

Air Dryer

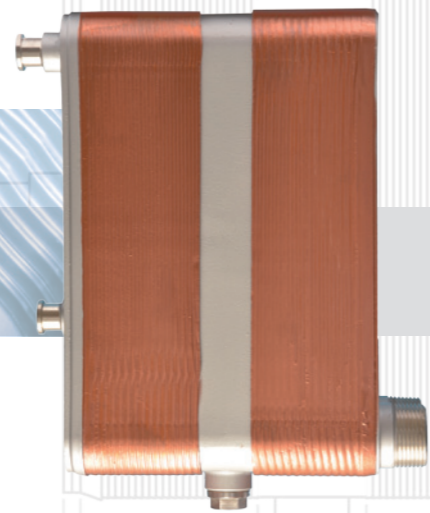
A three in one solution



With partnership into the future

FUNKE is a leader in the development and production of quality heat exchangers with a heat transfer area of up to 2400 m². The range of products comprises shell-and-tube heat exchangers, bolted and brazed plate heat exchangers as well as oil/air cooling units and electrical oil pre-heaters. Thus, as one of the few producers worldwide, FUNKE offers solutions with optimum thermodynamic designs for different industries and virtually all applications.

FUNKE focuses on customer orientation, highest quality standards, flexibility and advisory skills – important benefits a company of just the right size is able to offer.



GPLK Air Dryers

The FUNKE brazed heat exchangers consist of a series of thin and corrugated stainless steel plates. These plates are compressed and joined together by vacuum-brazing, creating flow-channels between the plates. Copper is used as solder which melts and thus seals the heat exchanger. It is one of the smallest air dryers on the market.

Application

In compressed air networks, the prevention of corrosion caused by condensed humidity is an important issue. The condensation occurs due to the content of water vapor in the compressed air. When cooling down the vapor changes into liquid water. This is a critical factor as corrosion would influence the performance, lead to malfunction and

eventually minimize the lifetime of these networks. To prevent this, an air dryer system is the most commonly used tool to treat the compressed air. With the GPLK Air Dryers FUNKE provides for the heat exchanger in air drying systems.

In these compact systems, the prevailing problems which affect the performance are huge volume, high pressure losses and complicated conventional types of heat exchangers with insufficient performance. Here, FUNKE Air Dryers offer the best solution to prevent energy loss, reduce corrosion, extend the life span of compressed air networks and decrease maintenance costs.

The FUNKE Air Dryers are a 3 in 1 configuration since the air to air heat exchanger, evaporator and water separator are combined in one module. This ensures a very compact, robust and energy efficient design.

Function

Warm, humid air coming from the compressor is pre-cooled in an air-to-air heat exchanger by the leaving dry air. (Precooler)

The pre-cooled moist air enters the second chamber of the BPHE where it is even more cooled further by the refrigerant (Evaporator).

The condensate is separated from the air stream and flows off through the drain (Separator). The cold dry air passes a second time through the air-to-air heat exchanger and is re-heated by the incoming air before leaving the dryer.

Additional advantages of FUNKE GPLK air dryers

- High efficiency in heat transfer performance
- Unique patents for cross-flow design features with the condensate being separated right after generation in the cooling path
- Energy saving application due to low pressure drop
- Simple and easy maintenance
- Dry air down to 3°C pressure dew point at outlet

GPLK50AD

Connection

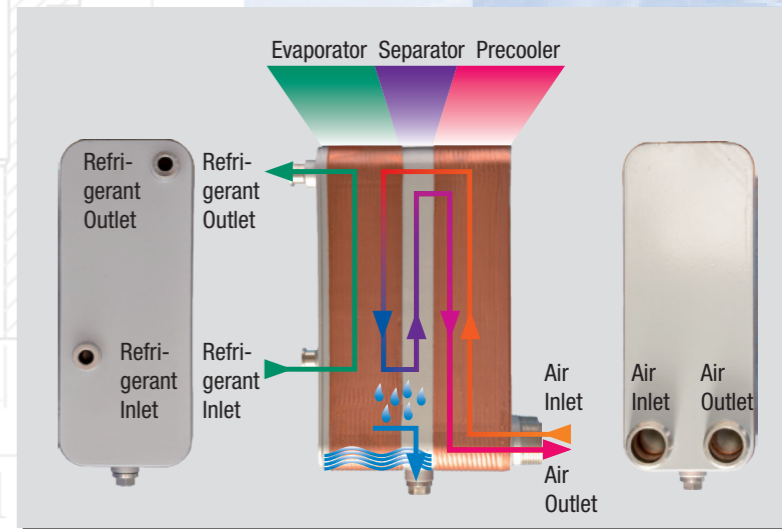
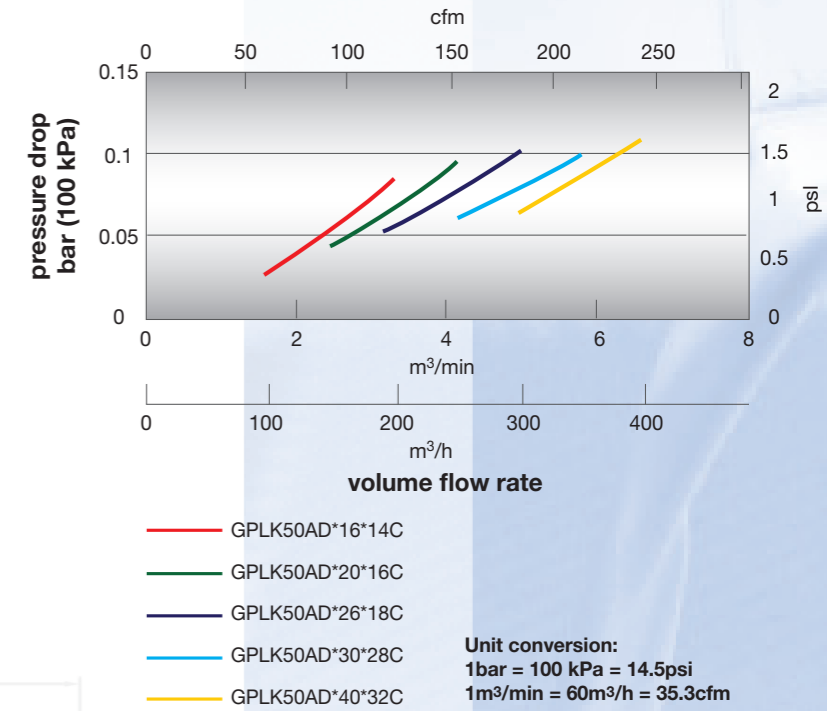
High: 27 mm
 Ref inlet: 9.25 mm
 Ref outlet: 19.25 mm
 Air inlet: G 1 1/4" male
 Air outlet: G 1 1/4" male
 Drainage: PT 1/2" female
 CPM*: 305 x 125 mm

* CPM Channel Plate Measurement

GPLK70AD

Connection

High: 27 mm
 Ref inlet: 19.25 mm
 Ref outlet: 19.25 mm
 Air inlet: G 1 1/2" male
 Air outlet: G 1 1/2" male
 Drainage: PT 1/2" female
 CPM*: 527 x 245 mm



Model	Air flow rate (m³/min)	Air flow rate (SCFM)	A (number of plates of refrigerant side)	B (number of plates of air side)	separator (mm)	A+B+S (mm)
GPLK50AD*8*8C	0.9	32	8	8	45	91
GPLK50AD*10*10C	1.4	50	10	10	45	99
GPLK50AD*16*16C	1.8	66	16	16	45	126
GPLK50AD*20*26C	2	71	20	26	45	160
GPLK50AD*32*40C	3.5	124	32	40	60	235
GPLK50AD*44*50C	4.9	173	44	50	90	312
GPLK50AD*56*66C	6.3	223	56	66	90	387
GPLK70AD*20*26C	9	319	20	26	56	176
GPLK70AD*26*32C	12	425	26	32	96	249
GPLK70AD*40*50C	18	637	40	50	168	391
GPLK70AD*50*64C	25	885	50	64	218	499

selection condition: 7 bar, Tdew = 3 °C, dp = 20 kpa, Tin-out = 8~10 °C

Quality means safety. Each unit built by FUNKE is design and pressure tested. Additional approvals are also available in accordance with quality authorities such as:

- American Bureau of Shipping (ABS)
- Bureau Veritas (BV)
- Det Norske Veritas (DNV)
- Germanischer Lloyd (GL)
- Lloyds Register of Shipping (LRS)
- Schweizerischer Verein für technische Inspektionen (SVTI)
- Technischer Überwachungsverein (TÜV)

as well as customers' test and inspection regulations.



FUNKE has been certified according to DIN EN ISO 9001:2008 and is an approved manufacturer according to:

- EU Pressure Equipment Directive 97/23/EC (PED), Module H/H1
- HP0 in connection with DIN EN 729-2
- ASME U-Stamp
- GOST R (incl. RTN & hygiene certificate)
- China Certificate



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