

# DW

## Refrigeration dryers



DW 2-504



## Worthington Creyssensac's heritage

Creyssensac was founded in Nanterre (near Paris), France in 1934 by Elie Creyssensac and quickly became renowned in the automotive industry for developing high quality piston compressors.

In the mid nineteen sixties, screw compressors were added to the product portfolio while 1973 saw the merge with Worthington. This further expanded the influence of the company in the compressed air world and reinforced the distributor network.

Today, its long-standing experience and continuous innovation ensure Worthington Creyssensac is a trusted partner for its customers.



## Driven by technology Designed by experience

Discover what happens when a passion for technology is fused with hands-on industrial experience. Designs evolve towards more practical installation and maintenance, giving you the freedom to focus on your job. Product ranges include the exact machine you need, with the right options for your performance needs. Return on investment is ensured, while your carbon footprint shrinks. And, because we stay close to our customers, we're one step ahead when your needs change.



## The range that meets your requirements

*During the compression process, a compressor turns humidity in the intake air into condensate. This will cause wear and corrosion to the compressed air network and downstream equipment. The results are costly interruptions to production and reduction in the efficiency and service life of the equipment used. Refrigeration dryers prevent these negative consequences, condensing the water in the air and removing it.*

### Clean and dry air brings you value

- Protect the air network from corrosion, rust and leakages.
- Improve final product quality.
- Boost productivity.
- Reduce maintenance costs.
- Prolong the life span of your air network and pneumatic tools.

### User-friendly operation

- Refrigeration technology is straightforward and requires little maintenance.
- Quick air quality check via dew point display.
- Compatible with any compressor technology and complying with over 95% of the industrial applications (reaching a PDP of maximum +3°C at reference conditions).

### Easy installation

- Very compact design.
- Easily installed, also in limited spaces thanks to the small footprint.
- Easy and fast installation of the filters and by-pass option.

### Environmental friendly refrigerant gases

- Lowest possible environmental impact.
- Use of R134a, R404A and R410A gas.
- No impact on the ozone layer.
- Gas R410A with:
  - Very low Global Warming Potential (GWP).
  - Energy saving by use of rotary refrigerant compressor.



# The highest standards



## Boost your productivity

- Quality components ensure low pressure drop, stable pressure dew point and efficient cooling.
- Clean and dry compressed air increases the overall productivity of your operations.

## Cost-efficient solution

- No or very little maintenance required.
- Very low energy consumption and high energy saving due to low pressure drops throughout the system.

## Easy installation and access

- Compact design, small footprint and simple layout.
- Extremely easy to install.

## User-friendly operation

- Straightforward control panel with easy access to all the electrical components.
- Easy reading from dew point display indicating all relevant information.



- 1 **Refrigerant compressor** driven by an electric motor, cooled using refrigerant fluid and protected against thermal overload.
- 2 **Refrigerant condenser** air-cooled and with a large exchange surface for high thermal exchange.
- 3 **Motor-driven fan** for the condenser cooling air flow.
- 4 **Air/refrigerant evaporator** with high thermal exchange and low leakage rates.
- 5 **Condensate separator** for high efficiency.
- 6 **Air-air exchanger** with high thermal exchange and low load losses.
- 7 **Hot gas bypass valve** controls the refrigerant capacity under all load conditions preventing any formation of ice within the system.
- 8 **Control panel** indicating all relevant information.
- 9 **Free contacts** as standard for the range DW 60-504 for a:
  - Remote start/stop
  - Remote general alarm
  - Remote drain alarm

## Personalized for you: features and options

### PDP display

The operation of the DW dryer is monitored by an electronic controller indicating all relevant information:



### Technical details

- Status of the refrigerant dryer and fan.
- Dew point display.

### Alarm display

- Alarm about high or low dew point.
- Fan probe failure (DW 7-46).
- Service warning.

### Control panel with free contact (on request) for a:

- Remote PDP alarm (DW 13-504).
- Remote high refrigerant temperature (DW 13-504).
- Remote fan probe failure (DW 13-46).



### Intelligent capacitive drain discharge

The full refrigerant dryer range is equipped with a capacity condensate drain, using electronic level sensors to discharge only condensate without wasting any compressed air. This grants you the following benefits:

- Only water is discharged, no compressed air.
- Energy saving.
- No noise and environmental friendly.

### Available options (for DW 2-10)

#### Bypass valve and filter support\*

Allows the system to operate using the filters only during maintenance or malfunction of the dryer, thus avoiding any downtime.

#### Filter support\*

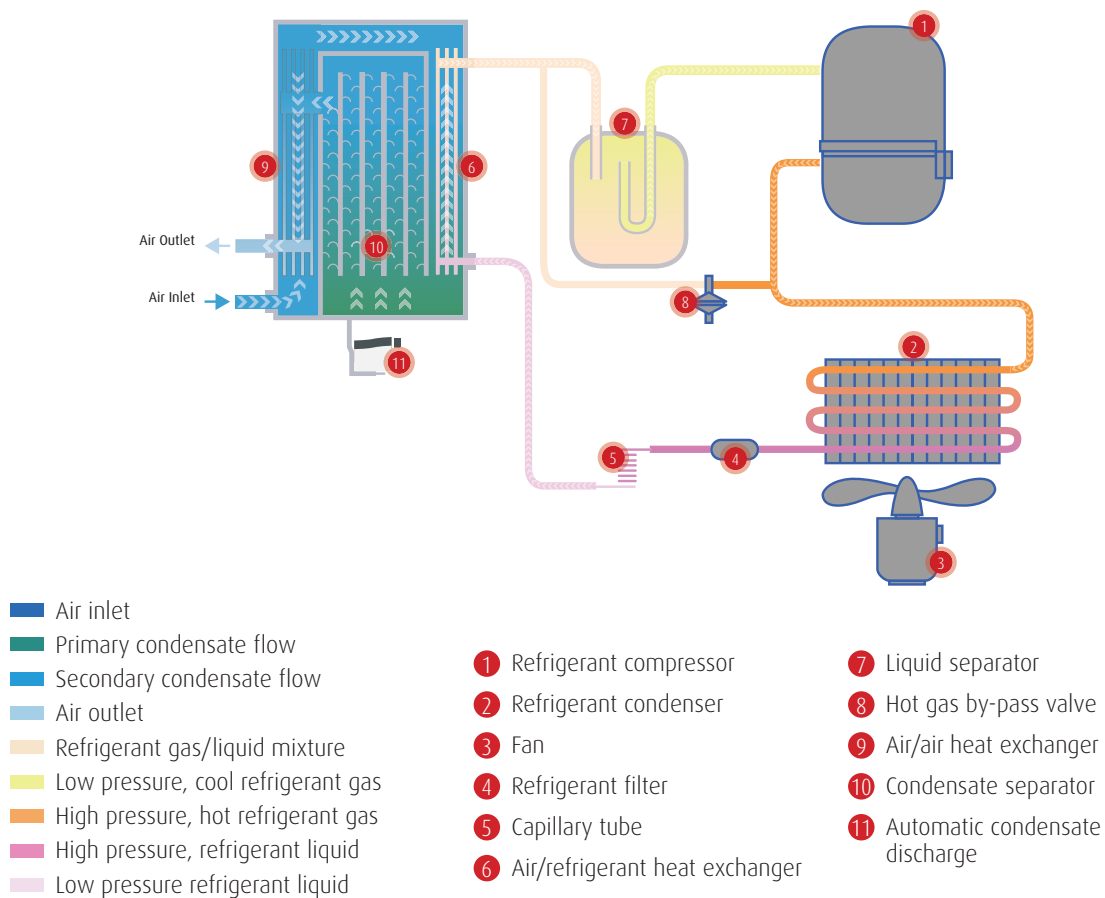
Allows two filters to be installed on the rear side of the dryer, reducing overall dimensions and installation costs.

\* Filters are not included in the option.

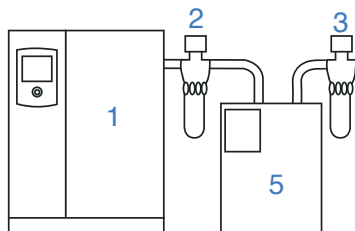


## Air drying principle

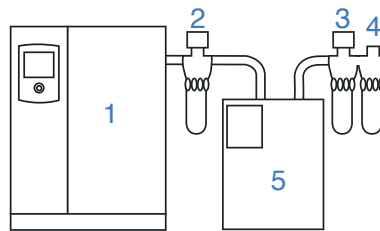
For many companies in today's competitive global market, the treatment of compressed air is not an option, but a necessity in view of operating costs and increased production efficiency. Based on an efficient and simple technology, refrigeration dryers represent the preferred solution for the majority of these applications. As a result the water from the air condenses and can be removed and a maximum pressure dew point of  $+3^{\circ}\text{C}$  can be reached at reference conditions.



## Typical installations



High quality air with reduced dew point  
(air purity to ISO 8573-1: class 1:4:2)



High quality air with reduced dew point  
and oil concentration  
(air purity to ISO 8573-1: class 1:4:1)

1. Compressor with after cooler
2. G filter
3. C filter
4. V filter
5. Refrigerant dryer.

Vertical receiver is always recommended.

## Technical data

Type	Flow treated according to temperature of compressed air input						Nominal electrical power <sup>1</sup>	Power supply voltage	Refrigerant gases	Air connections	Weight
	35 °C <sup>1</sup>		40 °C		45 °C					Gas / DN	
Type	m³/h	cfm	m³/h	cfm	m³/h	cfm	kW	V / Hz. / Ph			kg
DW 2	21	12.4	17.2	10.2	14.5	8.6	0.13	230/50/1	R134a	3/4" M	19
DW 3	36	21.2	29.5	17.4	24.8	14.6	0.16	230/50/1	R134a	3/4" M	19
DW 5	51	30.0	41.8	24.6	35.2	20.7	0.19	230/50/1	R134a	3/4" M	20
DW 7	72	42.4	59.0	34.8	49.7	29.3	0.27	230/50/1	R134a	3/4" M	25
DW 10	110	64.4	90.2	52.8	75.9	44.4	0.28	230/50/1	R134a	3/4" M	27
DW 13	141	83.0	116	68	97	57.3	0.61	230/50/1	R404A	1" F	44
DW 17	180	106	148	87	124	73	0.67	230/50/1	R404A	1" F	44
DW 21	216	127	177	104	149	88	0.79	230/50/1	R404A	1" 1/2 F	53
DW 25	246	145	202	119	170	100	0.87	230/50/1	R404A	1" 1/2 F	60
DW 31	312	184	256	151	215	127	1.07	230/50/1	R404A	1" 1/2 F	65
DW 39	390	230	320	189	269	159	1.19	230/50/1	R404A	1" 1/2 F	80
DW 46	462	272	379	223	319	188	1.45	230/50/1	R404A	1" 1/2 F	80
DW 60	600	353	492	289	414	244	1.32	400/50/3	R410A	2" F	128
DW 72	720	424	590	348	497	293	1.63	400/50/3	R410A	2" F	146
DW 90	900	530	738	435	621	366	1.89	400/50/3	R410A	2" F	158
DW 108	1080	636	886	522	745	439	2.11	400/50/3	R410A	2" F	165
DW 144	1440	848	1181	695	994	585	3.90	400/50/3	R404A	3" F	325
DW 180	1800	1060	1476	869	1242	731	4.46	400/50/3	R404A	3" F	335
DW 210	2100	1237	1722	1014	1449	854	5.55	400/50/3	R404A	3" F	350
DW 270	2700	1589	2214	1303	1863	1097	6.71	400/50/3	R404A	DN 125	380
DW 300	3000	1766	2460	1448	2070	1219	6.80	400/50/3	R404A	DN 125	550
DW 420	4200	2472	3444	2027	2898	1706	10.20	400/50/3	R404A	DN 125	600
DW 504	5040	2966	4133	2432	3478	2047	12.30	400/50/3	R404A	DN 125	650

<sup>1</sup> Reference conditions:

- Operating pressure: 7 bar (100 psi).
- Operating temperature: 35°C.
- Room temperature: 25°C.
- Pressure dew point: +3°C (+/- 1).
- Available in different voltages and frequency values.

Limit conditions:

- Max. operating pressure: 16 bar (232 psi) (DW 2 up to 10)  
13 bar (188 psi) (DW 13 up to 504)
- Operating temperature: 55°C.
- Minimum/maximum room temperature: +5°C/+45°C.

**Correction factors to be used for site conditions outside of normal reference conditions (1) stated above = A x B x C**

Room temperature	°C	25	30	35	40	45									
	A	1.00	0.92	0.84	0.80	0.74	(DW 2 up to 46)								
		1.00	0.91	0.81	0.72	0.62	(DW 60 up to 504)								
Operating temperature	°C	30	35	40	45	50	55								
	B	1.24	1.00	0.82	0.69	0.58	0.45	(DW 2 up to 46)							
		1.00	1.00	0.82	0.69	0.58	0.49	(DW 60 up to 504)							
Operation pressure	bar	5	6	7	8	9	10	11	12	13	14	15	16		
	C	0.90	0.96	1.00	1.03	1.06	1.08	1.10	1.12	1.13	1.15	1.16	1.15	(DW 2 up to 46)	
		0.90	0.97	1.00	1.03	1.05	1.07	1.09	1.11	1.12	-	-	-	(DW 60 up to 504)	

The new flow rate value can be obtained by dividing the current or real flow rate by the correction factor related to the real operation conditions.



Dimensions	A	B	C
	mm		
DW 2 up to 10	350	492	484
DW 13 up to 17	370	496	764
DW 21 up to 31	460	556	789
DW 39 up to 46	580	586	899

Dimensions	A	B	C
	mm		
DW 60 up to 108	735	952	1012
DW 144 up to 210	1020	1082	1560
DW 270	1020	1121	1560
DW 300 up to 504	1020	2099	1560





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