



**MANUAL TÉCNICO
MODELO BS1S-BS2S**



PRODUCTS RANGE DESCRIPTION

BS1S – BS2S Mg or Protech

Indirect Unvented cylinders with 1 or 2 coils.

Corrosion protection by Magnesium or Protech anode

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1. Generalities :



BS1S

- Type: Indirect Unvented cylinders with 1 coil
- Capacities : 150-200-300-400-500 liters

BS2S

- Type : Indirect unvented cylinders with 2 coils
- Capacities: 200-300-400-500 liters

BS1S - BS2S

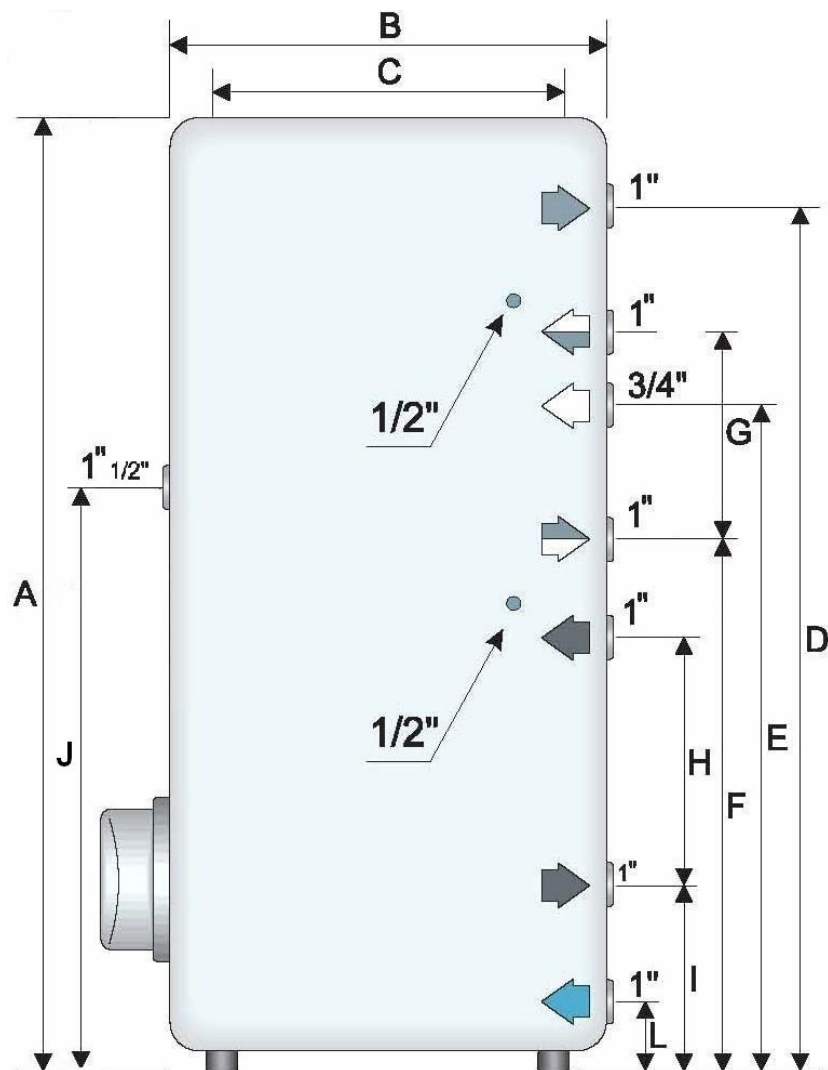
- Tank : Glasslined steel
- Heating : Coil, 1 for BS1S range, 2 for BS2S range
- Pressure regulation : Safety valve in accessories
- Insulation : Expanded PU without CFC and H CFC
- Accessories : Contact thermometer factory fitted
- Color : white

2. Ranges codification :

See .xls sheet enclosed

3. Products and packaging dimensions

✓ Products



	capacité	A	B	C	D	E	F	G	H	I	J	L
B S 1 S	150	1021	600	500	809	559	/	/	380	329	/	244
	200	1296	600	500	1084	996	/	/	580	329	/	244
	300	1806	600	500	1594	1390	/	/	920	329	/	244
	400	1515	714	630	1298	1022	/	/	507	315	/	215
	500	1831	714	630	1614	1149	/	/	644	305	/	205
B S 2 S	200	1296	600	500	1083	808	708	290	290	328	663	243
	300	1806	600	500	1894	1249	1149	360	714	329	1390	244
	400	1515	714	630	1298	1022	922	276	507	315	545	215
	500	1831	714	630	1614	1149	1049	386	644	305	682	205

All dimensions are in mm, B and C are diameters

Remarks :

For Protech Product, add 110 mm to dimensions A to obtain correct height.

✓ Packaging

- Magnesium Anode

➔ BS1S

Capacity (l)	Hight (mm)	width (mm)	depth (mm)
150	1220	660	730
200	1490	660	730
300	1970	685	770
400	1564	780	850
500	1880	780	850

➔ BS2S

Capacity (l)	Hight (mm)	width (mm)	depth (mm)
200	1490	660	730
300	1970	685	770
400	1564	780	850
500	1880	780	850

- Protech Range

➔ BS1S

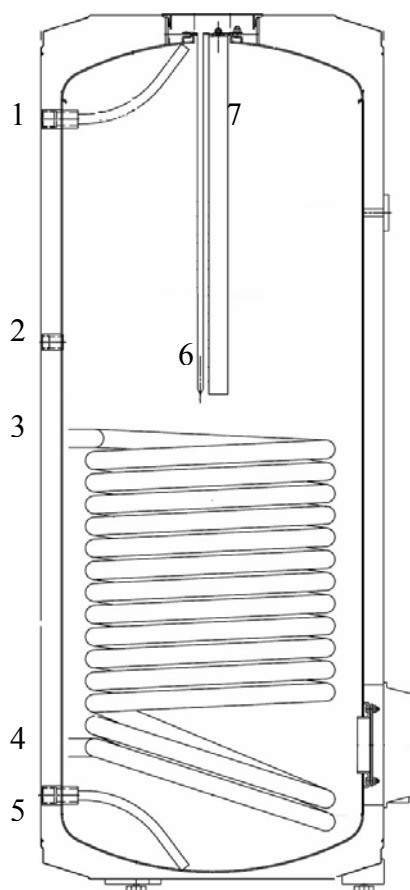
Capacity (l)	Hight	Width	Depth
150	1280	660	730
200	1550	660	730
300	2030	685	770
400	1635	780	850
500	1940	780	850

➔ BS2S

Capacity (l)	Hight (mm)	Width (mm)	Depth (mm)
200	1550	660	730
300	2030	685	770
400	1635	780	850
500	1940	780	850

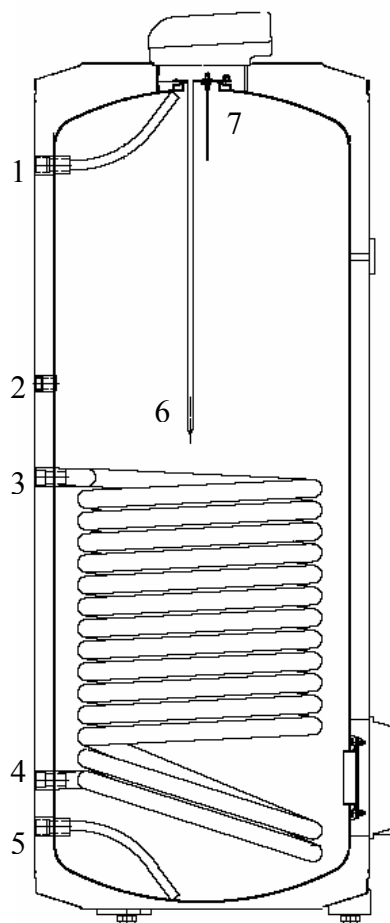
3. Coupe des produits :

BS1S - Magnesium

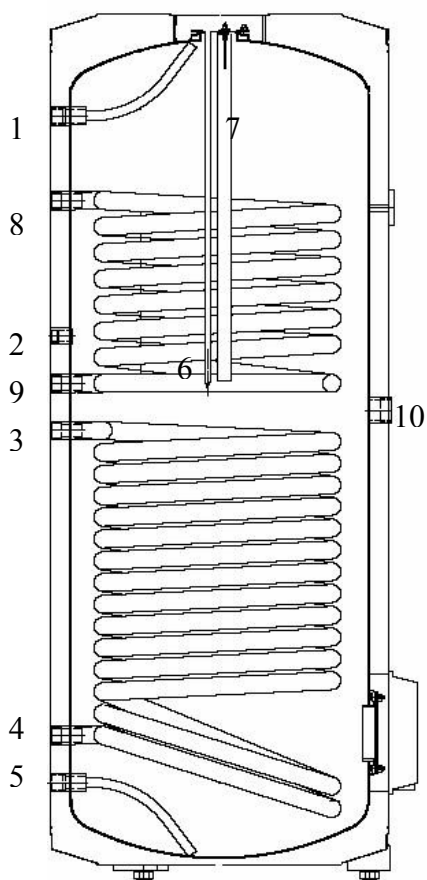


- 1.Hot water outlet
- 2.Hot water return
- 3.Primary circuit
- 4.Primary circuit
- 5.Cold water inlet
- 6.Thermostat Pocket
- 7.Corrosion protection anode

BS1S ProTech

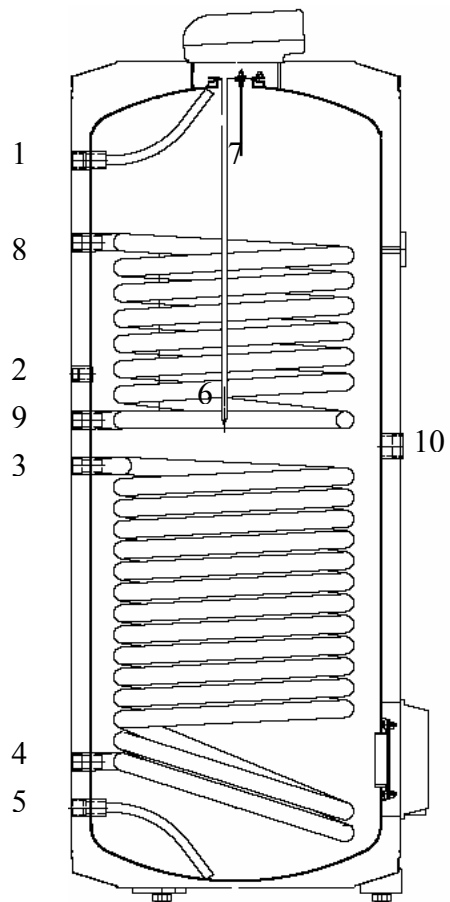


BS2S Magnesium



1. Hot water outlet
2. hot water return
3. Primary circuit
4. Primary circuit
5. Cold water inlet
6. Thermostat Pocket
7. Corrosion protection anode
8. Solar circuit
9. Solar circuit
10. Heating element tap

BS2S ProTech



5. Technicals datas :

✓ BS1S Magnesium and Protech

BS1S						
		150 L	200 L	300 L	400 L	500 L
Capacity	ltr.	150	200	290	390	480
Coil surface	m ²	1	1,5	2	2	2,5
Equivalent Power / Primary circuit flow rate : 2 m ³ /h – 80°C	kW	30,1	50,4	51,8	51,8	62,1
Continuous flow	l/h	739	1238	1273	1273	1526
Performance index	NL	6,5	12	14	14	19,9
Heating losses	Kwh/24h	1,6	2,1	2,5	2,7	2,7
Coil max working pressure	bar	10	10	10	10	10
Maximal temperature	°C	90	90	90	90	90
Net weight	kg	87	101	141	125	160
Gross weight	kg	102	116	156	140	175
Heating time with delta 35°C (Primary circuit at 80°C)	1 m ³	15	15	20	24	27
	3 m ³	12	10	14	18	18
	5 m ³	11	9	12	16	16
Outlet max flow rate at delta 35°C (Primary circuit at 80°C)	1 m ³	590	811	892	892	1078
	3 m ³	739	1238	1273	1273	1526
	5 m ³	811	1351	1442	1442	1727
Coil pressure losses (mbar)	1m ³	38	34	87	87	100
	3m ³	126	140	190	190	216
	5m ³	306	503	392	392	440

✓ BS2S Magnesium and Protech

BS 2S						
			200 L	300 L	400 L	500 L
Capacity	Lower Coil	ltr.	190	280	380	470
Coil surface		m²	0,85	2	2	2,5
Equivalent Power / Primary circuit flow rate : 2 m³/h – 80°C		kW	28	51,8	51,8	62,1
Continuous flow		l/h	688	1273	1273	1526
Performance index		NL	6	14	14	19,9
Coil surface	Upper Coil	m²	0,85	0,9	0,9	1,3
Equivalent Power / Primary circuit flow rate : 2 m³/h – 80°C		kW	28	28,7	28,7	37,3
Continuous flow		l/h	688	705	705	916
Performance index		NL	6	6	6	9
Heating losses		Kwh/24h	2.1	2,7	2,8	2,9
Coil max working pressure		bar	10	10	10	10
Max temperature		°C	90	90	90	90
Net weight		kg	109	153	141	179
Gross weight		kg	134	168	156	194
Heating time with delta 35°C (Primary circuit at 80°C)	Upper coil	1 m³	33	30	15	21
		3 m³	24	24	12	15
		5m³	23	22	11	12
	Lower coil	1 m³	33	19	24	27
		3 m³	24	13	18	18
		5m³	23	12	16	16
Outlet max flow rate at delta 35°C (Primary circuit at 80°C)	Upper coil	1 m³	516	565	565	668
		3m³	688	705	705	916
		5 m³	744	749	749	1044
	Lower coil	1 m³	516	892	892	1078
		3 m³	688	1273	1273	1526
		5 m³	744	1442	1442	1727
Coil pressure losses (mbar)	Upper coil	1 m³	33	33	33	50
		3 m³	115	115	115	147
		5 m³	296	296	296	331
	Lower coil	1 m³	87	87	87	100
		3 m³	190	190	190	216
		5 m³	392	392	392	440

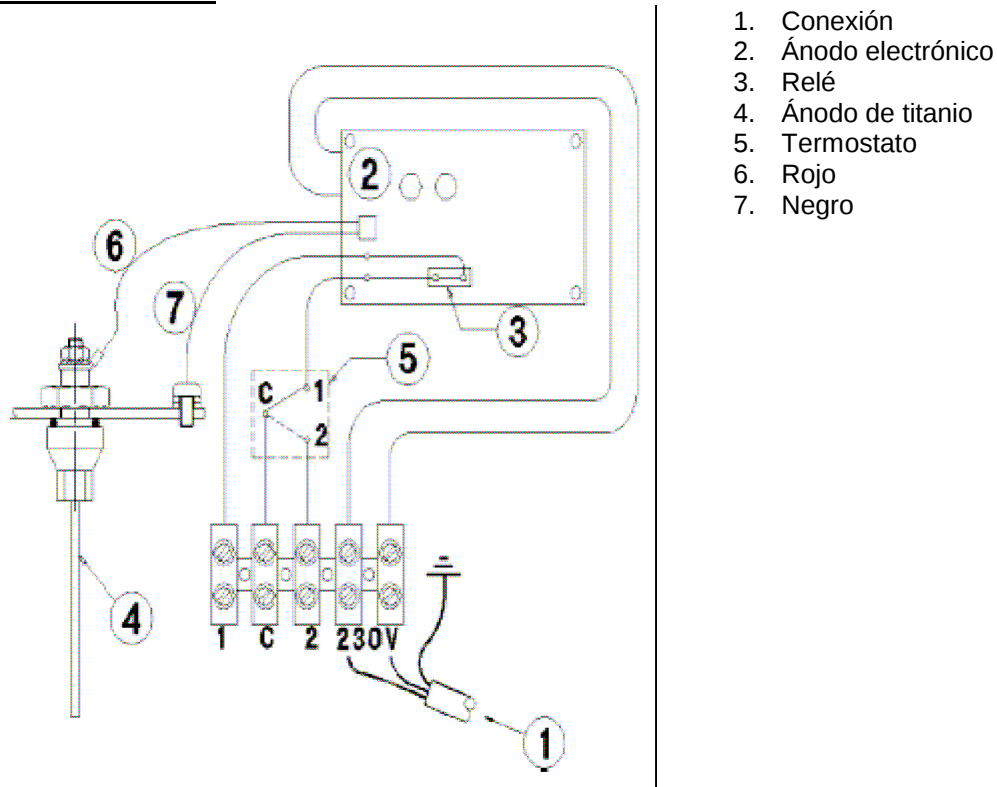
CONEXIÓN ANODO DE TITANIO EN TANQUES PROTECH

El ánodo electrónico de titanio genera una diferencia de potencial constante que protege al tanque de la corrosión. En los tanques con ánodo de magnesio la protección aparece como consecuencia de estar en contacto con el agua dos metales distintos de distinto potencial electroquímico, tenemos por lo tanto un cátodo (tanque de acero) y un ánodo (magnesio que se consume) y una diferencia de potencial natural entre ellos que es muy variable a lo largo de la vida útil del tanque.

El ánodo de titanio electrónico tiene estas ventajas frente al sistema tradicional:

- No existe variación a lo largo del tiempo de la corriente electrónica protectora.
- Inexistencia de residuos como los que despiden el ánodo de magnesio.
- Libre de mantenimiento (no necesita cambiarse el ánodo cada ciertos periodos)

Conexión eléctrica:



Para seguridad los acumuladores PROTECH cuentan con un sistema de interrupción del calentamiento en caso de protección incorrecta contra la corrosión.

- Se debe conectar permanentemente la alimentación eléctrica de 230V a los bornes de 230V del ánodo electrónico.
- El circuito eléctrico de la bomba se conecta a los contactos NC (normalmente cerrados) utilizando los bornes 1-C.
- Si la instalación no cuenta con un termostato se puede utilizar los contactos NC para interrumpir la alimentación de una bomba circuladora o la válvula de tres vías.

Los acumuladores con tecnología PROTECH poseen dos luces indicadoras en el frente:

Luz Verde: La corriente protectora es la correcta, el tanque puede calentarse por lo tanto el circuito electrónico habilita el funcionamiento del termostato, bomba, etc.

Luz Roja: La corriente protectora es débil y se produce por lo tanto el corte de suministro a los accesorios que intervienen en el calentamiento. Controlar en este caso si el acumulador está lleno de agua.

ATENCION!!:

Esta protección funciona solamente si el termostato, bomba, V3V, etc. fue conectado pasando por los bornes 1-C. Si no es así el tanque puede funcionar durante tiempo indeterminado sin protección anticorrosiva.

6. Products strength

✓ Wide range

Product range very wide, from 150 up to 500 liters for BS1S and from 200 up to 500 liters for BS1S allowing domestic and semi industriel application.

Corrosion Protection system either with classic Magnesium Anode or with MTS Protech solution.

Wide range of accessories to fit any specific requirements.

✓ PolyUrethane Insulation

- Low heating losses – Ok according to German standard
- Ozone Friendly – No CFC and H CFC
- In accordance with switzerland laws

✓ Corrosion Protection with either Magnesium rod or Protech

Magnesium

- Self working corrosion protection system with magnesium rod
- Long tank live
- Anode consumption speed according to water quality
- Anode dimensions and weight according to german norm (DIN 4753)

Protech :

- Forced tank corrosion system with external tension supply
- Titanium rod, not consumable
- Permanent control and adjustment of protection current-tension
- Protection quality not link to water quality
- Artificial current for Titanium rod to Tank forces Calcium anode to deposit themselves on the internal tank walls. This deposit increases the corrosion protection.
- Very long life tank
- Water quality maintain – No pollution with magnesium deposit and not possible bad smell.
- Auto diagnostic and easy maintenance. Red light switch on in case of corrosion protection trouble.
- Default signal free voltage contact at installer disposal. This contact is opened when electronic detects a protection corrosion default and red light is switched on. By using this contact in series with the sanitary circulator, the final customer can be advised of a default on its installation.

✓ Glasslined tank

- Glasslined at 850°C
- High level of corrosion protection
- In accordance with DIN 4753 principles
- Titanium glasslined
- High mechanical resistance

✓ Hot water return tapping

- Thanks to this tapping, a recirculation between the furthest hot water delivery point and the tank is possible.
- Quick hot water availability
- Cancel the water stagnation within the pipe and decrease the bacteria proliferation risk.
- Work with either natural circulation or circulator

✓ Hot and Cold water Stainless steel pipe

- Stainless steel pipes.
- Pipes ends with plastic protection.
 - Avoid galvanic corrosion between insert and tank
 - Less water leakage



- Specific cold water pipe to decrease water speed and increase water stratification

- Better hot water flow



✓ Large coil superficies

- Hight equivalent power
- Hight hot water continuous flow rate
- Last coil ring specifical orientated to tank bottom in order to heat up the complete tank water volume and avoid cold area. Anti-bacteria proliferation
- Optimal heating efficiency

✓ Working pressure up to 10 bars

- According to german standard
- Additional safety for contry working with a 7 bars safety valve

✓ Wooden pallet fixation

- Product screws on wooden pallet
- Easy manutention
- Forklift manutetion is possible
- Robust packaging



✓ 110 mm lateral flange

- Available on 200 – 300 – 400 – 500 models
- Easy access to internal tank for maintenance operation
- Easy installation of accessories ranges (see paragraph 7)

✓ Cable gland on Plastic cover for 2 wiring

- Hold and tight the cables with the plastic cover



✓ Adjustable feet

- Easy installation and verticality adjustment

7. Accessories definition

✓ 3 Kw – Electrical kit for 110 mm flange (Code 935118)

- Heater and seals
- Cables plastic pocket
- Thermostat
- Wiring sheet



✓ 6 Kw – Electrical kit for 110 mm flange - 400 – 500 litres (Code 935119)

- Heater and seal
- Cable plastic pocker
- Bulb thermostat
- White cover
- Wiring sheet



✓ Bulb thermostat on top Cover – Magnesium range Only (Code 935360)

✓ Bulb thermostat on top Cover – Protech range Olly (Code 935392)



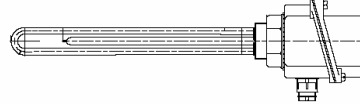
✓ 1 m² copper coil for 110 lateral range (réf. Kit 935362)

- 1 m² copper coil
- Nuts set
- Seal
- 2 dielectrical fittings
- 2 grey lateral cover with specific openings



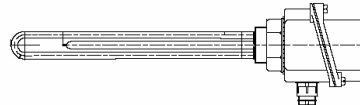
✓ 2,5 Kw/230V – Electricl kit for 1 ½” tapping of solar products (Code 935394)

- Screw in heater
- 2,5 Kw thermostat
- IP 21



✓ 1,5 Kw/230V – Electricl kit for 1 ½” tapping of solar products (Code 935393)

- Screw in heater
- 1,5 Kw thermostat
- IP 21



8 . Characteristic tags description

on each product is glued a characteristic tag with

- ✓ Article number
- ✓ Model
- ✓ Capacity
- ✓ Heating losses
- ✓ Coil surface
- ✓ Coil equivalent power
- ✓ Temperature maximale
- ✓ Coil max pressure
- ✓ Tank maximum working pressure
- ✓ NL – performance index
- ✓ Tank material
- ✓ CE mark
- ✓ Fabricant number
- ✓ Bar codes

Code / Artikel-Nr / N° Article / Kod produktu	512553210990	
Type / Ausführung / Modèle / Model	BS 1S 200-MG	
Capacity / Speichereinheit / Capacité / Pojemność	200	L
Heat losses / Bereitschaftswärmeaufwand / Pertes thermiques / Straty ciepła	2.1	Kwh/24h
Coil surface / Heizfläche / Surface Serpentin / Powierzchnia węzownicy	1.5	m²
Coil power / Leistung Wärmetauscher / Puissance serpentin / Moc cieplna węzownicy	50.4	Kw
Max. temperature / Max. Temperatur / Temp Maximale / Maksymalna temperatura pracy	90	°C
Coil Max working pressure / Max. zul. Betriebsdruck Wärmetauscher / Pression max serpentin / Maksymalne ciśnienie pracy węzownicy	10	Nom²
Tank Max working pressure / Max. zul. Betriebsdruck / Pression max de service Cuve / Maksymalne ciśnienie pracy zbiornika	10	Nom²
Maksymalne ciśnienie pracy zbiornika (dla Polski)	7	Nom²
NL	12	
Tank material / Werkstoff - Speicher / Matière de la cuve / Materiał zbiornika	Glasslined steel	
	Stahl emailiert	
	Acier emailé	
CE		
FAB 407		

0032450001321099

Remarks : Seril number explanation

16 digit serial number to be read as : AAABBBCCCCDDDDDD

- AAA = Year. 003 = 2003
- BBB = Day number in the yeart : 001=january the first
- CCCC = Incremental number in the day : 00001 = First product of the day.
- DDDDDD = Code number complete for Namur product – Part of code number for chartres products.