



since 1967



The Eureka  
External Heat Exchanger

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# EX

## External Heat Exchangers

### ● External Heat Exchangers For Heat Recovery Application

Eureka EX Heat Exchangers are specifically designed for users with a low hot water demand. The EX product range comprises the models 3kW, 6kW, 12kW and 18kW. The daily hot water production ranges from 100 to 1600 litres. These low cost units now make it possible for low-volume hot water users to exploit the waste heat from their refrigeration on a profitable basis.

### ● Universal Application

The EX Heat Exchanger is suitable for a wide range of heat recovery applications. In developing the EX Exchanger Eureka were mindful of the fact that:

- There are numerous industries which operate refrigeration plant generating a considerable amount of waste heat.
- Because of their low hot water demand this waste heat cannot be fully exploited.

Eureka created the EX Exchanger specifically for this purpose since in such cases the application of their Permanent Transfer System heat recoverer - which operates at virtually 100% recovery efficiency - would be unnecessary because not all of the available waste heat is required. The Eureka EX Exchanger achieves a heat recovery efficiency of up to 70%.

### ● Hot Water At 40 - 50°C

The Eureka EX Heat Exchanger harnesses waste heat from refrigeration waste heat to generate hot water at approximately 40 - 50°C. Hot water is available within minutes of the refrigeration plant running.

### ● Insulated Storage Cylinders

The hot water produced is stored in a cylinder. This may be selected from the extensive Eureka range of water storage cylinders or provided by the installer. Eureka cylinders are available in sizes from 110 to 5000 litres. Larger cylinders are available on request. Cylinders are insulated with either polyurethane or foam, enabling hot water to be stored over a prolonged period without significant temperature loss.

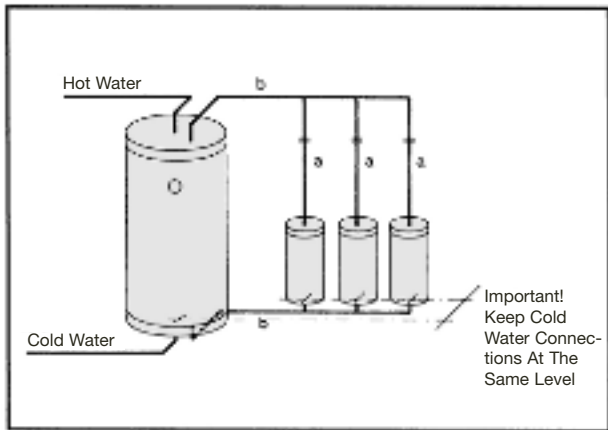
### ● Special Eureka Design

The design of the Eureka EX Heat Exchanger is borne out of considerable practical experience. It operates automatically and without pumps. The special Eureka design enables de-scaling to be carried out quickly and economically.

### ● Five Year Guarantee

The unit is equipped with a protective anode which eliminates virtually all known forms of corrosion. Based on the proven longevity of the unit, Eureka guarantee the storage vessel for five years whilst all other parts carry a two-years guarantee.

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## System Operation

The Eureka EX Heat Exchanger harnesses the waste heat from refrigeration plant to generate hot water. The hot refrigerant discharge gas flows through a ribbed tube heat exchanger located within a vitreous-enamelled steel barrel. The unit is protected against heat loss with a thick polyurethane insulation encased within a wipe-clean PVC jacket. Eureka EX Exchangers can be waterside parallel-connected to any storage cylinder of suitable size and configuration. Alternatively, cylinders can be selected from the Eureka range. As water in the exchanger is heated the resultant thermodynamic forces cause it to flow into the water storage cylinder. No pump assistance is required up to a distance of 3 metres. The heat recovery efficiency is approximately 70% of the theoretical maximum producing hot water at typically 40 – 50°C.

## Technical Data

Heat Exchanger	kW	3	6	12	18
Diameter	mm	280	280	280	280
Insulation Thickness	mm	50	50	50	50
Heat Exchanger Height	mm	750	750	750	750
Overall height	mm	1100	1100	1100	1100
Refrigerant In / Out	mm	16	18	22	22
CW in Male BSP	"	1"	1"	1"	1"
HW out Cu Sweat	mm	12	15	22	28
Weight	kg	16	19	30	32

## Heat Exchanger

Heat exchangers are electro-plated, ribbed copper tube. The exchanger is mounted onto a flange plate and assembled into an internally vitreous enamelled steel barrel complete with wall mounting bracket. Protection against heat loss is afforded by a high quality 50mm thick polyurethane insulation with wipe-clean PVC casing. The refrigerant connections are identified with adhesive colour bands:

Refrigerant In = Red  
Refrigerant Out = Green

Cold water connections are male spigots, size as stated in the Technical Data table. The riser tube, which is included in the Eureka supply, terminates in a compression fitting. When continuing the hot water transfer pipe work, under no circumstances should this fitting size be reduced.

## Pipe Size (a)

Heat Exchanger	kW	3	6	12	18
∅ Pipe Cu Sweat	mm	12	15	22	28

## Installation

Any number of selected EX Heat Exchangers can be linked with a storage cylinder. The exchangers are wall-mounted as low as possible and parallel plumbed as shown in the drawing.

The pipe work inter-connecting the heat exchanger(s) and the cylinder is carried out by the installer up to a maximum distance of 3m. The heat exchanger and storage cylinder cold water inlet connections should be at the same height above floor level. All cold and hot water inter-connecting pipe work should be sized in accordance with dimension (b) in the data table. The riser tubes (a) included in the Eureka supply may be internally nickel plated as an extra cost option.

Under no circumstances should any of the stated pipe diameters be reduced since this will result in a capacity reduction.

## Pipe Size (b)

Total Exchanger Capacity	kW	6	9	14	22	36	42
∅ Pipe Cu Sweat	mm	15	18	22	28	35	42

## Safety Standards

EX Heat Exchangers comply with the German Food and Beverages Protection Law § 31 LMBG, DIN 4753 and DIN 1988 for potable, water heating appliances. The EX Heat Exchanger incorporates a safety circuit. All models are TÜV-approved and registered with the German Institute of Gas and Water Engineers (DVGW).

Test Mark DIN-DVGW NW 9401 AR 3329.



Manufacturer:



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