Evaporator and Condenser Pressure Drops

EWWD~J-SS

	120	140	150	180	210	250	280	310	330	360
Cooling capacity (kW)	120	146	155	178	208	256	285	310	334	357
Water flow (l/s) - Evaporator	5.73	6.98	7.41	8.50	9.94	12.25	13.63	14.81	15.96	17.06
Evaporator Pressure Drops (kPa)	15	13	40	38	36	28	33	40	40	38
Water flow (l/s) - Condenser	7.04	8.57	9.25	10.62	12.30	15.06	16.89	18.49	19.91	21.28
Condenser Pressure Drops (kPa)	20	12	11	11	11	16	26	11	11	11

▌ NOTES
Water flow and pressure drop referred to nominal condition: evaporator water in/out: 12/7°C - condenser water in/out: 30/35°C

	380	400	450	500	530	560
Cooling capacity (kW)	386	416	464	513	541	570
Water flow (l/s) - Evaporator	18.44	19.88	22.17	24.51	25.85	27.23
Evaporator Pressure Drops (kPa)	38	36	36	28	28	33
Water flow (l/s) - Condenser	23.15	24.59	27.33	30.10	31.92	33.78
Condenser Pressure Drops (kPa)	11	11	11	16	16	26

▌ NOTES
Water flow and pressure drop referred to nominal condition: evaporator water in/out: 12/7°C - condenser water in/out: 30/35°C

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To determinate the evaporator or condenser pressure drop for different versions or at different working condition, please refer to the 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 EWWD280J-SS has been selected for working at the following conditions:
- evaporator water in/out: 11/6°C
- condenser water in/out: 30/35°C
The cooling capacity at these working conditions is: 277 kW
The evaporator water flow at these working conditions is: 13.23 l/s

The unit EWWD280J-SS at nominal working conditions has the following data:
- evaporator water in/out: 12/7°C
- condenser water in/out: 30/35°C
The cooling capacity at these working conditions is: 285 kW
The evaporator water flow at these working conditions is: 13.62 l/s
The evaporator pressure drop at these working conditions is: 33 kPa

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

$$PD_2 \, (kPa) = 33 \, (kPa) \times \left(\frac{13,23 \, (l/s)}{13.62 \, (l/s)} \right)^{1.8}$$

$$PD_2 \, (kPa) = 31 \, (kPa)$$

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