Evaporator Pressure Drops

EWLD~J-SS

	110	130	145	165	195	235	265	290	310	330
Cooling capacity (kW)	110	128	143	164	192	237	265	286	307	328
Water flow (l/s) - Evaporator	5.24	6.10	6.84	7.84	9.16	11.32	12.65	13.68	14.68	15.69
Evaporator Pressure Drops (kPa)	14	12	36	34	32	25	31	36	36	34

NOTES

Water flow and pressure drop referred to nominal condition: evaporator water in/out: 12/7°C - saturated discharge temperature 45°C

	360	390	430	470	500	530
Cooling capacity (kW)	356	383	429	474	502	530
Water flow (l/s) - Evaporator	17.00	18.32	20.47	22.63	23.97	25.30
Evaporator Pressure Drops (kPa)	34	32	32	25	25	31

NOTES

Water flow and pressure drop referred to nominal condition: evaporator water in/out: 12/7°C - saturated discharge temperature 45°C

Evaporator Pressure Drops

To determinate the evaporator pressure drop for different versions or at different working condition, please refer to te following formula:

$$PD_2\,(kPa) = PD_1\,(kPa) \times \left(\frac{Q_2\,(l/s)}{Q_1\,(l/s)} \right)^{1.8}$$

where:

PD_2	Pressure drop to be determinated (kPa)
PD_1	Pressure drop at nominal condition (kPa)
Q_2	water flow at new working condition (l/s)
Q_1	water flow at nominal condition (l/s)

How to use the fomula: Example (Evaporator)

The unit EWLD110J-SS at nominal working conditions has the following data:
- evaporator water in/out: 11/6°C
- condenser water in/out: 35°C

The cooling capacity at these working conditions is: 137 kW
The evaporator water flow at these working conditions is: 6.55 l/s

The unit EWLD110J-SS at nominal working conditions has the following data:
- evaporator water in/out: 12/7°C
- Saturated discharge temperature: 45°C

The cooling capacity at these working conditions is: 110 kW
The evaporator water flow at these working conditions is: 5.24 l/s
The evaporator pressure drop at these working conditions is: 14 kPa

The evaporator pressure drop at the selected working condition will be:

$$PD_2\,(kPa) = \mathbf{14}\,(kPa) \times \left(\frac{\mathbf{6.55}\,(l/s)}{\mathbf{5.24}\,(l/s)} \right)^{1.8}$$

$$PD_2\,(kPa) = \mathbf{21}\,(kPa)$$

Note: If the calculated evaporator water pressure drop is below 10 kPa or above 100 kPa please contact the factory for dedicated evaporator.