TWIN - Two-in-one calorifier/buffer store for heat pumps
TW1X - Made of AISI 316L Stainless steel
TW1V - Made of glass lined steel

The system consists of two cylinders in a single body: the upper tank is a calorifier for the production and storage of domestic hot water (DHW) equipped with a high efficiency heat exchanger that can be powered by a heat pump, while the lower tank is a primary water buffer store for the heating system that is also fed by a heat pump.
The calorifier body is available in stainless steel (mod. TW1X) or glass lined steel (TW1V), the buffer store is made only in carbon steel.
Twin represents a very a cost effective and compact solution that allows to have a complete system by reducing space and installation costs.
It is also prepared to host a backup immersion heater (not supplied).

HEAT SOURCE

APPLICATION

TECHNICAL FEATURES

		TW1X	TW1V
DHW cylinder	Material	AISI 316L Stainless steel (1.4404)	Glass lined S 235 Jr Carbon steel
	Internal protective treatment	Pickling and passivation	Enamelling according to DIN 4753.3
	External protective treatment	Pickling and passivation	Anti rust protection + epoxy painting
	Rating (P max. / T max.)	6 bar / 95°C	8 bar / 95°C
	Cathodic protection	Magnesium anode	Magnesium anode
Heat exchanger	Material	AISI 316L Stainless steel (1.4404)	Glass lined S 235 Jr Carbon steel
	Internal protective treatment	Pickling and passivation	None
	External protective treatment	Pickling and passivation	Enamelling according to DIN 4753.3
	Type	Fixed coil for 200 litres capacity Double spiral fixed coil for capacities from 300 to 500 litres	
	Rating (P max. / T max.)	10 bar / 95°C	10 bar / 95°C
Buffer vessel	Material	S 235 Jr Carbon steel	
	Internal protective treatment	None	
	External protective treatment	Anti rust protection + epoxy painting	
	Rating (P max. / T max.)	4 bar / 95°C	
General features	Capacity	DHW cylinder: 200 ÷ 500 L / Buffer vessel: 50 ÷ 80 L	
	Warranty	5 years	
	Insulation	Rigid polyurethane foam + PVC: Fire retardant class B3 (DIN 4102)	
	In compliance with	- Pressure Equipment Directive (PED) 2014/68/UE Art. 4 Para 3 - Italian MOH specifications (products suitable to contain potable water) - Energy related Products (Erp) Directive 2009/125/CE	

ACCESSORIES (page 218)

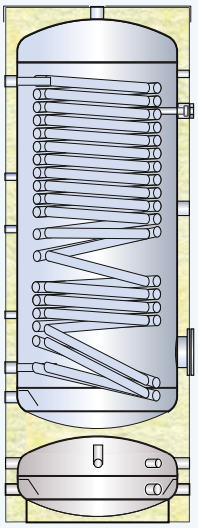
Impressed current electronic anode

Electronic control unit

Thermostat

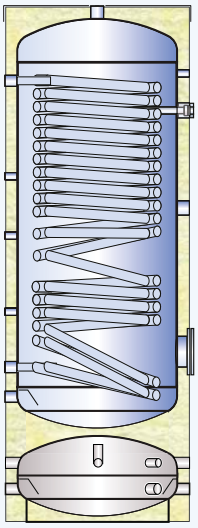
Thermometer

1"½ electric immersion heater



TW1X - Calorifier body in AISI 316L stainless steel
Hard insulation with rigid polyurethane foam and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	HEAT EXCHANGER (m^2) / (L) *	BUFFER CAPACITY (L)
TW1X 00200 R	50	B	59,9	189,8	1,90 / 18,6	42,0
TW1X 00300 R	50	B	69,2	290,3	3,50 / 34,3	58,0
TW1X 00400 R	50	B	78,0	414,9	4,50 / 44,1	74,0
TW1X 00500 R	50	B	83,0	500,3	5,70 / 55,9	74,0

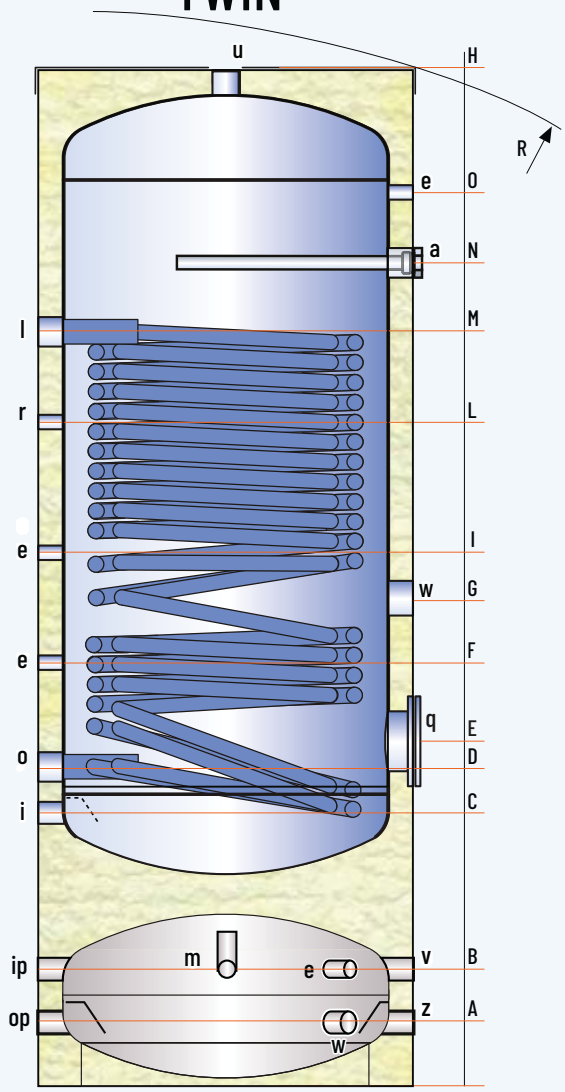


TW1V - Calorifier body in glass lined steel
Hard insulation with rigid polyurethane foam and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	HEAT EXCHANGER (m^2) / (L) *	BUFFER CAPACITY (L)
TW1V 00200 R	50	B	59,9	189,8	2,10 / 20,6	42,0
TW1V 00300 R	50	B	69,2	290,3	3,50 / 34,3	58,0
TW1V 00400 R	50	B	78,0	414,9	4,50 / 44,1	74,0
TW1V 00500 R	50	B	83,0	500,3	5,70 / 55,9	74,0

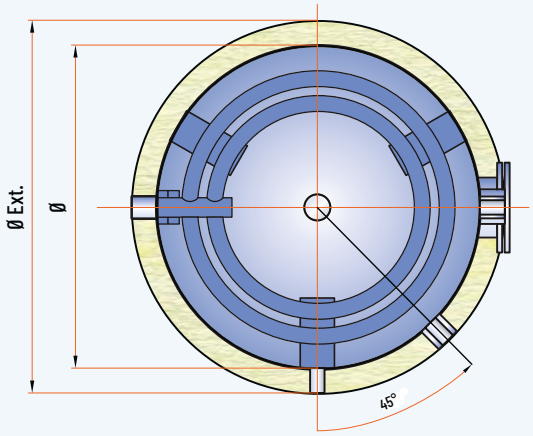
** Volume occupied by the heat exchanger and its support structure*

TWIN



LEGEND

- **a .** Magnesium anode
- **e .** Thermometer - Sensor
- **i .** Domestic cold water inlet
- **l .** Heat pump flow
- **o .** Heat pump return
- **q .** DHW inspection hatch
- **r .** Recirculation
- **u .** Domestic hot water outlet
- **w.** Opening for immersion heater
- **ip .** Heat pump flow to buffer vessel
- **op .** Heat pump return from buffer vessel
- **m .** Buffer vent
- **v .** Heating system flow
- **z .** Heating system return



MODEL	DIMENSIONS (mm) Ø	H	Ø EXT	R	HEAT EXCHANGER (m^2)	BUFFER VOLUME (L)	SS MODEL WEIGHT (kg)	GLASS LINED MODEL WEIGHT (kg)
TW1X 00200 R	450	1690	550	1790	1,90 *	42	79	-
TW1V 00200 R	450	1690	550	1790	2,10 *	42	-	93
TW1_ 00300 R	500	1980	600	2080	3,50	58	108	127
TW1_ 00400 R	650	1760	750	1925	4,60	74	131	154
TW1_ 00500 R	650	2000	750	2150	5,70	74	152	180

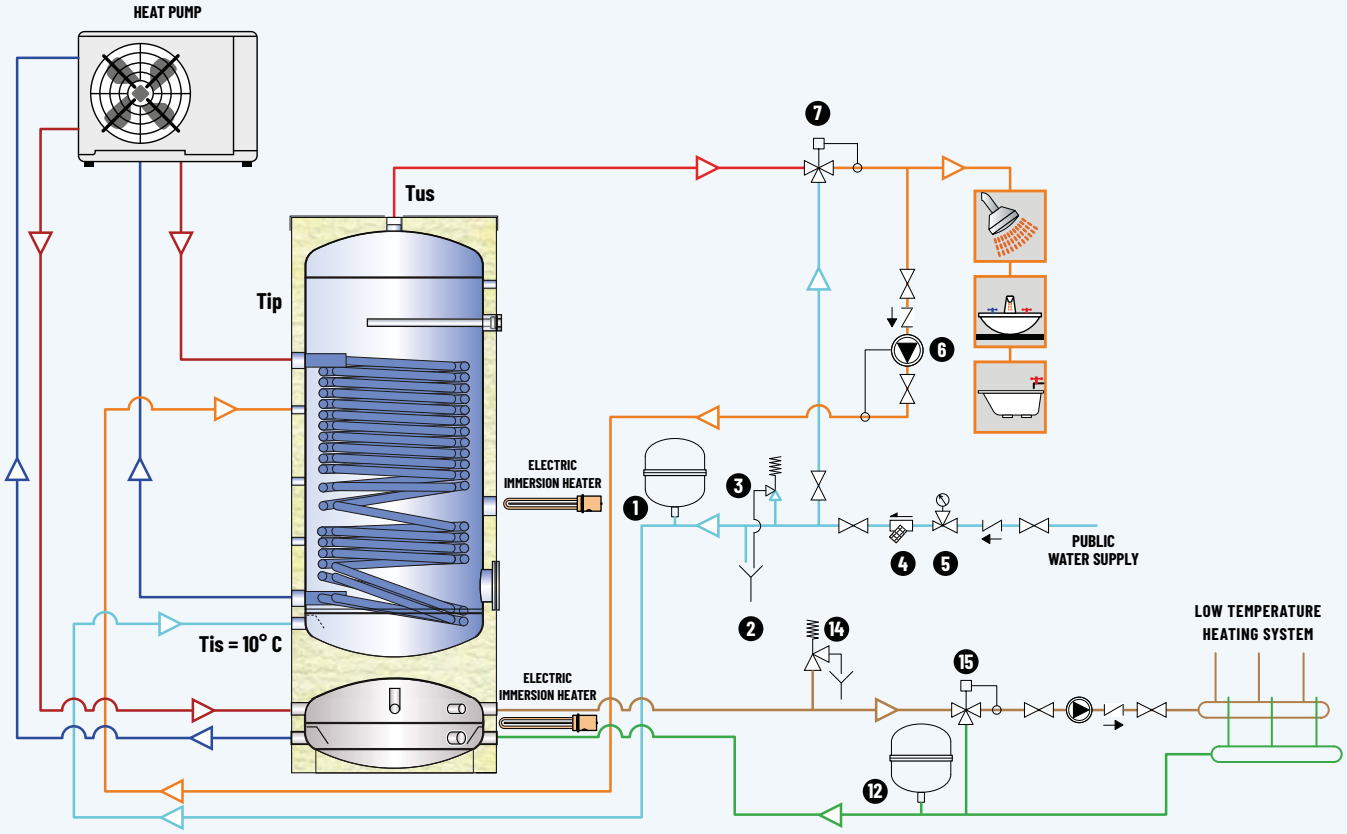
** Fixed single spiral coil*

MODEL	HEIGHTS (mm) A	B	C	D	E	F	G	I	L	M	N	O	CONNECTIONS (GAS) a	l o	e r m	i u v z i p o p	w	q
TW1_ 00200 R	105	300	487	580	650	730	1015	1015	1135	1470	1346	1480	1"¼	1"	½"	1"	1"½	120/180
TW1_ 00300 R	115	305	510	600	690	710	885	1180	1315	1510	1560	1765	1"¼	1"¼	½"	1"	1"½	120/180
TW1_ 00400 R	145	250	515	610	680	720	895	1050	1240	1375	1400	1510	1"¼	1"¼	½"	1"	1"½	120/180
TW1_ 00500 R	145	250	505	600	670	710	930	1168	1380	1610	1640	1750	1"¼	1"¼	½"	1"	1"½	120/180

Disclaimer: *this layout is purely indicative. It does not replace consultant's design*

LEGEND

1 . Domestic water expansion vessel
2 . Domestic water drain
3 . Domestic water safety valve (6 bar)
4 . Strainer
5 . Pressure reducing valve
6 . DWH Recirculation pump
7 . DHW 3-way valve
12 . Heating system expansion vessel
14 . Heating system safety valve
15 . 3-way valve low temperature heating system



	MODEL	TW1X 00200R				TW1V 00200R				TW1_ 00300R			
	HEAT EXCHANGER (m^2) [L] [1]	1,9 [13,5]				2,1 [14,9]				3,5 [24,9]			
	PRIMARY FLOW (m^3/h)	2				2				2			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	249	296	413	452	256	306	427	468	390	462	642	701
	LITRES FIRST HOUR [2]	595	872	1193	1425	633	932	1272	1523	962	1391	1880	2235
	CONTINUOUS DRAW (L) [3]	437	729	984	1229	476	791	1067	1332	722	1173	1565	1938
	POWER (kW)	18	30	40	50	19	32	43	54	29	48	64	79
	PREHEATING [3] (min)	29	17	12	10	27	16	11	9	29	17	12	10
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	260	291	-	-	267	301	-	-	406	455
	LITRES FIRST HOUR [2]	-	-	657	846	-	-	699	903	-	-	1057	1349
	CONTINUOUS DRAW (L) [3]	-	-	501	701	-	-	546	761	-	-	822	1129
	POWER (kW)	-	-	29	41	-	-	32	44	-	-	47,8	65,7
	PREHEATING [3] (min)	-	-	25	18	-	-	23	16	-	-	25	18
	NL [4]	4				4				11			

	MODEL	TW1_ 00400R				TW1_ 00500R			
	HEAT EXCHANGER (m^2) [L] [1]	4,5 [32,0]				5,7 [40,5]			
	PRIMARY FLOW (m^3/h)	3				3			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	546	643	896	977	658	771	1072	1165
	LITRES FIRST HOUR [2]	1305	1887	2562	3044	1571	2247	3037	3595
	CONTINUOUS DRAW (L) [3]	959	1571	2104	2612	1153	1865	2482	3070
	POWER (kW)	39	64	86	106	47	76	101	125
	PREHEATING [3] (min)	31	18	13	10	32	19	14	11
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	568	634	-	-	683	760
	LITRES FIRST HOUR [2]	-	-	1434	1831	-	-	1721	2182
	CONTINUOUS DRAW (L) [3]	-	-	1095	1512	-	-	1311	1796
	POWER (kW)	-	-	64	88	-	-	76,2	104,5
	PREHEATING [3] (min)	-	-	26	19	-	-	28	19
	NL [4]	20				30			

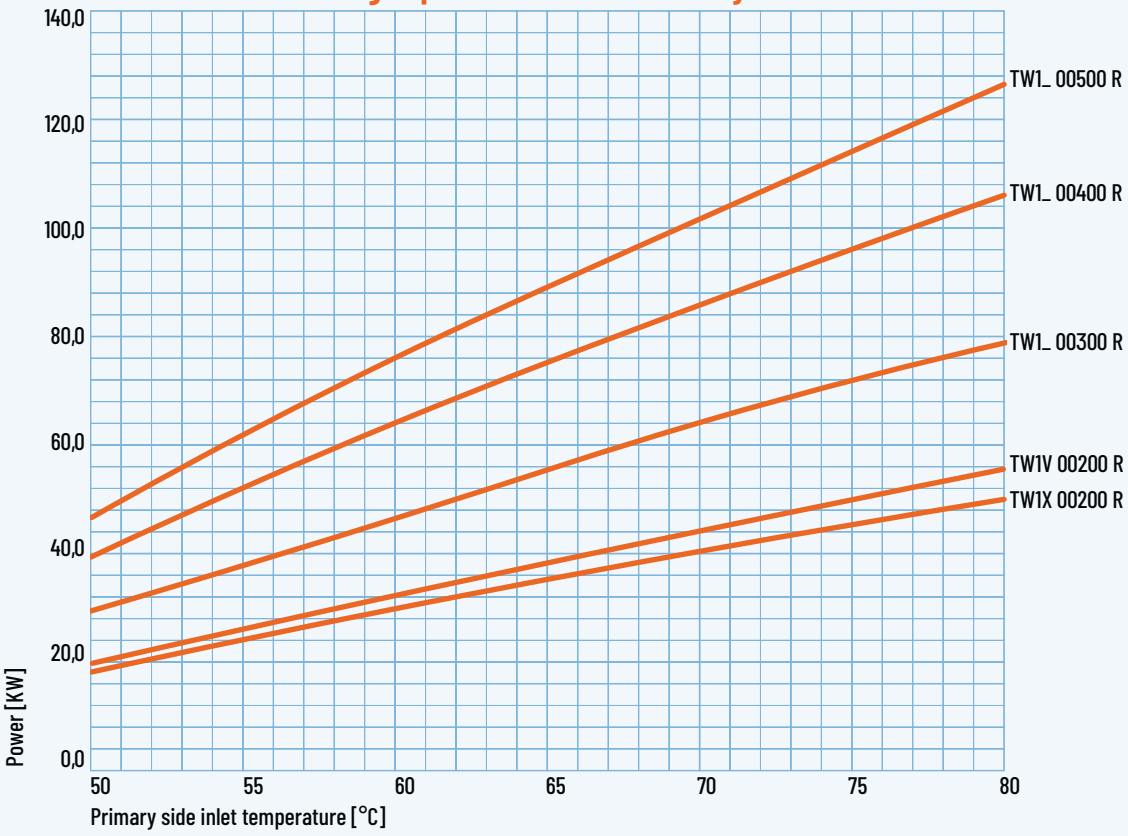
(1) Volume of fluid contained in the heat exchanger

(2) Obtainable with pre-heated cylinder (at 45 °C with primary side set at 50 or 60 °C and pre-heated at 60 °C in the other cases) and a running heat source

(3) With a proper power heat source generator

(4) Primary side 80 °C - Secondary side 10-45 °C

TWIN - Heat exchanger powers with secondary side at 10/45 °C



TWIN - Heat exchanger pressure drops