KRD SERIES REFRIGERATED COMPRESSED AIR DRYERS

KAISHAN

Engineering the Future

Kaishan, energy efficient, refrigerated dryers are highly suited to Australian operating environments.

KAISHAN COMPRESSORS

KRD SERIES

Virtually all compressed air applications can benefit from air that is free from residual condensate, a naturally occurring outcome when air is compressed. Compressed air, contaminated with moisture, can prove to be costly leading to increased product spoilage, maintenance and downtime.

The energy saving KRD series refrigerated dryers from Kaishan Compressors are highly efficient, durable and ideally suited for harsh Australian operating environments. Selecting the right KRD dryer for your application will maximise system efficiency, reduce downtime risk and save on energy costs.

FEATURES

- Large heat exchangers resulting in low pressure drop and maximised overall energy efficiency.
- Patented KRD High contact mixing chamber ensuring excellent heat transfer and condensate separation.
- Pressure dewpoint maintained at a steady 3°C under all operating conditions. (Subject to correct dryer selection parameters).
- Electronic programmable condensate drains

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Ultra compact heat exchanger

The key component of the refrigerated air dryer system is the heat exchanger. The KRD series compact aluminium unit contains multiple stages to maximise contact time and heat transfer.

Air/Air Heat Exchanger

This is the first stage where inlet air is pre-cooled and the outlet air is post-heated. This reduces energy consumption in the chiller circuit and minimises the possibility of condensate forming on the outer surface of pipework throughout the plant.

Flow Mixing Chamber

Unlike other heat exchangers, the KRD dryer includes a flow mixing chamber at the air/air outlet. Because air temperatures at the exit of the air/air exchanger channels are not uniform, the mixing chamber allows the air flow to enter evaporator channels at a uniform temperature providing optimum heat exchange.

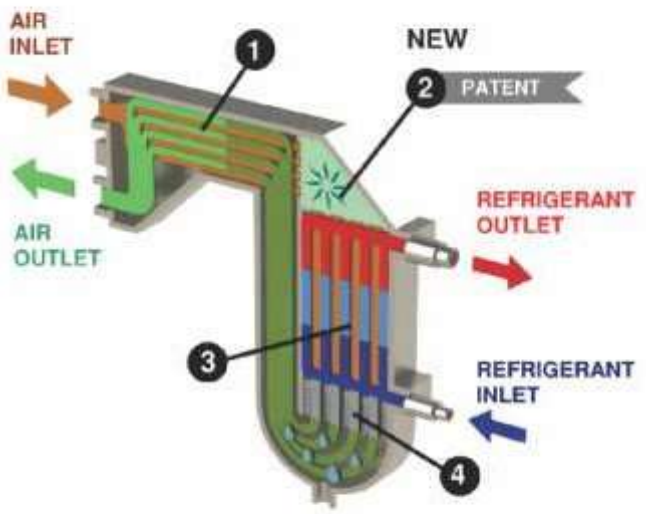
Condensate Separator

The air cooled in the evaporator passes through an efficient condensate separator allowing condensate to drain into a large collecting chamber. The automatic condensate drain then removes any condensate to the trade waste.

DRYER FUNCTION

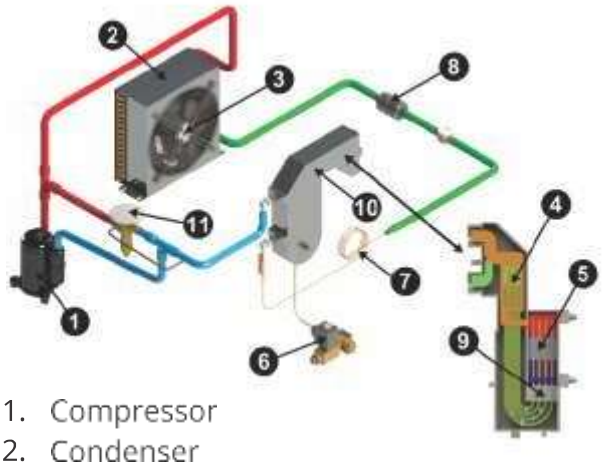
The warm compressed air enters the air/air heat exchanger and is then pre-cooled by the outgoing cold air. The pre-cooled air then passes through the evaporator where it is cooled to the required temperature. The condensate which is then separated from the compressed air in the moisture separator is discharged automatically through the condensate drain. The refrigerant and the temperature are regulated by the bypass valve.

Exchanger



1. Air/air exchange
2. Flow mixing chamber
3. Evaporator
4. Moisture separator

Circuit



1. Compressor
2. Condenser
3. Fan motor
4. Air/air heat exchanger
5. Evaporator
7. Capillary tube
8. Dryer filter
9. Condensate separator
10. Ultra compact heat exchanger
11. Bypass valve

CONTROL PANELS

The KRD control panels are designed to provide maximum operator control while being extremely user friendly.

Up to KRD1400

KRD1800 to KRD12000

DISPLAY

- Dew point
- Operating mode
- Drain management
- Alarm management

KRD Refrigerated Air Dryers

Reference data for following nominal conditions.
Ambient temperature:25°C
Inlet air pressure: 7 barg
Inlet air temperature: 35° C
Pressure dewpoint: 3° C- (22° C atmospheric dew point)

Maximum working conditions.
Ambient temperature = 50°C
Inlet air temperature = 70°C

Model	Part number	Capacity		Power Supply	Connection BSP	Weight	Dimension (mm)	Refrigerant Type
		m³/min	cfm			kg	L x W x H	
KRD 30		0.50	18	240/1/50	¾"	18	305 x374x440	R134a
KRD 42		0.70	25			18		
KRD 60		1.00	35			19		
KRD 90		1.50	53			21	345 x 409 x 480	
KRD 120		2.00	71			24		
KRD 150		2.50	88		1"	27	399 x 462 x 541	
KRD 192		3.20	113			35		
KRD 240		4.00	141			41		
KRD 330		5.50	194		11/2"	55	538 x 538 x 684	R407C
KRD 366		6.10	215			72	527 x 627 x 1123	
KRD 440		7.33	259			72		
KRD 560		9.33	330			78		
KRD 740		12.33	435		2"	151	675 x 715 x 1559	
KRD 880		14.66	518			153		
KRD 1140		19.00	671	400/3/50	21/2"	190		
KRD 1400		23.33	824			193		
KRD 1800		30.00	1060		3"	265	657 x 1156 x 1709	
KRD 2400		40.00	1413			280		
KRD 2700		45.00	1589		DN100	300		
KRD 3600		60.00	2118		DN125	353		
KRD 4800		80.00	2825			573	1056 x 1406 x 1765	
KRD 6000		100.00	3531		DN150	610		
KRD 7200		120.00	4237			855	2112 x 1406 x 1765	
KRD 8400		140.00	4943		DN200	892		
KRD 9600		160.00	5650			929		
KRD 10800		180.00	6355			966		
KRD 12000		200.00	7063			1003		

CORRECTION FACTORS

Correction factor for operating pressure changes :

Inlet air pressure barg	4	5	6	7	8	10	12	14
Factor	0.77	0.86	0.93	1	1.05	1.14	1.21	1.27

Correction factor for ambient temperature changes (Air - Cooled):

Ambient temperature °C	25	30	35	40	45	50
Factor	1	0.96	0.9	0.82	0.72	0.6

Correction factor for inlet air temperature changes:

Air temperature °C	25	30	35	40	45	50	55	60	65	70
Factor	1.2	1.12	1	0.83	0.69	0.59	0.5	0.44	0.39	0.37

Correction factor for DewPoint changes:

DewPoint °C	3	5	7	10
Factor	1.00	1.09	1.18	1.37

**We reserve the right to change specifications without notice in the interest of product improvements.*

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