

To determine the pressure drop for different versions or at different working conditions, please refer to the following formula:

$$PD_2 \text{ (kPa)} = PD_1 \text{ (kPa)} \times \left(\frac{Q_2 \text{ (l/s)}}{Q_1 \text{ (l/s)}} \right)^{1.80}$$

where:

PD₂ Pressure drop to be determinate (kPa)

PD₁ Pressure drop at nominal condition (kPa)

Q₂ water flow at new working condition (l/s)

Q₁ water flow at nominal condition (l/s)

How to use the formula: Example

The unit EWWQ380B-SS has been selected for working at the following conditions:

- evaporator water in/out: 12/7°C

- condenser water in/out: 30/35°C

- Partial heat recovery leaving water temperature 45/50°C

The heating capacity at these working conditions is: 38.5 Kw

The water flow at these working conditions is: 1.84 l/s

The unit EWWQ380B-SS at nominal working conditions has the following data:

- evaporator water in/out: 12/7°C

- condenser water in/out: 30/35°C

- Partial heat recovery leaving water temperature 40/45°C

The heating capacity at these working conditions is: 54.2 KW

The water flow at these working conditions is: 2.59 l/s

The pressure drop at these working conditions is: 34 kPa

The pressure drop at the selected working condition will be:

$$PD_2 \text{ (kPa)} = 34 \text{ (kPa)} \times \left(\frac{1.84 \text{ (l/s)}}{2.59 \text{ (l/s)}} \right)^{1.80}$$

$$PD_2 \text{ (kPa)} = 18 \text{ (kPa)}$$