50-60Hz	0,22	0,20	0,18	320	½"	27	310	450	450
RDS 0065 A	65	1,08	230 V / 50-60Hz	0,24	0,21	0,19	320	½"	28	310	450	450
RDS 0085 A	85	1,42	230 V / 50-60Hz	0,26	0,23	0,20	320	½"	29	310	450	450
RDS 0105 A	105	1,75	230 V / 50-60Hz	0,35	0,31	0,26	260	½"	31	310	450	450
RDS 0125 A	125	2,08	230 V / 50-60Hz	0,44	0,39	0,33	260	½"	32	310	450	450
RAT 0150 AE	145	2,42	230 V / 50-60Hz	0,45	0,25	0,05	650	1"	59	500	740	710
RAT 0180 AE	180	3,00	230 V / 50-60Hz	0,56	0,31	0,06	650	1 ½"	60	500	740	710
RAT 0225 AE	215	3,58	230 V / 50-60Hz	0,62	0,34	0,06	650	1 ½"	66	500	740	710
RAT 0300 AE	275	4,58	230 V / 50 or 60Hz	0,90	0,50	0,09	1300	1 ½"	79	500	740	710
RAT 0360 AE	365	6,08	230 V / 50 or 60Hz	0,95	0,52	0,10	1300	1 ½"	80	500	740	710
RAT 0450 AE	450	7,50	230 V / 50 or 60Hz	1,08	0,59	0,11	900	1 ½"	85	500	740	710
RAT 0550 AE	550	9,17	400V/50Hz or 440V/60Hz	1,25	0,69	0,13	2700	2"	90	500	970	850
RAT 0650 AE	650	10,83	400V/50Hz or 440V/60Hz	1,30	0,72	0,13	2700	2"	92	500	970	850
RAT 0750 AE	750	12,50	400V/50Hz or 440V/60Hz	1,50	0,83	0,15	2700	2"	117	500	970	850
RAT 0850 AE	850	12,50	400V/50Hz or 440V/60Hz	1,77	0,97	0,18	2700	2"	121	500	970	850

RDS 0020 A
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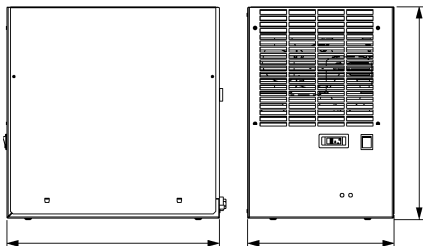
RDS 0125 A



RAT 0150 AE
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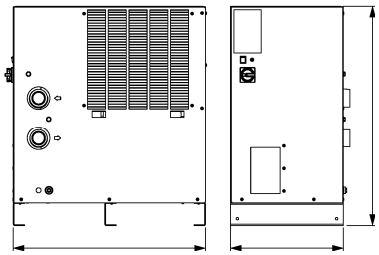
RAT 0850 AE



Volume flow referred to the suction status of the air compressor at +20°C/1bar), compressed air inlet temperature 35°C, operating pressure 7 bar g, ambient temperature +25°C, pressure dewpoint +3°C, measured at dryer outlet in accordance with DIN ISO 7183.

Permitted ambient temperature: min. +2°C to max. +50°C.
Permitted inlet temperature: max. 70°C (RDS0020A - RDS0125A) and max. 65°C (RAT0150AE - RAT0850AE).
Operating pressure: 16 bar g (RDS0020A - RDS0125A) and 14 bar g (RAT0150AE - RAT0850AE).
Noise pressure level: dB(A) <70.
Protection class: IP 20

Working pressure	bar g	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Factor	f_p	0,60	0,70	0,80	0,88	0,94	1,00	1,04	1,06	1,09	1,10	1,12	1,14	1,15	1,16	1,17

Dewpoint	°C	3	5	7	10	15
Factor	f_{tpd}	1,00	1,12	1,24	1,36	1,45

Ambient temperature	°C	25	30	35	40	45	50
Factor	f_{ta}	1,00	0,97	0,94	0,87	0,75	0,62

Compressed air inlet temperature	°C	30	35	40	45	50	55	60	65	70
Factor	f_{ti}	1,28	1,00	0,88	0,75	0,58	0,48	0,44	0,42	0,40

Corrected dryer capacity =
Standard dryer capacity x fp x fti x fta x ftpd

Technical alterations reserved (02/2008)

Product Program

- High Efficiency Filters
- Adsorption Dryers
- Condensate Drains
- Oil/Water Separators

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