

Professional Double Stage Range

WATER VERSION

TEON's Professional Double-Stage range consists of natural monobloc water-to-water heat generators for the production of heating and domestic hot water (DHW), with the option of reversibility for summer operation in cooling mode. The **T250-DC**, **T350-DC** and **T500-DC** models are configured in a two-stage configuration (low cycle and high cycle), optimised for operation with a flow temperature steadily above 70°C. They are capable of delivering:

- Hot water at high temperature (min 30°C - max 80°C);
- Chilled water at low temperature (min 5°C) - only in reversible models ('RT').

The compressors used are energy-efficient semi-hermetic screw compressors. They are developed and optimised for applications with R600a refrigerant, minimising power consumption, vibration and noise.

The exchangers are AISI 316 stainless steel plates, braze-welded, with countercurrent heat exchange and AISI 304 stainless steel connections. They are characterised by high thermal efficiency with simultaneous high turbulence and reduced risk of scale and deposit formation.

Inside the supporting structure with perimeter panelling are the main components of the machine:

- Compressor(s)
- Laminating valve
- Evaporator(s)
- Capacitor(s)
- Economiser(s)
- Measuring and control components
- Tubing and various in-line components
- Machine edge.

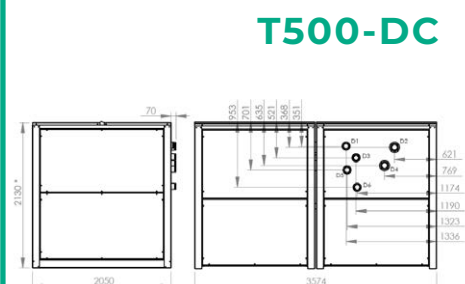
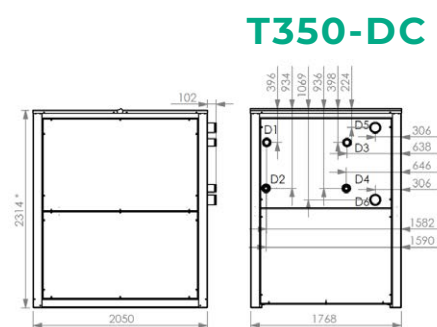
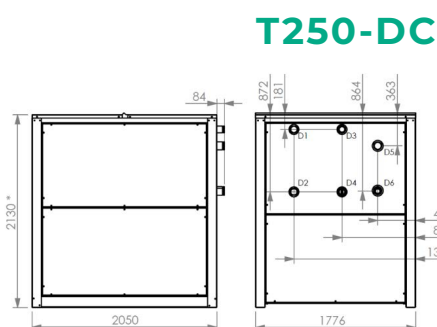


**WATER
BLAZE**[®]
TECHNOLOGY

TEON's WATER BLAZE technology introduces into the traditional thermodynamic cycle of heat pumps a forced sub-cooling, thanks to which more thermal power is recovered from the natural source to be transferred to the heating system and overall efficiency is maximised. This is achieved by splitting the iso-enthalpic curve into two distinct transformations, one at constant pressure and one at constant temperature, which take place in a recuperator and a lamination valve, respectively.

TECHNICAL FEATURES

EFFICIENCY AND PERFORMANCE	U.M.	T250-DC			T350-DC			T500-DC		
HEATING										
Thermal Power	[kW]	249,6	264,1	338,5	288,7	306,7	402,7	499,1	528,3	677,0
Electric Power	[kW]	40,9	57,3	108,8	44,1	65,7	132,5	81,8	114,6	217,6
COP	[-]	6,10	4,61	3,11	6,55	4,67	3,04	6,10	4,61	3,11
Inlet water temperature from source	[°C]	10	15	15	10	15	15	10	15	15
Outlet water temperature to source	[°C]	7	10	10	7	10	10	7	10	10
Inlet water temperature from plant	[°C]	30	50	70	30	50	70	30	50	70
Outlet water temperature to plant	[°C]	35	60	80	35	60	80	35	60	80
Water flow on the source side	[l/s]	16,62	9,88	10,97	19,48	11,51	12,91	33,23	19,76	21,95
Water flow on the plant side	[l/s]	11,92	6,31	8,09	13,80	7,33	9,62	23,85	12,62	16,17
COOLING (RT models)										
Refrigeration Power	[kW]	197,8			276,4			395,5		
Electric Power	[kW]	40,8			56,4			81,7		
EER	[-]	4,84			4,90			4,84		
Inlet water temperature from plant	[°C]	12			12			12		
Outlet water temperature to plant	[°C]	7			7			7		
Inlet water temperature from source	[°C]	15			15			15		
Outlet water temperature to source	[°C]	20			20			20		
Water flow on the plant side	[l/s]	9,45			13,21			18,90		
Water flow on the source side	[l/s]	11,40			15,90			22,80		



TECHNICAL DATA	U.M.	T250-DC	T350-DC	T500-DC
Max nominal electric current	[A]	176,3	264,0	352,6
Sound pressure level at 1 m (*) (w.o. Acoustic Insulation optional)	[db(A)]	76	77	78
Sound pressure level at 5 m (*) (w.o. Acoustic Insulation optional)	[db(A)]	62	63	64
Sound pressure level at 10 m (*) (w.o. Acoustic Insulation optional)	[db(A)]	56	57	58
Power supply	[V-/Hz]	400/3/50+N	400/3/50+N	400/3/50+N
Type of refrigerant	[-]	R600a	R600a	R600a
Refrigerant charge high cycle R600a	[kg]	30,0	30,0	60,0
Low cycle refrigerant charge R600a	[kg]	19,0	16,0	38,0
Refrigeration circuits	[-]	2	2	4
Type of compressors	[-]	Vite	Vite	Vite
Capacitor HT rated pressure drop	[kPa]	4,6	20,4	5,8
Rated pressure drop capacitor LT	[kPa]	4,6	20,4	5,8
Nominal evaporator pressure drops	[kPa]	13,8	63,8	13,8
Partialization (with partialization optional)	[-]	Continues	Continues	Continues
DIMENSIONS AND WEIGHTS				
Dimensions (L x P x H)(**)	[mm]	1.776 x 2.050 x 2.130	1.776 x 2.050 x 2.310	3.574 x 2.050 x 2.130
Empty weight	[kg]	3.320	4.630	6.640
Operating weight	[kg]	3.400	4.750	6.800
Evaporator-side connections (source)	[Vtctaulic]	DN80	DN100	DN100
High condenser-side connections	[Vtctaulic]	DN65	DN80	DN80
Low condenser side connections (RT)	[Vtctaulic]	DN65	DN80	DN80
SECURITY				
Maximum refrigerant pressure	[bar]	14	14	14
F-GAS licence required for maintenance	[-]	No	No	No

(*) Data shown are from free-field measurements.

(**) The indicated height does not take into account the anti-vibration mounts, which would increase the total height by between 60 mm and 110 mm.