

EUROBOILERS

**GARIONI NAVAL**  
INDUSTRIAL AND MARINE HEATING SYSTEMS

STEAM BOILERS AND THERMAL OIL HEATERS



**THERMAL OIL  
HEATERS**

**CALDAIE AD OLIO  
DIATERMICO**

# TECHNICAL DATA AND TECHNICAL DRAWINGS

w w w . g a r i o n i n a v a l . c o m

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C.C.I.A.A. BS n. 0332624 - R.S. Reg. Trib. BS n. 46984 - Cap. Soc. € 2.000.000,00 i.v. - P.IVA e Cod. Fisc. 031484/0179



# "TH" - "TH-V" THERMAL OIL HEATER

w w w . g a r i o n i n a v a l . c o m

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## THERMAL OIL HEATERS TH – TH V

TH thermal oil heaters are completely free of the presence of pressure in the boiler line. These boilers utilise a fluid (thermal oil) which, in an open vessel system, is heated to a temperature below boiling point.

The main benefit of the use of thermal oil is the availability of high temperature fluid (up to 310°C) without pressure.

Moreover, by means of thermal oil heaters, using an oil/steam exchanger (unfired steam generator) it is possible to produce steam at pressures of up to 25 bar .

Our TH series thermal oil heaters are distinguished because of their:

- **Low thermal inertia**, due to the minimisation of the amount of refractory material and the use of ceramic fibre.
- **Low oil contents** ensuring fast heating to operating temperature.
- **Guaranteed perfect circulation and flow rate of oil** in the boiler thanks to the creation of coils with one or more parallel tube, perfectly identical one to the next.
- **Horizontal or vertical layout**, with **three pass firetubes**.
- **High efficiency (87% with oil at 260°C)** thanks to perfect exploitation of the exchange surfaces.
- **Facility for installation of various heat recovery systems** to increase efficiency up to 93%.
- **Immediate assistance service**, thanks to the use of primary brand commercial burners. On-the-spot after-sales service.

*The quality of TH steam generators is anyway assured by the ISO 9001 total quality certification secured by our company.*

w w w . g a r i o n i n a v a l . c o m

## SCOPE OF SUPPLY

### **1.0 BOILER BODY**

- 1.1 **CYLINDRICAL SHELL**, made of suitable gauge carbon steel sheet, containing the heating element, complete with suitably reinforced heads and, on request, departing from the standard solution, with a circular section stack connection.
- 1.2 **HEATING ELEMENT** comprising a "single tube" coil with one or more turns in accordance with the thermal capacity, wound into a continuous loop spiral. Made of ASTM 106, grade B, schedule 40 non-alloy steel tube for applications with wall temperatures of up to 450°C. Internal rear skin casing made of high temperature resistant steel clad with refractory cement, to provide a flue gas seal between the first and second firetubes.
- 1.3 Ring, made of refractory steel, to provide a flue gas seal on the first pass in the combustion chamber.
- 1.4 **EXTERNAL REAR DOOR**, for horizontal models only, openable, bolted into position, with circular section stack connection. Clad with cast-in-place insulating cement.
- 1.5 **FRONT DOOR**, for horizontal models only, hinged up to model TH 1000 inclusive, bolted from model 1250, complete with flame inspection hole and burner mounting plate, clad with cast-in-place refractory and insulating cement, to provide a flue gas seal between the second and third passes.
- 1.6 **UPPER DOOR**, only for vertical models, openable, bolted into position, complete with flame inspection hole, burner mounting plate, and clad with cast-in-place refractory and insulating cement.
- 1.7 Flue gas sealing gaskets in ceramic fibre braid.
- 1.8 **MANIFOLDS** complete with flanged oil inlet/outlet connections, probe connections and control and safety instruments.
- 1.9 Skid made of structural steel sections supporting the boiler assembly and its accessories.
- 1.10 Painting of shell, heads, doors and skid utilising a process involving cleaning and degreasing of metal surfaces followed by the application of two coats of one-pack high temperature matt enamel paint.
- 1.11 **INSULATING LINING OF THE SHELL** with 100 mm thick 100 density rock wool matting covered with sheet metal.

### **2.0 REGULATING AND CONTROL EQUIPMENT**

- 2.1 Limit thermostat
- 2.2 Steam control thermostat (2-stage models only)
- 2.3 Oil inlet /outlet glycerine pressure gauges, 0...6 bar scale, with 3-way cocks and test flange.
- 2.4 Oil inlet digital temperature gauge
- 2.5 Oil outlet digital temperature gauge.
- 2.6 **Gariomatic** digital control and monitoring system

### **3.0 SAFETY DEVICES**

- 3.1 Differential pressure switch for minimum oil flow rate.
- 3.2 Manual reset safety thermostat for maximum oil temperature.
- 3.3 Temperature regulator and controller

#### **4.0 ELECTRICAL AND CONTROL PANEL**

- 4.1 IP 44 enclosure
- 4.2 IP 55 enclosure on request
- 4.3 Main door lock master switch
- 4.4 Diathermic oil circulator pump contactor
- 4.5 Relays
- 4.6 Fuses
- 4.7 Indicator lights
- 4.8 Numbered terminal board
- 4.9 24V control circuits transformer
- 4.10 Electronic control module with microprocessor board
- 4.11 Polycarbonate keyboard with 12 keys for selection and setup of operating parameters.
- 4.12 **Gariomatic** digital control and monitoring system for display of operating parameters and indication, logged to the memory, of the causes of any trip conditions.
- 4.13 Burner start switch
- 4.14 Oil circulator pump start switch
- 4.15 Emergency pushbutton.

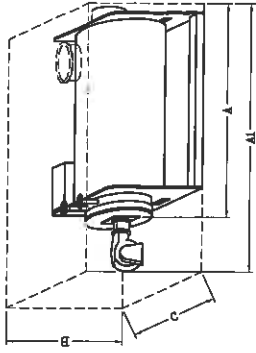
#### **5.0 DIATHERMIC OIL CIRCULATION UNIT**

- 5.1 Single stage single inlet centrifugal pump, composed of:
  - Scroll housing made of spheroidal cast iron
  - Chromium steel shaft
  - Cast iron impeller
  - Self-cooled mechanical seal
- 5.2 Totally enclosed fan-over motor (2900 rpm)
- 5.3 Flexible coupling for direct drive transmissions
- 5.4 Flexible coupling guard

Type		TH 100	TH 200	TH 300	TH 400	TH 500	TH 600	TH 800	TH 1000	TH 1250	TH 1500	TH 2000	TH 2500	TH 3000	TH 4000	TH 5000	TH 6000	TH 7000
Capacity	kcal/h	100.000	200.000	300.000	400.000	500.000	600.000	800.000	1.000.000	1.250.000	1.500.000	2.000.000	2.500.000	3.000.000	4.000.000	5.000.000	6.000.000	7.000.000
	kW	116	233	349	465	582	698	930	1.163	1.454	1.745	2.326	2.908	3.489	4.652	5.815	6.978	8.141
Efficiency 140-180°C	Btu/h	400.000	800.000	1.200.000	1.600.000	2.000.000	2.400.000	3.200.000	4.000.000	5.000.000	6.000.000	8.000.000	10.000.000	12.000.000	16.000.000	20.000.000	24.000.000	28.000.000
	% ±1	90,0	88,0	88,0	89,0	89,0	88,5	89,0	89,5	89,5	89,5	89,5	89,5	90,0	89,5	89,5	89,5	89,0
Efficiency 240-280°C	% ±1	87,0	85,0	85,0	86,0	86,5	86,0	87,0	86,0	86,0	86,0	86,0	86,0	86,5	86,0	86,5	85,0	85,0
Oil inlet temperature	°C	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240
Oil outlet temperature	°C	280	280	280	280	280	280	280	280	280	280	280	280	280	280	280	280	280
Oil content	liters	44	44	92	98	114	147	254	254	453	518	767	1.314	1.520	1.989	2.833	3.127	3.350
Heated surface	m²	6,7	6,7	10,5	12,8	14,7	16,5	28,0	28,0	38,0	43,0	65,0	85,0	98,0	130,0	180,0	200,0	200,0
Smokes temperature 240-280°C	°C	380	380	385	345	340	380	350	365	370	360	370	380	350	360	330	340	350
Furnace volume	m³	0,097	0,097	0,174	0,252	0,284	0,294	0,662	0,662	0,913	1,350	3,126	4,788	5,362	6,209	12,379	14,298	14,298
Furnace thermal load	kcal/hm²	1.148.211	2.348.613	1.953.636	1.786.828	1.977.461	2.304.778	1.358.600	1.688.763	1.530.515	1.241.077	714.857	583.412	621.612	719.844	451.311	468.878	468.878
Oil pressure drop 240-280°C	m oil	9	28	21	14	23	16	14	22	11	17	19	19	30	29	26	26	30
Pressure drop diagram		102-TTC R1	102-TTC R1	102-TTC R1	102-TTC R1	103-TTC R1	103-TTC R1	103-TTC R1	104-TTC R1	104-TTC R1	105-TTC R1	105-TTC R1	105-TTC R1	106-TTC R1	106-TTC R1	106-TTC R1	106-TTC R1	106-TTC R1
Furnace pressure drop	mm H <sub>2</sub> O	20	30	35	40	45	60	80	80	85	90	90	100	100	110	120	120	120
Furnace diameter	mm	370	370	460	480	480	460	600	600	650	770	1.090	1.275	1.275	1.245	1.710	1.680	1.680
Furnace total length	mm	900	900	1.050	1.390	1.570	1.770	2.340	2.340	2.750	2.900	3.350	3.750	4.200	5.100	5.390	6.450	6.450
Pipes Nr. each internal/external coil		1	1	1	2	2	2	3	3	3	3	4	3	3	4	5	6	7
Pipes Diameter	mm	38,0	38,0	48,3	42,2	42,2	48,3	48,3	48,3	60,3	60,3	60,3	76,1	76,1	76,1	76,1	76,1	76,1
Pipes Thickness	mm	3,2	3,2	3,68	3,56	3,56	3,68	3,68	3,68	3,91	3,91	3,91	3,6	3,6	3,6	3,6	3,6	3,6
Smoke passes scheme		TH 1112 R0	TH 1112 R0	TH 1112 R0	TH 1112 R0	TH 1112 R0	TH 1112 R0	TH 1112 R0	TH 1112 R0	TH 1113 R0	TH 1113 R0	TH 1114 R0	TH 1114 R0	TH 1114 R0	TH 1114 R0	TH 1114 R0	TH 1114 R0	TH 1114 R0
Table drawing data sheet		TH 1212 R0	TH 1212 R0	TH 1212 R0	TH 1212 R0	TH 1212 R0	TH 1212 R0	TH 1212 R0	TH 1212 R0	TH 1212 R0	TH 1212 R0	TH 1212 R0	TH 1212 R0	TH 1212 R0	TH 1212 R0	TH 1212 R0	TH 1212 R0	TH 1212 R0
P & I standard		PID 1377 R0	PID 1377 R0	PID 1377 R0	PID 1377 R0	PID 1377 R0	PID 1377 R0	PID 1377 R0	PID 1377 R0	PID 1377 R0	PID 1377 R0	PID 1377 R0	PID 1377 R0	PID 1377 R0	PID 1377 R0	PID 1377 R0	PID 1377 R0	PID 1377 R0
External drawing		TH 1083 R2	TH 1119 R0	04-0067 R4	TH 1065 R0	TH 1145 R0	TH 1097 R1	TH 1049 R2	TH 1080 R2	TH 1115 R0	TH 1083 R3	TH 1067 R1	TH 1058 R2	04-0076 R7	PID 1377 R0	PID 1377 R0	PID 1377 R0	PID 1377 R0
External drawing with one pump			TH 1062 R0		TH 1055 R0	TH 1066 R0	TH 1117 R0	TH 1048 R0	255 TH 06 R0			TH 1105 R2						
External drawing with two pumps					06-0421 R2					TH 1027 R0								
Electrical diagram		GNS 086-05	GNS 086-05	GNS 086-05	GNS 086-05	GNS 086-05	GNS 086-05	GNS 086-05	GNS 086-05	GNS 086-05	GNS 086-05	GNS 086-05	GNS 086-05	GNS 086-05	GNS 086-05	GNS 086-05	GNS 086-05	GNS 086-05
Installation length (burner excluded)	mm	1.700	1.700	2.400	2.400	2.400	2.400	3.350	3.350	3.750	4.000	4.300	4.700	5.300	6.200	6.300	7.360	7.850
Installation length (burner included)	mm	2.000	2.000	3.000	3.000	3.000	3.000	4.150	4.150	4.600	4.800	5.400	5.650	6.400	7.500	8.150	9.250	9.800
Installation width (cabinet included)	mm	1.300	1.300	1.400	1.400	1.400	1.400	1.650	1.650	1.700	1.700	2.200	2.400	2.400	2.350	2.400	2.770	2.750
Installation height	mm	1.600	1.600	1.600	1.600	1.600	1.600	1.750	1.750	1.850	2.000	2.200	2.650	2.400	2.650	2.910	2.950	3.200
Empty weight (burner excluded)	kg	700	700	1.100	1.100	1.200	1.850	1.950	1.950	2.800	3.200	5.000	6.500	7.100	8.500	12.600	13.500	14.200
Chimney dimension	DIN 86044	ø180	ø180	ø250	ø250	ø250	ø250	ø350	ø350	ø350	ø450	ø450	ø550	ø550	ø700	ø750	ø800	ø800
Oil inlet	PED CERTIF.	DN32 PN16	DN32 PN16	DN50 PN16	DN65 PN16	DN65 PN16	DN65 PN16	DN80 PN16	DN100 PN16	DN100 PN16	DN125 PN16	DN125 PN16	DN150 PN16	DN150 PN16	DN200 PN16	DN200 PN16	DN200 PN16	DN250 PN16
Oil outlet	PED CERTIF.	DN32 PN16	DN32 PN16	DN50 PN16	DN65 PN16	DN65 PN16	DN65 PN16	DN80 PN16	DN100 PN16	DN100 PN16	DN125 PN16	DN125 PN16	DN150 PN16	DN150 PN16	DN200 PN16	DN200 PN16	DN200 PN16	DN250 PN16
Oil inlet	ASME STAMP	1 1/2" - 300#	1 1/2" - 300#	2" - 300#	2 1/2" - 300#	2 1/2" - 300#	2 1/2" - 300#	3" - 300#	4" - 300#	4" - 300#	5" - 300#	5" - 300#	6" - 300#	6" - 300#	8" - 300#	8" - 300#	8" - 300#	10" - 300#
Oil outlet	ASME STAMP	1 1/2" - 300#	1 1/2" - 300#	2" - 300#	2 1/2" - 300#	2 1/2" - 300#	2 1/2" - 300#	3" - 300#	4" - 300#	4" - 300#	5" - 300#	5" - 300#	6" - 300#	6" - 300#	8" - 300#	8" - 300#	8" - 300#	10" - 300#
Transport length (burner excluded)	mm	1.700	1.700	2.400	2.400	2.400	2.400	3.350	3.350	3.750	4.000	4.300	4.700	5.300	6.200	6.300	7.360	7.850
Transport length (burner included)	mm	2.000	2.000	3.000	3.000	3.000	3.000	4.150	4.150	4.600	4.800	5.400	5.650	6.400	7.500	8.150	9.250	9.800
Transport width	mm	1.300	1.300	1.400	1.400	1.400	1.400	1.650	1.650	1.700	1.700	2.200	2.400	2.400	2.350	2.400	2.770	2.750
Transport height	mm	1.600	1.600	1.600	1.600	1.600	1.600	1.750	1.750	1.850	2.000	2.200	2.650	2.400	2.650	2.910	2.950	3.200
Transport weight (burner excluded)	kg	700	700	1.100	1.100	1.200	1.850	1.950	1.950	2.800	3.200	5.000	6.500	7.100	8.500	12.600	13.500	14.200
Oil filling pump	600 liters/h	PMP 1138 R0	PMP 1138 R0	PMP 1138 R0	PMP 1138 R0	PMP 1138 R0	PMP 1138 R0	PMP 1138 R0	PMP 1138 R0	PMP 1138 R0	PMP 1138 R0	PMP 1138 R0	PMP 1138 R0	PMP 1138 R0	PMP 1138 R0	PMP 1138 R0	PMP 1138 R0	PMP 1138 R0
Circulation pump usually not included																		
Oil pressure drop	m oil	9	28	21	14	23	16	14	22	11	17	19	19	30	28	29	26	30
Circulation pump capacity required	m³/h	5,0	10,0	15,0	20,0	25,0	30,0	40,0	50,0	62,5	75,0	100,0	125,0	150,0	200,0	250,0	300,0	350,0
Head	m	40	40	40	40	40	40	40	40	40	47	47	47	56	56	56	56	56
NPSH	m	1,37	1,10	1,10	1,30	1,83	3,20	3,20	2,40	3,42	3,42	4,26	5,52	4,85	6,00	7,93	9,32	
Model	ALLWEILER	NTT 25-200	NTT 32-160	NTT 32-160	NTT 32-160	NTT 32-160	NTT 32-200	NTT 40-200	NTT 50-200	NTT 50-200	NTT 65-200	NTT 65-200	NTT 65-200	NTT 80-200	NTT 80-200	NTT 100-250	NTT 100-250	
Absorbed power	kW	2,0	2,2	2,7	3,0	3,5	4,9	5,5	6,0	6,9	9,9	12,6	15,6	24,2	31,0	37,5	45,6	
Installed power	kW	3,0	3,0	4,0	4,0	5,5	7,5	7,5	7,5	11,0	15,0	15,0	18,5	30,0	37,0	45,0	55,0	
Impeller diameter	mm	170	170	170	170	170	170	180	180	181	178	182	190	210	220	230	215	
Feeding connection		DN 32	DN 32	DN 32	DN 32	DN 32	DN 32	DN 40	DN 50	DN 65	DN 65	DN 65	DN 65	DN 80	DN 80	DN 80	DN 100	
Burned power	kW	129	264	396	523	653	788	1.045	1.299	1.624	1.949	2.599	3.249	3.877	5.198	6.497	7.797	9.147
Smoke flow (natural gas)	kg/h	188	385	577	761	951	1148	1522	1891	2364	2837	3783	4729	5643	7566	9457	11349	13315
Smoke flow (diesel oil)	kg/h	183	375	563	742	927	1119	1483	1844	2305	2766	3687	4609	5500	7375	9218	11062	12978
Smoke flow (heavy fuel)	kg/h	191	391	587	774	967	1167	1548	1924	2404	2885	3847	4809	5739	7694	9618	11541	13541
Burner head length	mm	170	170	170	320	320	3											

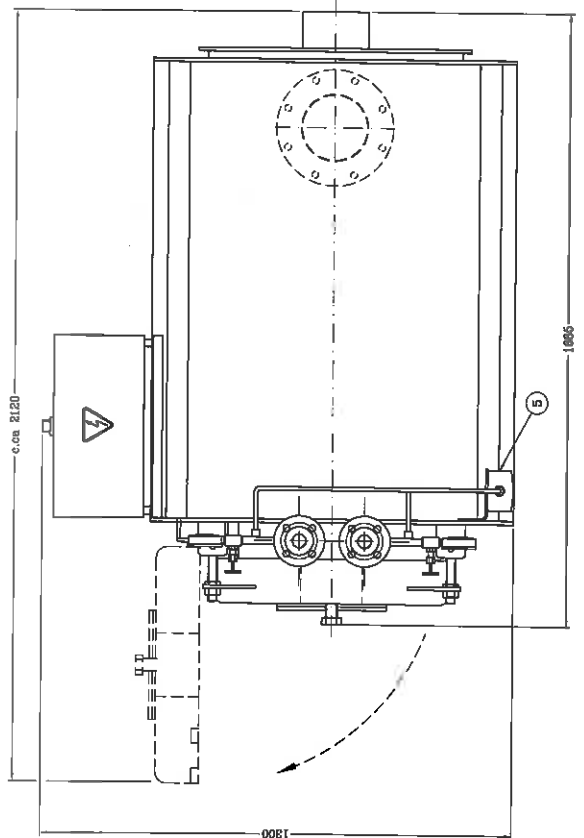
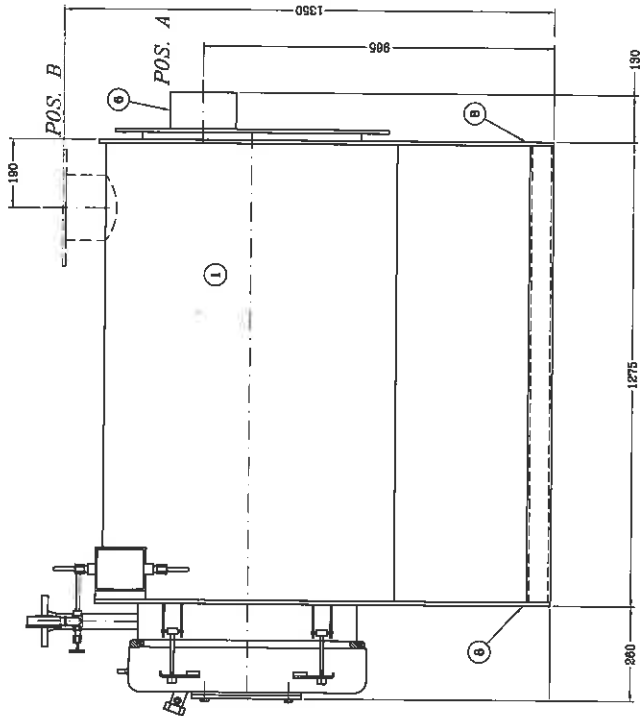
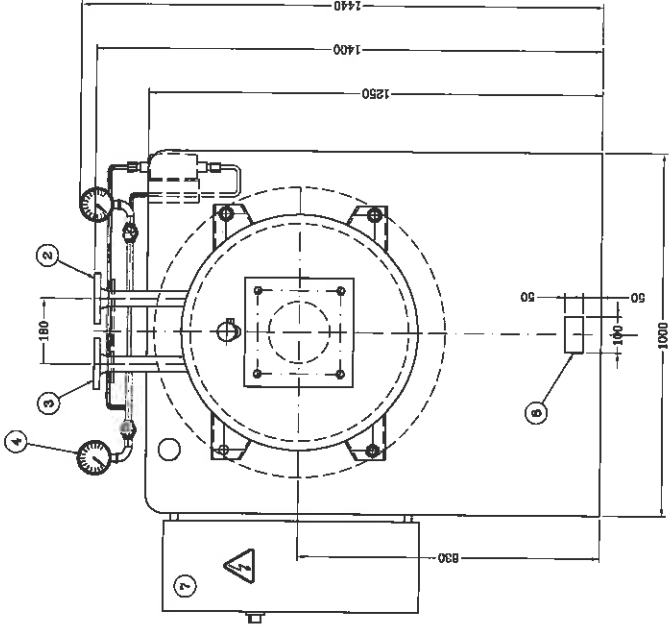
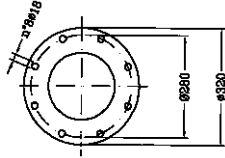


DIMENSIONI INGOMBRO TRASPORTO  
TRANSPORT EXTERNAL DIMENSIONS



A	1700 mm
Al	2150 mm
B	1510 mm
C	1400 mm
PESO A VUOTO EMPTY WEIGHT	700 kg

PARTIC. FLANGIA USCITA FUMI  
SMOKE EXIT FLANGE DETAIL  
POS.6



9	2	ASOLA SOLLEVAMENTO PER MARTINETTO	LIFTING POINT FOR HYDRAULIC JACK
7	1	QUADRO ELETTRICO	CONTROL PANEL
6	1	USCITA FUMI	SMOKE EXIT
5	1	PRESSOSTATO DIFFERENZIALE	DIFFERENTIAL PRESSURE SWITCH
4	2	MANOMETRO	PRESSURE INDICATOR
3	1	USCITA OLIO	OIL OUTLET
2	1	INGRESSO OLIO	OIL INLET
1	1	CALDAIA AD OLIO DIATERMICO TH 100	TH 100 THERMAL OIL HEATER
POS. NR.		DESCRIZIONE	NOTE

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TH 100  
 STANDARD EXTERNAL DIMENSIONS  
 DIMENSIONI DI INGOMBRO STANDARD

REVISIONE 2  
 SOSTITUITO DA  
 COMPRESA

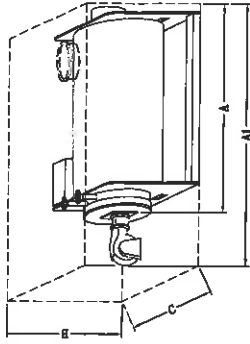
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 APPROVATO PA  
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 DATA 01/09/2008

DISEGNO N.  
 TH 1083

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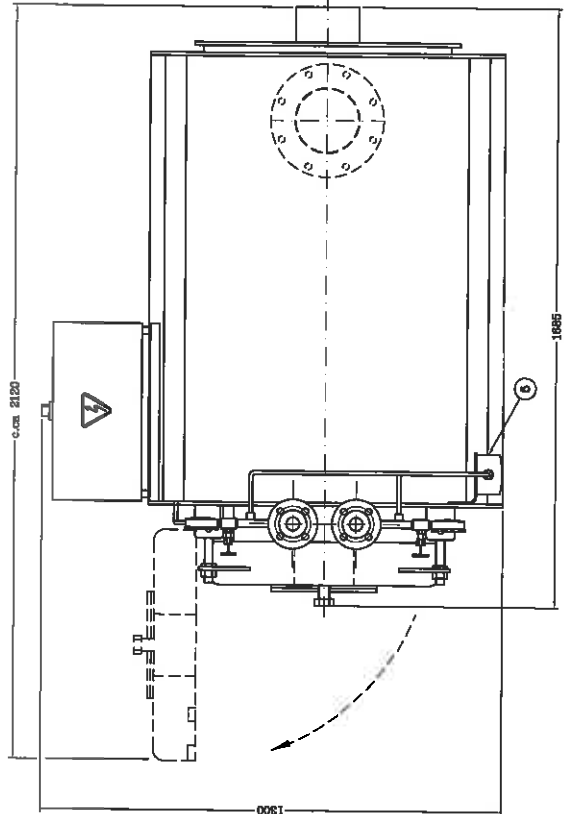
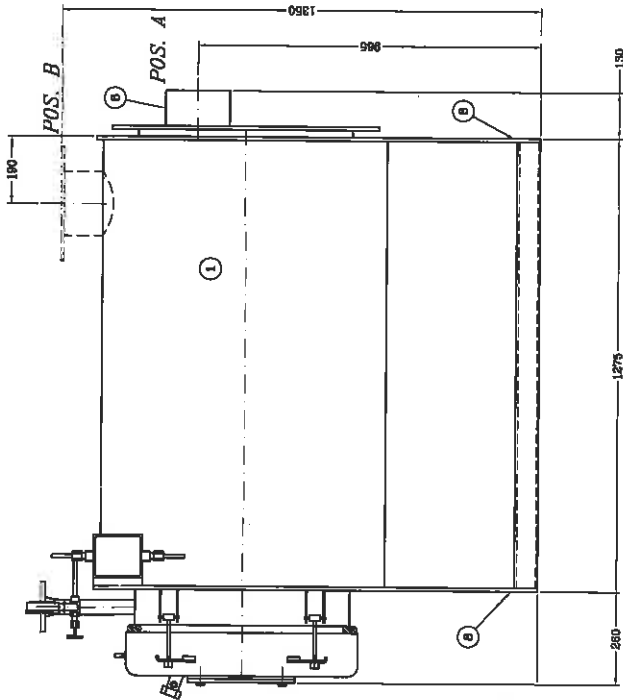
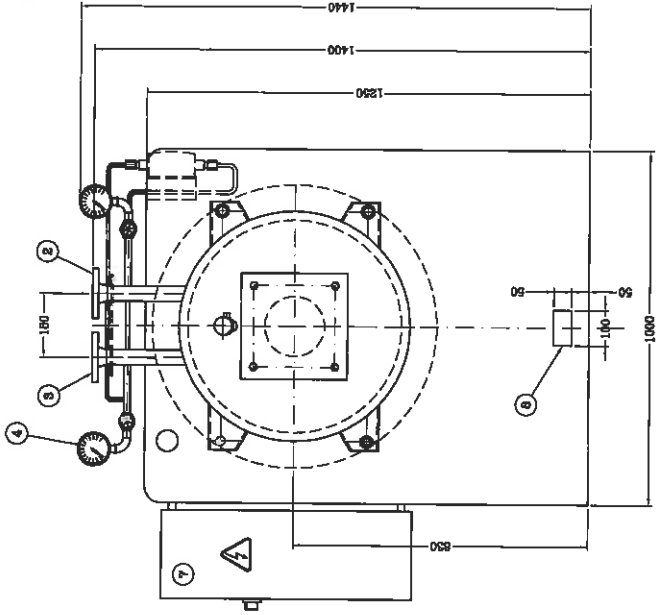
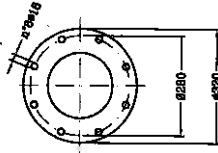


DIMENSIONI INGOMBRO TRASPORTO  
TRANSPORT EXTERNAL DIMENSIONS



A	1700 mm
B	2100 mm
C	1500 mm
PRESO A VUOTO	1400 mm
EMPTY WEIGHT	700 Kg

PARTIC. FLANGIA USCITA FUMI  
SMOKE EXIT FLANGE DETAIL  
FIG. 6



6	2	ASOLA SOLLIEVAMENTO PER MARRINETTO	LIFTING POINT FOR HYDRAULIC JACK
7	1	QUADRO ELETTRICO	CONTROL PANEL
8	1	USCITA FUMI	SMOKE EXIT
5	1	PRESSIONATO DIFFERENZIALE	DIFFERENTIAL PRESSURE SWITCH
4	2	MANGOMETRO	PRESSURE INDICATOR
3	1	USCITA OLIO	OIL OUTLET
2	1	INGRESSO OLIO	OIL INLET
1	1	CALDAIA AD OLIO D'ATERMICO TH 200	TH 200 THERMAL OIL HEATER

DESCRIZIONE

NOTE

COMPRESSA

VERSIONE

SOSTITUISCE IL SOSTITUITO DAL

04-0078 R2

TH 200

STANDARD EXTERNAL DIMENSIONS

DIMENSIONI DI INGOMBRO STANDARD

APPROVATO PA

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DATA 08/04/2009

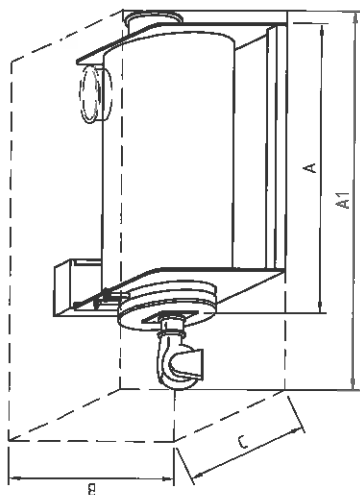
DESIGNO N. TH 1119

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Tel. (030) 2881541 r.a.  
Fax (030) 2830910

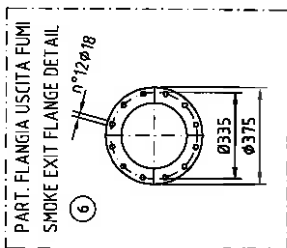
D'APRILE S.p.A.

QUANDO SUL PIANO DI FONDAZIONE ESISTE UNO O PIU' PUNTI DI CARICO RIPRODURRE IL PUNTO A CARICO A PARTIRE DA QUELLO INDICAZIONE

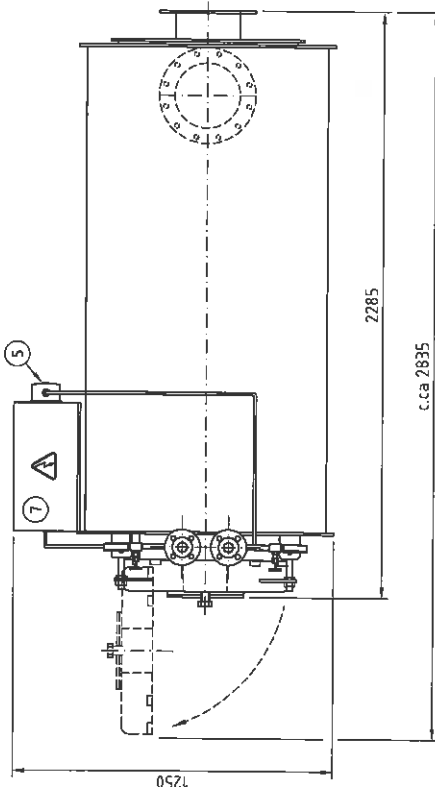
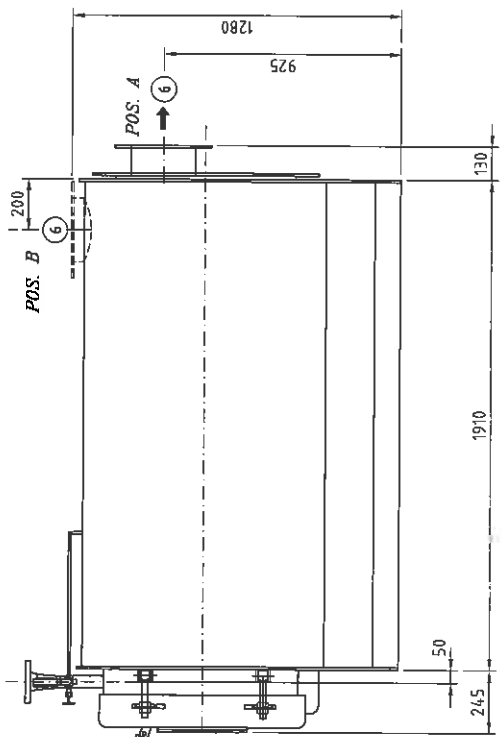
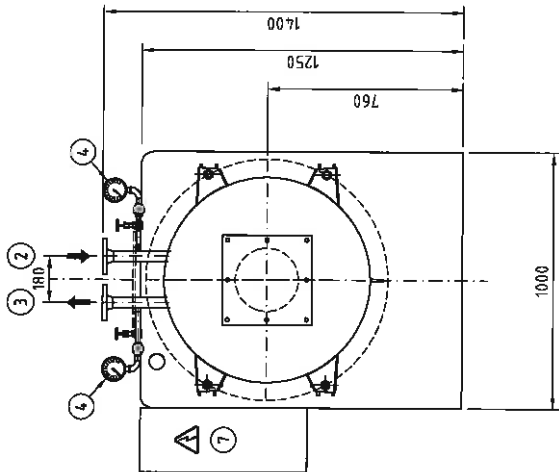
DIMENSIONI INCOMBRO TRASPORTO  
TRANSPORT EXTERNAL DIMENSIONS



A	2300 mm
A1	2900 mm
B	1400 mm
C	1250 mm
PESO A VUOTO EMPTY WEIGHT	
1100 Kg	



PART. FLANGIA USCITA FUMI  
SMOKE EXIT FLANGE DETAIL

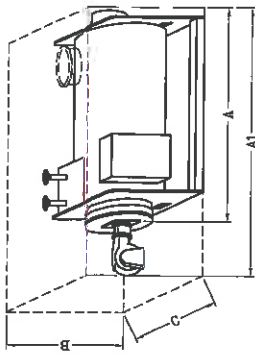


c.ca 2835

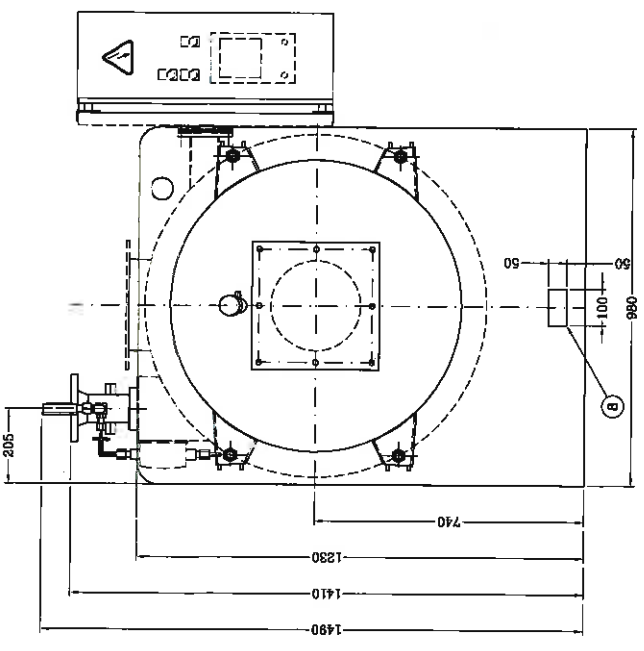
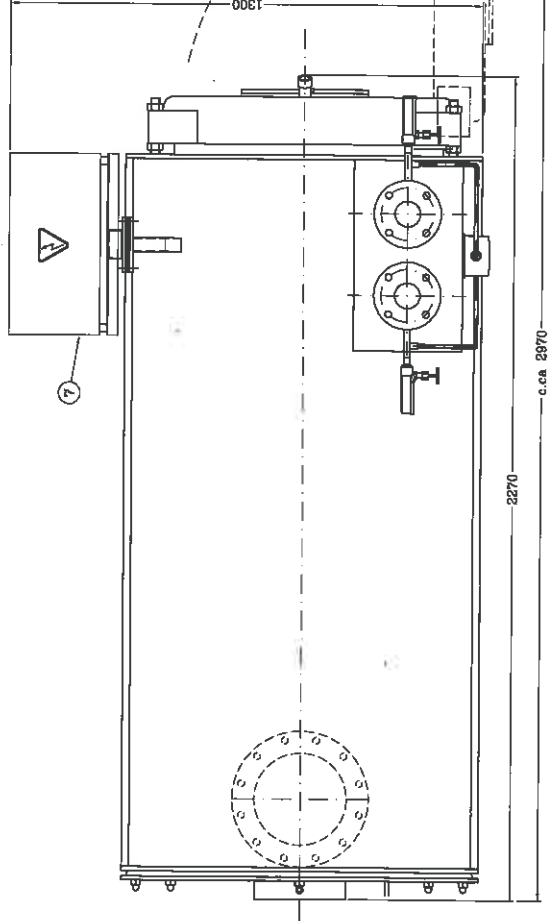
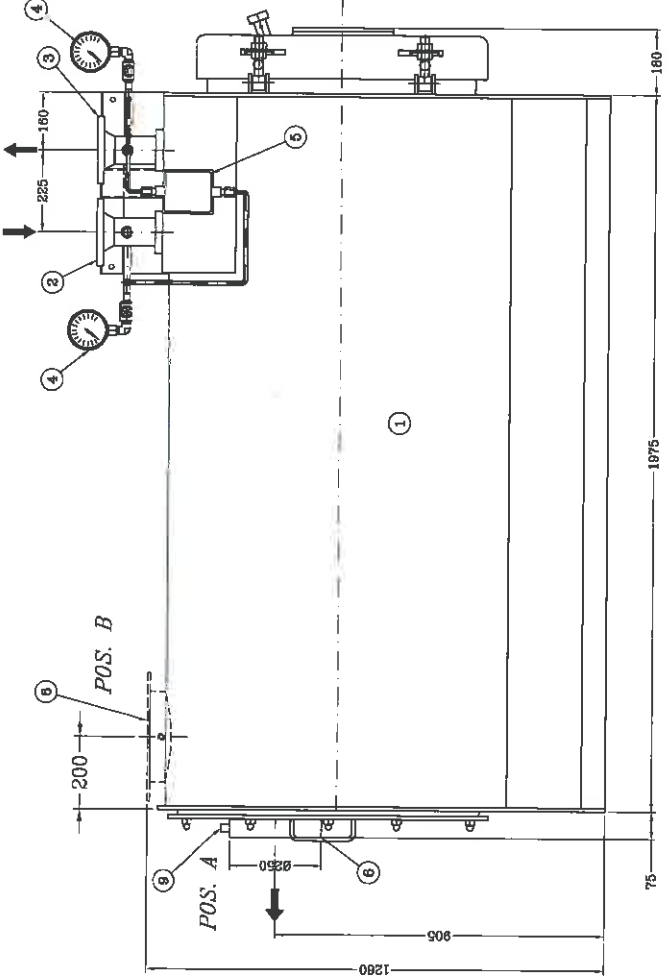
7	1	QUADRO ELETTRICO	CONTROL PANEL
6	1	USCITA FUMI	SMOKE EXIT
5	1	PRESSOSTATO DIFFERENZIALE	DIFFERENTIAL PRESSURE SWITCH
4	2	MANOMETRO	PRESSURE INDICATOR
3	1	USCITA OLIO	OIL OUTLET
2	1	INGRESSO OLIO	OIL INLET
1	1	CALDAIA AD OLIO DIATERMICO TH300	TH300 THERMAL OIL HEATER
PES. NET.		DESCRIZIONE	DESCRIPTION
PES. GRE.		NOTE	NOTE
<p>Vale del Catodi: 3 2500 CASTELMELLA (BS) Tel. (030) 288541-2 Fax (030) 288990</p> <p><b>GARIONI NAVAL</b></p> <p>DIMENSIONI INCOMBRO STANDARD STANDARD EXTERNAL DIMENSIONS TH 300</p> <p>177 TH 01 R1</p> <p>COMMESSA REVISIONE SOSTITUISCE IL SOSTITUITO DALL</p> <p>DISSEGNO N. 04-0067</p> <p>DISCERNATO S.F. APPROVATO P.A. SCALA 1:20 DATA 01/04/2004</p>			
REV.	DATA	REVISIONE	
1	26/03/2006	revisione generale	
2	27/06/2006	revisione generale	
3	27/06/2006	MIGLIORATA USCITA OLIO	
4	18/12/2006	Rit. costruttivo - trasporto	
S.F.	P.A.	Rit. costruttivo - trasporto	

QUESTO DOCUMENTO E' DI PROPRIETA' ESCLUSIVA DI GARIONI NAVAL S.P.A. E' VIETATO IL REIMPRESO O RIVALORATO A TERZI SENZA LA NOSTRA AUTORIZZAZIONE

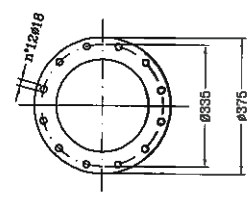
DIMENSIONI INGOMBRO TRASPORTO  
TRANSPORT EXTERNAL DIMENSIONS



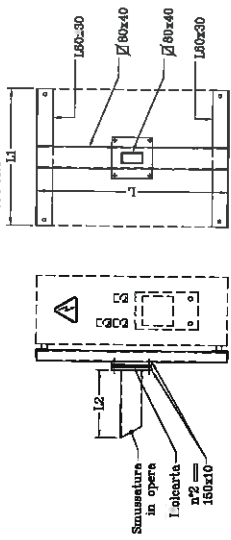
A	2300 mm
A1	2150 mm
B	1500 mm
C	1400 mm
PESO A VUOTO EMPTY WEIGHT	
	1200 Kg



PARTIC. FLANGIA USCITA FUMI  
SMOKE EXIT FLANGE DETAIL  
POS. 6



SUPPORTO QUADRO ELETTRICO  
CONTROL PANEL SUPPORT



POS. NR.	DESCRIZIONE	NOTE
9 1	ATTACCO TERMOSTATO FUMI (OPZIONALE)	SMOKE TEMPERATURE SWITCH (OPTIONAL)
8 2	ASOLA SOLLEVAMENTO PER MANTIMENTO	LIFTING POINT FOR HYDRAULIC JACK
7 1	QUADRO ELETTRICO	CONTROL PANEL
6 1	USCITA FUMI	SMOKE EXIT
6 1	PRESSOSTATO DIFFERENZIALE	DIFFERENTIAL PRESSURE SWITCH
4 2	MANOMETRO	PRESSURE INDICATOR
3 1	USCITA OLIO	OIL OUTLET
2 1	INGRESSO OLIO	OIL INLET
1 1	CALDAIA AD OLIO DIATERMICO TH 400	TH 400 THERMAL OIL HEATER
		EMPTY WEIGHT: 1100 Kg
		OIL CONTENTS: 66 l

**GARIONI NAVAL**

Viale dei Caduti, 3  
25030 CASTELMELLA (BS)  
Tel. (030) 2681541 r.a.  
Fax (030) 2680910

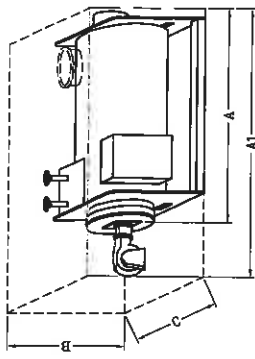
TH 400  
STANDARD EXTERNAL DIMENSIONS  
DIMENSIONI DI INGOMBRO STANDARD

DESIGNATO FS VERIFICATO PA APPROVATO PA  
SCALA 1:10 DATA 21/06/10  
DISEGNO N. TH 1065

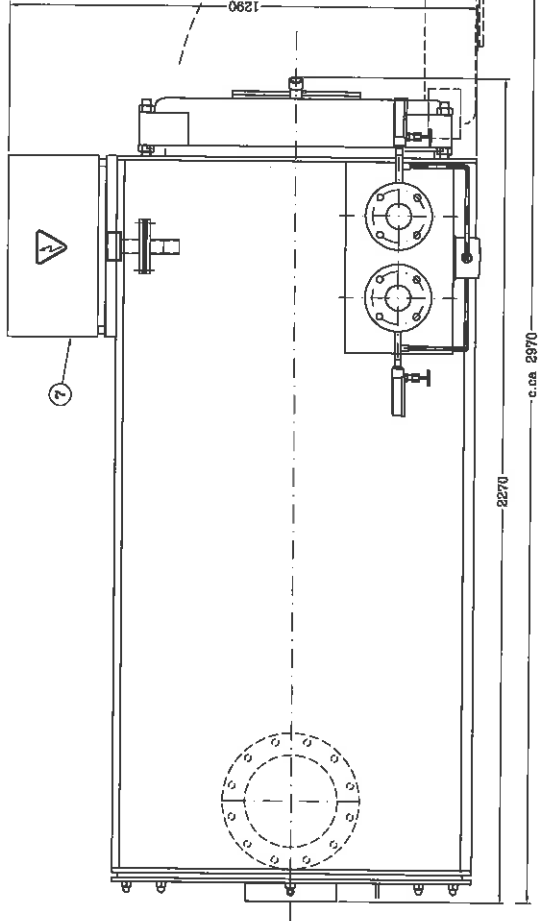
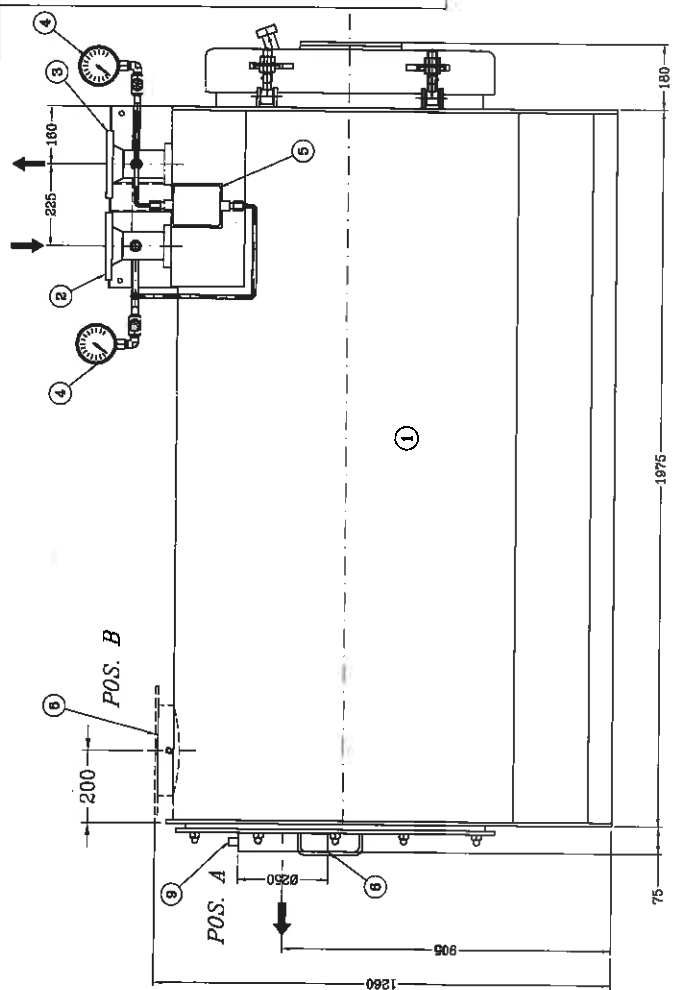
CONFERMA SOSTITUISCA IL SOSTITUITO DAL REVISIONE

959 TH 02 3.0 c.c.ca 2870

DIMENSIONI INCOMBRO TRASPORTO  
TRANSPORT EXTERNAL DIMENSIONS



A	2300 mm
A1	3150 mm
B	1500 mm
C	1400 mm
PESO A VUOTO EMPTY WEIGHT	
	1200 Kg



**GARIONI NAVAL**

Viale dei Caduti, 3  
25030 CASTELMELLA (BS)  
Tel. (030) 2881641 r.a.  
Fax (030) 2880910

COMMESSA \_\_\_\_\_ REVISIONE \_\_\_\_\_  
SOSTITUISCE IL \_\_\_\_\_ SOSTITUITO DAL \_\_\_\_\_  
04-0069 Rev.4

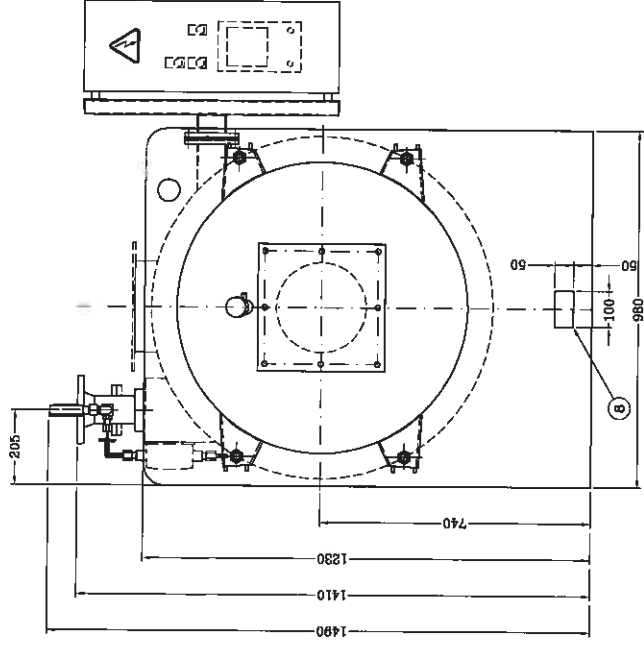
TH 500  
STANDARD EXTERNAL DIMENSIONS  
DIMENSIONI DI INGOMBRO STANDARD

DISIGNATO FS \_\_\_\_\_ VERIFICATO PA \_\_\_\_\_ APPROVATO PA 1:10 29/09/09  
DISEGNO N. TH 1145

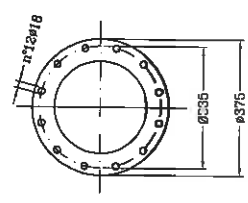
959 TH 02 R.O.

QUESTO DISEGNO È IN TUTTALA PROPRIETÀ DI GARIONI NAVAL S.p.A. È VIETATA LA REPRODUZIONE O L'UTILIZZO IN ALTRA FORMA SENZA LA SCRITTA AUTORIZZAZIONE

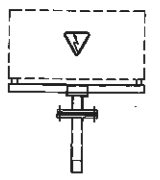
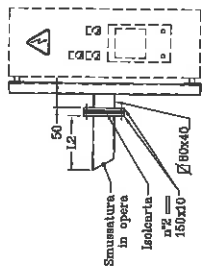
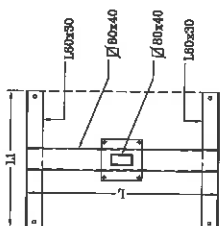
POS. NR.	DESCRIZIONE	NOTE
0 1	ATTACCO TERMOSTATO FUMI (OPZIONE)	Ø1/4"
0 2	ASOLA SOLLEVAMENTO PER MARINETTO	
7 1	QUADRO ELETTRICO	
6 1	USCITA FUMI	DN65044 DN250
5 1	FRASCATO DIFFERENZIALE	
4 2	MANOMETRO	DN65 PN16
3 1	USCITA OLIO	DN65 PN16
2 1	INGRESSO OLIO	DN65 PN16
1 1	CALDAIA AD OLIO DIATERMICO TH 500	EMPTY WEIGHT: 1200 Kg OIL CONTENTS: 114 l
		DESCRIPTION



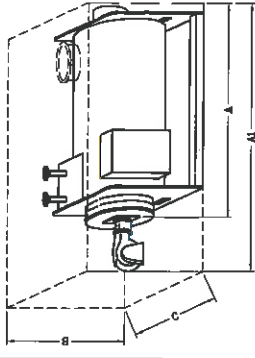
PARTIC. FIANGIA USCITA FUMI  
SMOKE EXIT FLANGE DETAIL  
POS.6



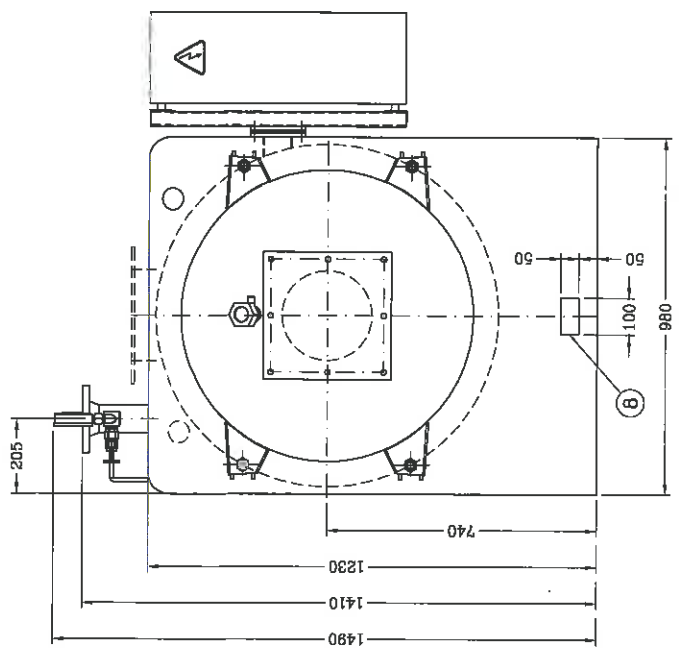
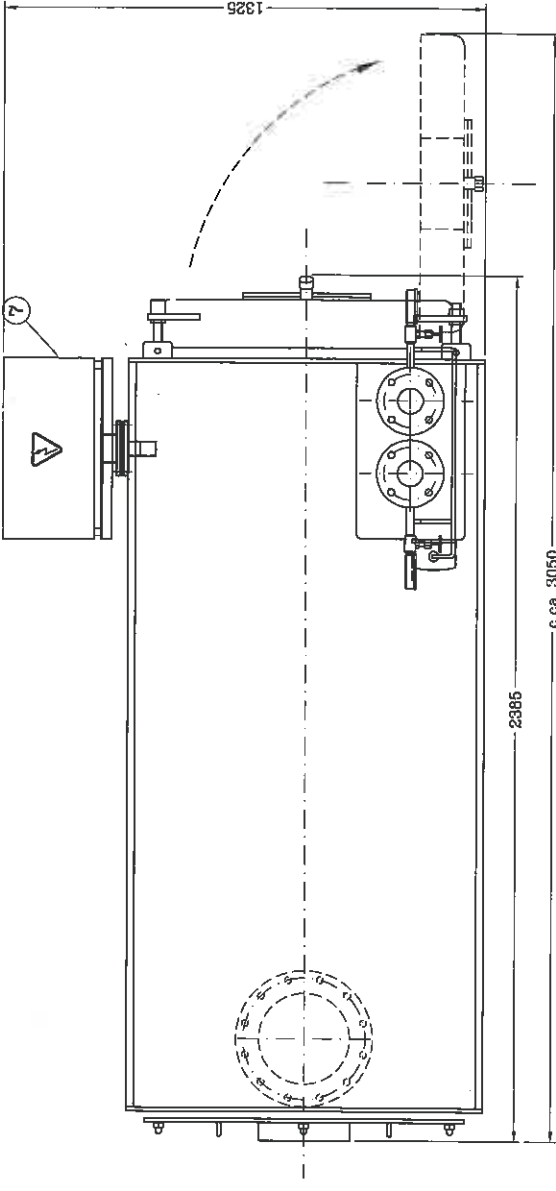
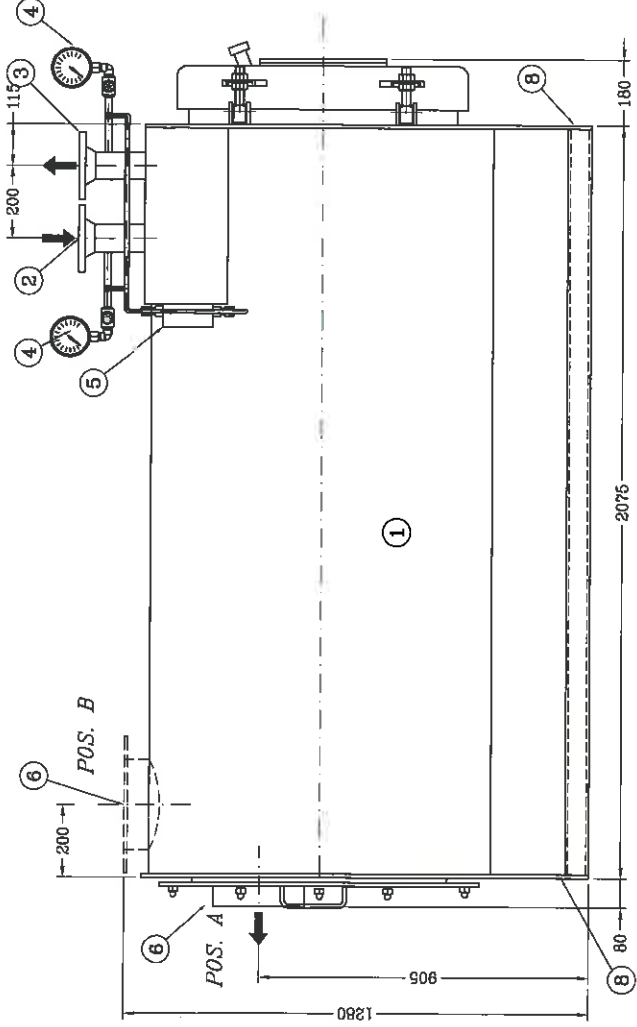
SUPPORTO QUADRO ELETTRICO  
CONTROL PANEL SUPPORT



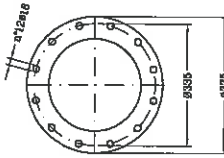
DIMENSIONI INCOMBRO TRASPORTO  
TRANSPORT EXTERNAL DIMENSIONS



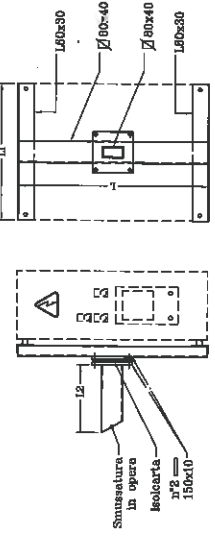
A	2400 mm
AL	3250 mm
B	1500 mm
C	1500 mm
PESO A VUOTO EMPTY WEIGHT	
1500 Kg	



PARTIC. FLANEA USCITA FUMI  
SMOKE EXIT FLANGE DETAIL  
POS. 6



SUPPORTO QUADRO ELETTRICO  
CONTROL PANEL SUPPORT



Viale dei Caduti 3  
25030 CASTELMELLA (BS)  
Tel. (030) 2881541 r.a.  
Fax (030) 2880910

**GARIONI NAVAL**

TH 600  
DIMENSIONI DI INCOMBRO STANDARD  
STANDARD EXTERNAL DIMENSIONS

84 TH 600

1. 10/07/10 del. modificata

REVISIONE 1

SISTEMAZIONE IL SOSTRUTTO DAL 04-0070 Rev.4

COMPRESA

DESIGNATO FS VERIFICATO PA APPROVATO PA DATA 18/06/10

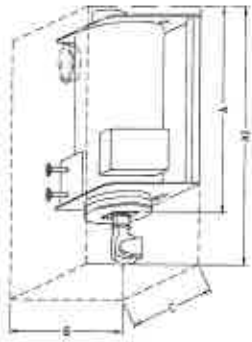
SCALA 1:10

DESIGNO N. TH 1097

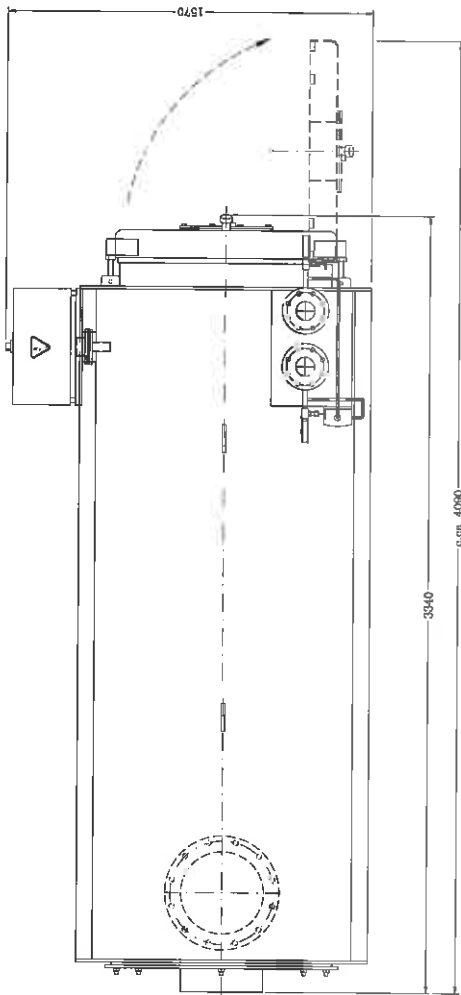
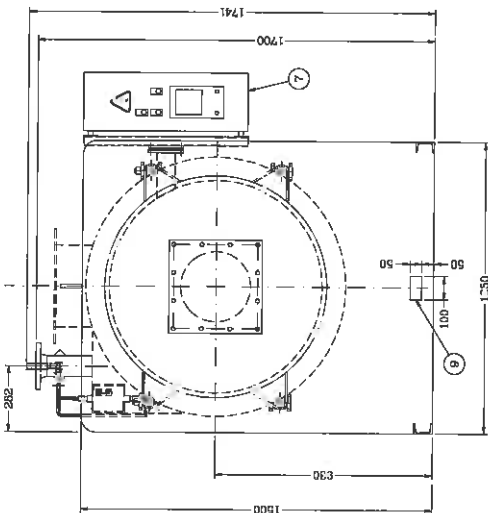
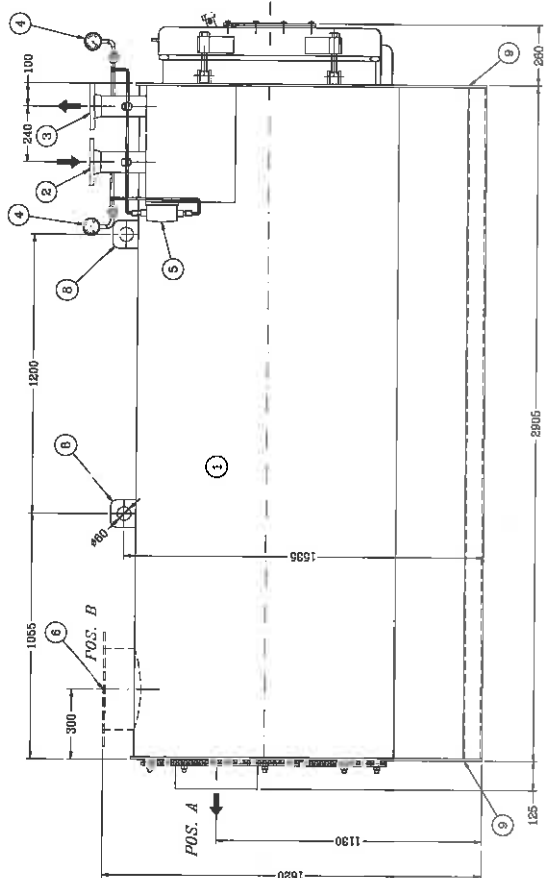
QUESTO DISSEGNO E' IN NECESSARIA MODIFICAZIONE PER IL SOSTRUTTO A TIRANTE DI LAVORO SUPERIORE O INFERIORE A QUELLO INDICATO. PER INFORMAZIONI

POS. NR.	DESCRIZIONE	DESCRIZIONE	
0	2	ASCLA SOLLIVAMENTO PER MARTINETTO	LIFTING POINT FOR HYDRAULIC JACK
7	1	QUADRO ELETTRICO	CONTROL PANNEL
6	1	USCITA FUMI	SMOKE EXIT
5	1	PRESSOSTATO DIFFERENZIALE	DIFFERENTIAL PRESSURE SWITCH
4	2	MANOMETRO	PRESSURE INDICATOR
3	1	USCITA OLIO	OIL OUTLET
2	1	INCRESSO OLIO	OIL INLET
1	1	CALDAIA AD OLIO DIATERMICO TH600	THERMO THERMAL OIL HEATER
		EMPTY WEIGHT: 1500 Kg	
		OIL CONTENTS: 147 l	
		NOTE	

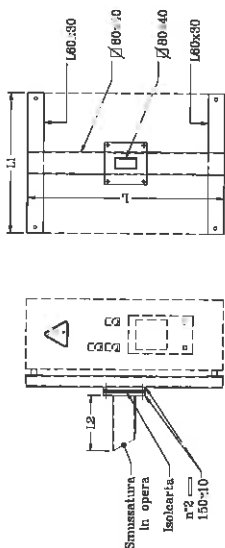
DIMENSIONI INGOMBRO TRASPORTO  
TRANSPORT EXTERNAL DIMENSIONS



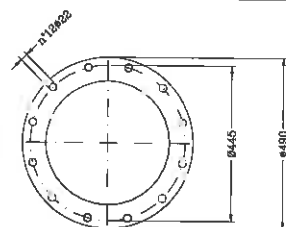
A	2600 mm
B	1800 mm
C	1650 mm
PESO A VUOTO EMPTY WEIGHT	
	1900 kg



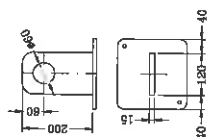
SUPPORTO QUADRO ELETTRICO  
CONTROL PANNEL SUPPORT



PART. FLANGIA USCITA FUMI  
SMOKE EXTRACT FLANGE DETAIL



PART. CANGI SOLEVAMENTO  
LIFTING LUGS DETAIL



POS.	QR.	DESCRIZIONE	NOTE
9	2	ASOLA SOLEVAMENTO PER MARTINETTO	LIFTING POINT FOR HYDRAULIC JACK
8	2	CANGIO DI SOLEVAMENTO	LIFTING LUGS
7	1	QUADRO ELETTRICO	CONTROL PANNEL
6	1	USCITA FUMI	SMOKE EXIT
5	1	PRESSOSTATO DIFFERENZIALE	DIFFERENTIAL PRESSURE SWITCH
4	2	MANOMETRO	PRESSURE INDICATOR
3	1	USCITA OLIO	OIL OUTLET
2	1	INGRESSO OLIO	OIL INLET
1	1	CALDAIA AD OLIO DIATERMICO TH 1000	TH 1000 THERMAL OIL HEATER
			EMPTY WEIGHT: 1900 Kg OIL CONTENTS: 253.1

**GARIONI NAVAL**  
Viale dei Caduti, 3  
26030 CASTELMELLA (BS)  
Tel. (030) 2601541 r.a.  
Fax (030) 2600910

TH 800  
STANDARD EXTERNAL DIMENSIONS  
DIMENSIONI DI INGOMBRO STANDARD

DISSEGNO N. TH 1049

DATA 09/04/2008

SCALA 1:15

APPROVATO PA

DISegnato FS

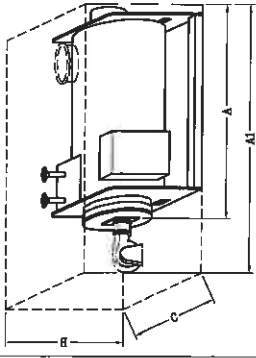
193 78 03 L. 4

COMMESSA: SOSTITUZIONE SOSTITUISCE IL SOSTITUISCE DAL 04-0021 Rev.4

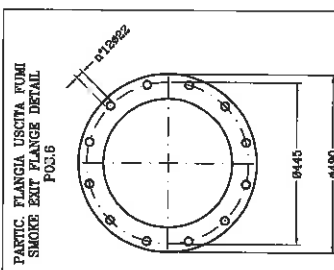
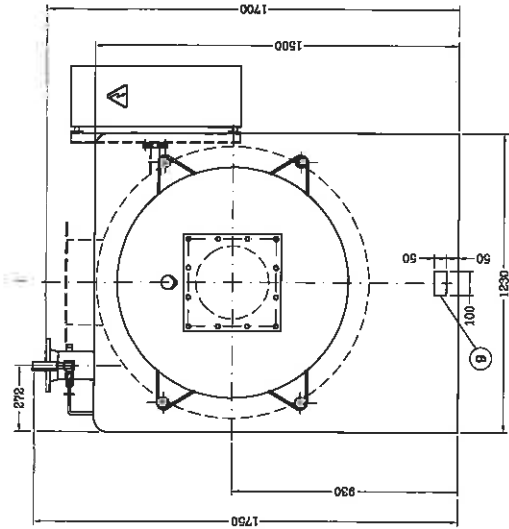
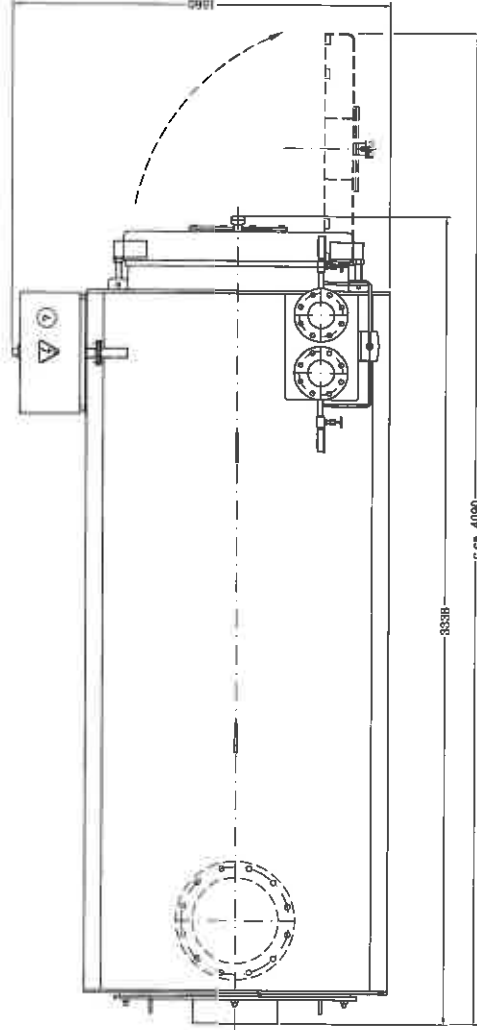
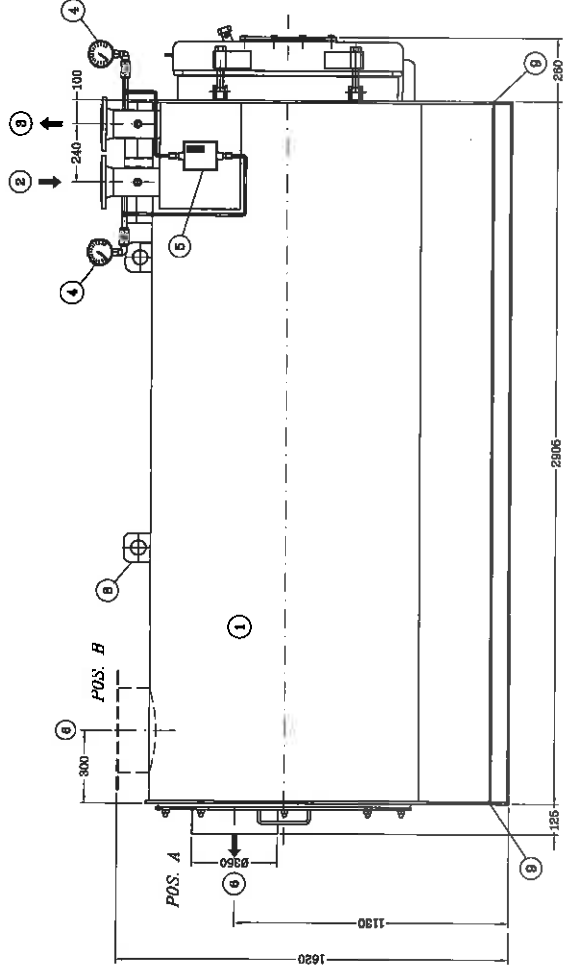
28.1500 R

QUESTO TITOLO E' DI PROPRIETA' ESCLUSIVA DELL'INGEGNERE E' VIETATA LA RIPRODUZIONE O L'UTILIZZO SENZA IL CONSENSO DELL'INGEGNERE

DIMENSIONI INGOMBRO TRASPORTO  
TRANSPORT EXTERNAL DIMENSIONS

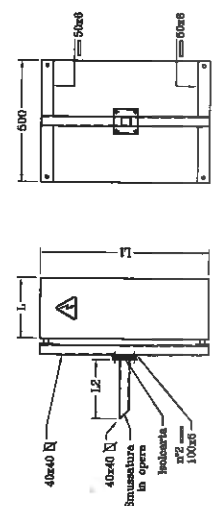


A	3400 mm
AI	4150 mm
B	1800 mm
C	1600 mm
PESO A VUOTO EMPTY WEIGHT	
1960 Kg	



PANFIC. FLANGIA USCITA FUMI  
SMOKE EXIT FLANGE DETAIL  
POS.8

SUPPORTO QUADRO ELETTRICO  
CONTROL PANEL SUPPORT



POS.	NR.	DESCRIZIONE	DESCRIPTION
9	2	ASOLA SOLLEVAMENTO PER MARTINETTO	LIFTING POINT FOR HYDRAULIC JACK
8	2	GANCO DI SOLLEVAMENTO	LIFTING LUGS
7	1	QUADRO ELETTRICO	CONTROL PANNEL
6	1	USCITA FUMI	SMOKE EXIT
5	1	PRESSOSTATO DIFFERENZIALE	DIFFERENTIAL PRESSURE SWITCH
4	2	MANOMETRO	PRESSURE INDICATOR
3	1	USCITA OLIO	OIL OUTLET
2	1	INGRESSO OLIO	OIL INLET
1	1	CALDAIA AD OLIO DIATERMICO TH 1000	TH 1000 THERMAL OIL HEATER

**GARIONI NAVAL**  
 Viale dei Caduti 3  
 25030 CASTELMELLA (BS)  
 Tel. (030) 2881541 r.a.  
 Fax. (030) 2880910

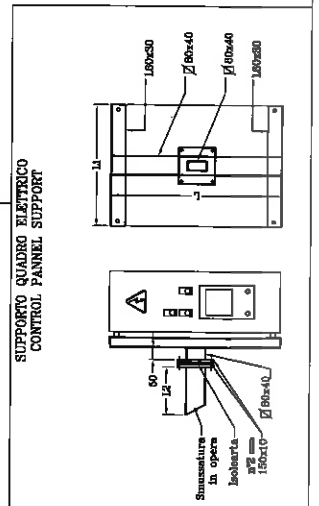
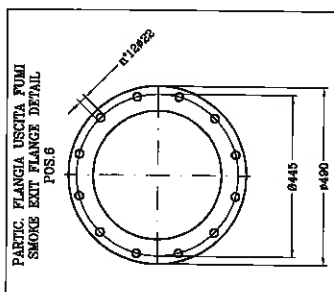
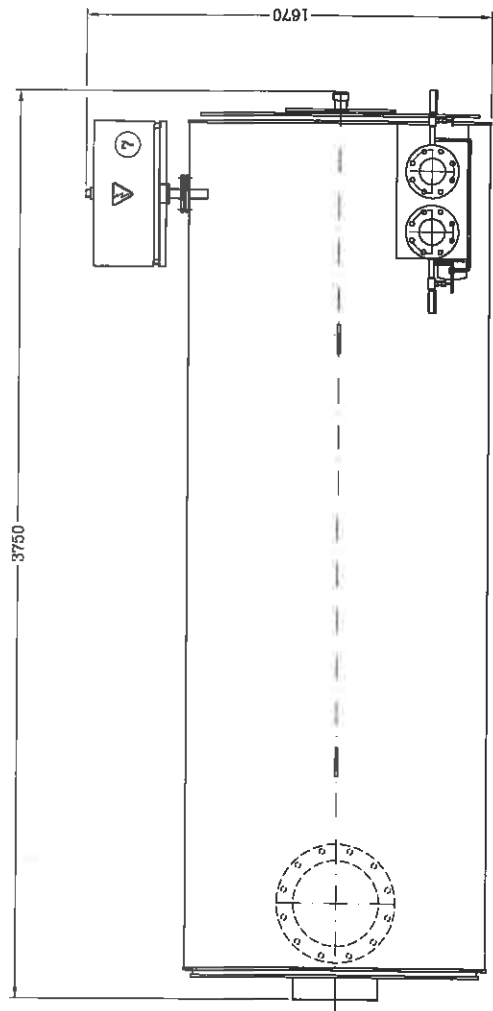
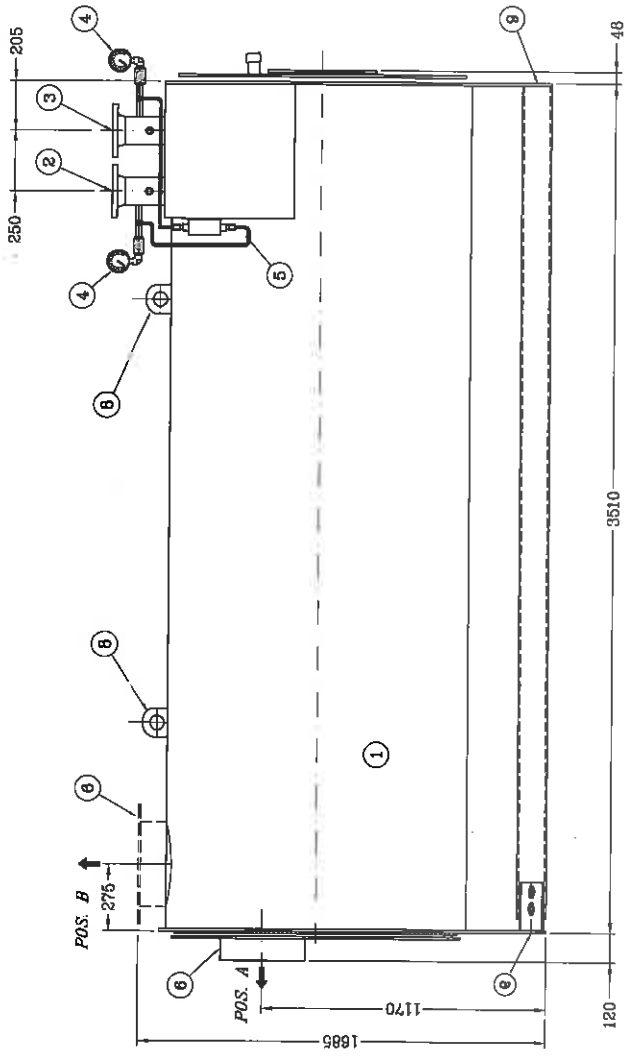
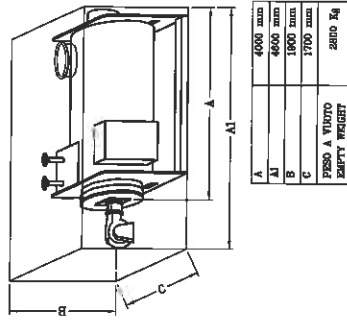
COMMESSA: ASTVISIONE 2  
 SOSTITUITO DA: -

DISegnO N. TH 1060  
 DATA 29/04/2008  
 SCALE 1:20  
 APPROVATO PA  
 DISegnATO FS

QUESTO DISegNO E' IN TUTTA SOSTANZA PRESERVATO E' VIETATO IL SUO RIPRODURRE O RIVEDERE A TITOLI ESCLUSI LA NOSTRA AMMINISTRAZIONE

1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9

DIMENSIONI INGOMBRO TRASPORTO  
TRANSPORT EXTERNAL DIMENSIONS



POS. NR.	DESCRIZIONE	DESCRIZIONE
9	ASOLA SOLLAVAMENTO MARTINETTO	LIFTING POINT FOR HYDRAULIC JACK
8	GANCIO DI SOLLAVAMENTO	LIFTING LUGS
7	QUADRO ELETTRICO	CONTROL PANNEL
6	USCITA FUMI	SMOKE EXIT
5	FRUSOSTATO DIFFERENZIALE	DIFFERENTIAL PRESSURE SWITCH
4	MANOMETRO	PRESSURE INDICATOR
3	USCITA OLIO	OIL INLET
2	INGRESSO OLIO	OIL OUTLET
1	CALDAIA AD OLIO DIATERMICO	THERMAL OIL HEATER

NOTE

DIN68044 DN350

DIN100 PN16

DIN100 PN16

EMPTY WEIGHT: 2800 Kg

OIL CONTENTS: 450 l

**GARIONI NAVAL**

Viale dei Caduti 3  
25030 CASTELMELLA (BS)  
Tel. (030) 2681541 r.a.  
Fax (030) 2680810

TH1250  
STANDARD EXTERNAL DIMENSIONS  
DIMENSIONI DI INGOMBRO STANDARD

COMMESSA: RIVISIONE

SOSTITUISCE IL: SOSTITUITO DAL:  
04-0072 Rev.3

DISegnato N. TH 1115

DATA: 26/03/2009

SCALA: 1:15

APPROVATO PA

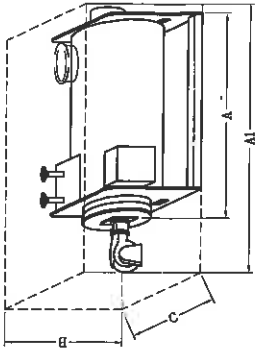
DISegnato FS

987 91 01 r.0

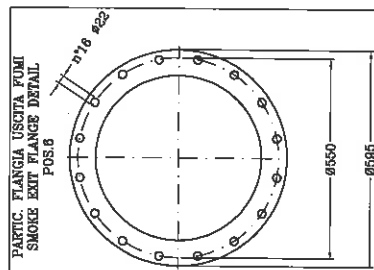
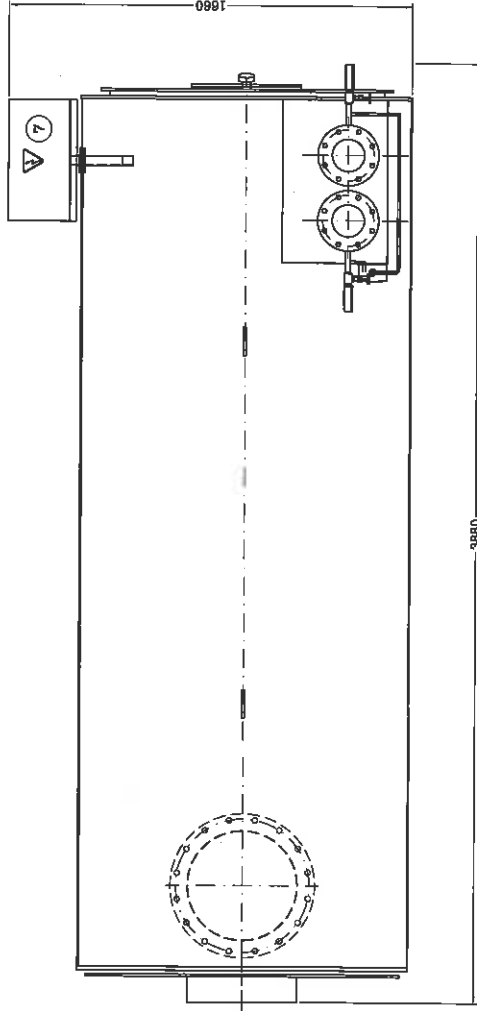
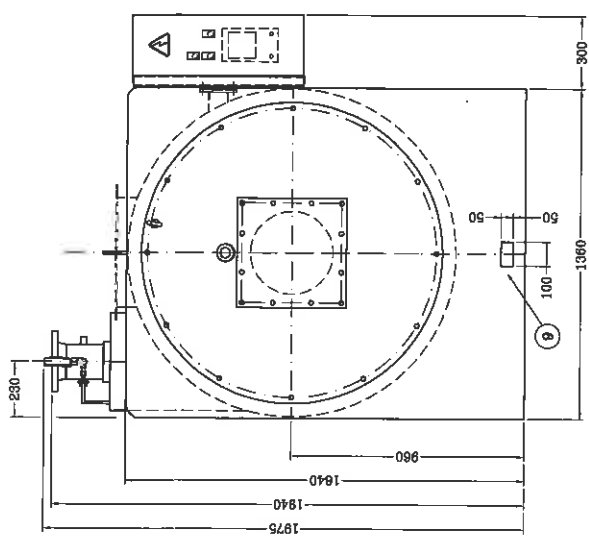
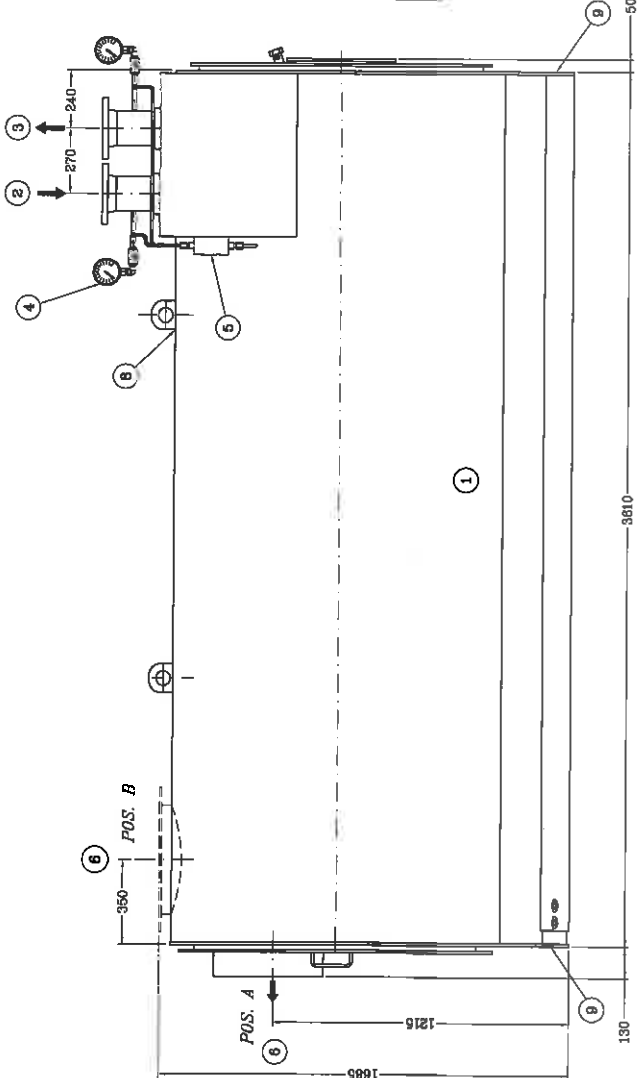
QUESTO DOCUMENTO E' IN TUTTA SCELTA PROPRIETA' E' VIETATO A TUTTI GLI EFFETTI LEGALI RIPRODURLO O ADATTARLO A USI NON AUTORIZZATI



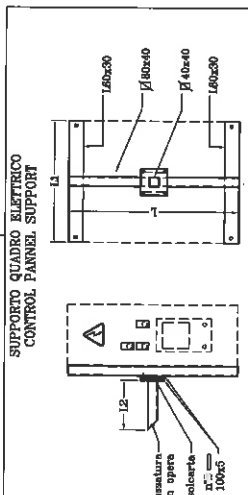
DIMENSIONI INGOMBRO TRASPORTO  
TRANSPORT EXTERNAL DIMENSIONS



A	4000 mm
A1	4700 mm
B	2000 mm
C	1700 mm
PESO A VUOTO EMPTY WEIGHT	
	3000 Kg



PARTIC. FRANZIA USCITA FUMI  
SMOKE EXIT FLANGE DETAIL  
POS. 6



SUPPORTO QUADRO ELETTRICO  
CONTROL PANEL SUPPORT

POS.	NR.	DESCRIZIONE	NOTE
1	1	CALDATA AD OLIO DIATERMICO TH 1500	EMPTY WEIGHT: 3000 Kg OIL CONTENTS: 518 l
2	1	INGRESSO OLIO	
3	1	USCITA OLIO	
4	2	MANOMETRO	
5	1	PIESSOSTATO DIFFERENZIALE	
6	1	USCITA FUMI	
7	1	QUADRO ELETTRICO	
8	2	GANCIO DI SOLLEVAMENTO	
9	2	ASOLA SOLLEVAMENTO PER MANTIMENTO	

**GARIONI NAVAL**  
 Viale dei Caduti, 3  
 25030 CASTELMELLA (BS)  
 Tel. (030) 2881541 r.a.  
 Fax (030) 2880910

TH 1500  
 STANDARD EXTERNAL DIMENSIONS  
 DIMENSIONI DI INGOMBRO STANDARD

DISEGNATO FS  
 APPROVATO PA  
 SCALA 1:15  
 DATA 09/05/2008

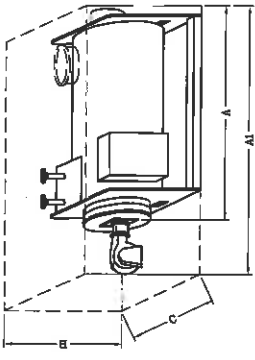
COMMESSA  
 ARVISTONG  
 SOSTITUISCE IL COSTRUITTO DAL  
 04-075 Rev.6  
 DISEGNO N.  
 TH 1063

1975/05/05 Modificato, sostituito  
 1975/05/05 Modificato, sostituito  
 1975/05/05 Modificato, sostituito

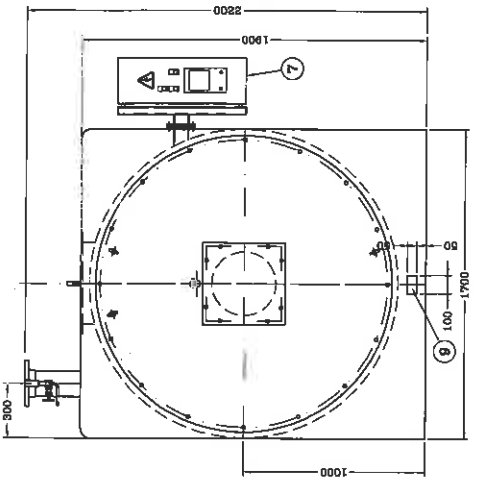
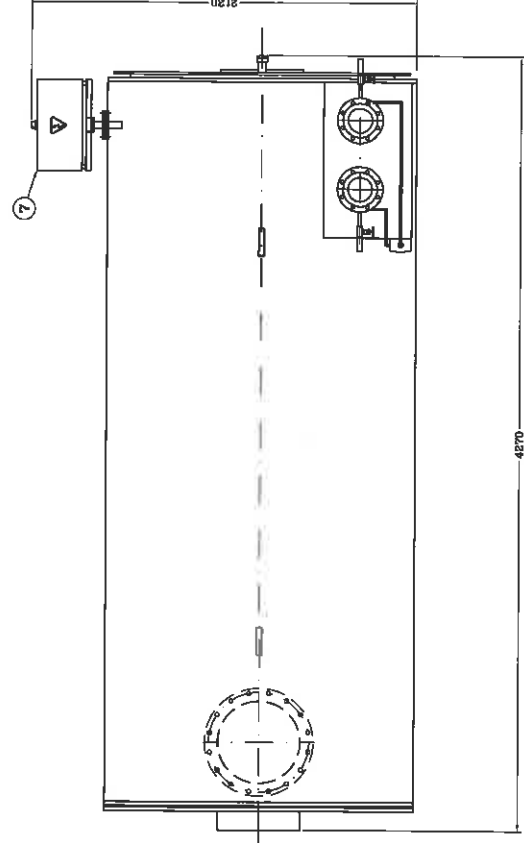
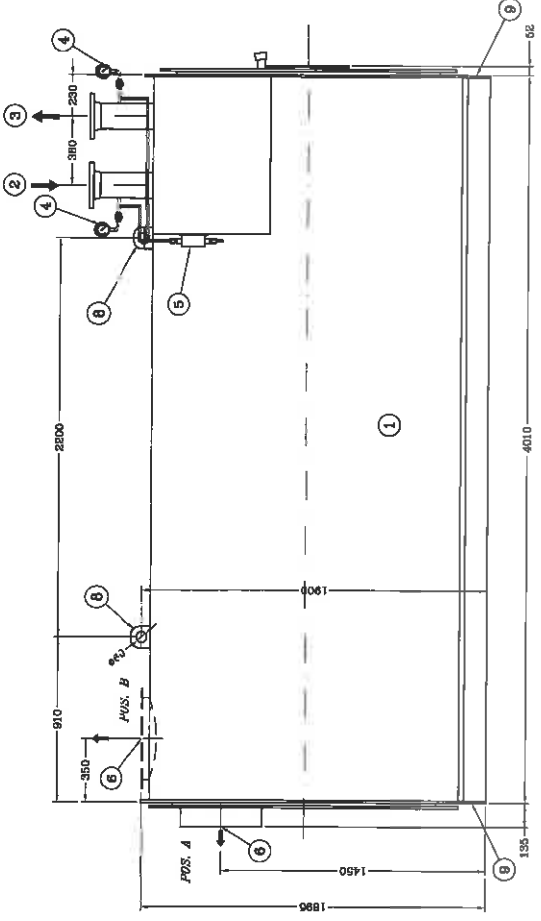
1975/05/05 Modificato, sostituito  
 1975/05/05 Modificato, sostituito

1975/05/05 Modificato, sostituito  
 1975/05/05 Modificato, sostituito  
 1975/05/05 Modificato, sostituito

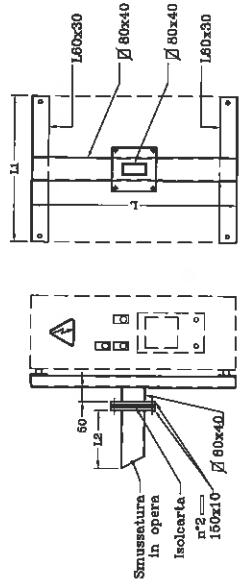
DIMENSIONI INCOMBRO TRASPORTO  
TRANSPORT EXTERNAL DIMENSIONS



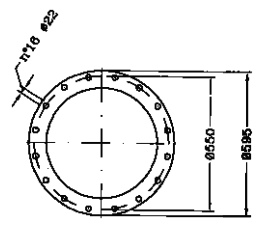
A	4000 mm
A1	5500 mm
B	2300 mm
C	2200 mm
PESO A VUOTO EMPTY WEIGHT	
5000 Kg	



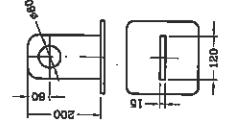
SUPPORTO QUADRO ELETTRICO  
CONTROL PANNEL SUPPORT



PART. FLANGIA USCITA FUMI  
SMOKE EXIT FLANGE DETAIL  
POS.6



PART. GANCI SOLLEVAMENTO  
LIFTING LUGS DETAIL  
POS.5



POS. NR.	DESCRIZIONE	DESCRIPTION	
0	2	ASOLA SOLLEVAMENTO PER MARTINETTO	LIFTING POINT FOR HYDRAULIC JACK
6	1	GANCIO DI SOLLEVAMENTO	LIFTING LUGS
7	1	QUADRO ELETTRICO	CONTROL PANNEL
6	1	USCITA FUMI	SMOKE EXIT
5	1	PRESSOSTATO DIFFERENZIALE	DIFFERENTIAL PRESSURE SWITCH
4	2	MANOMETRO	PRESSURE INDICATOR
3	1	USCITA OLIO	OIL OUTLET
2	1	INGRESSO OLIO	OIL INLET
1	1	CALDAIA AD OLIO DIATERMICO TH2000	TH2000 THERMAL OIL HEATER
		EMPTY WEIGHT: 6000 Kg	
		OIL CONTENTS: 767 l	

PRODOTTORE	INDICAZIONE	NUMERO	DATA
01	02	03	04

**GARIONI NAVAL**

Viale dei Caduti 3  
25030 CASTELMELLA (BS)  
Tel. (030) 2881541 r.a.  
Fax (030) 2880810

TH 2000  
STANDARD EXTERNAL DIMENSIONS  
DIMENSIONI DI INCOMBRO STANDARD

COMMESSA  
REVISIONE

SOSTITUIRE IL SOSTITUITO DAL  
04-0074 Rev.6

DISegnO N.  
TH 1067

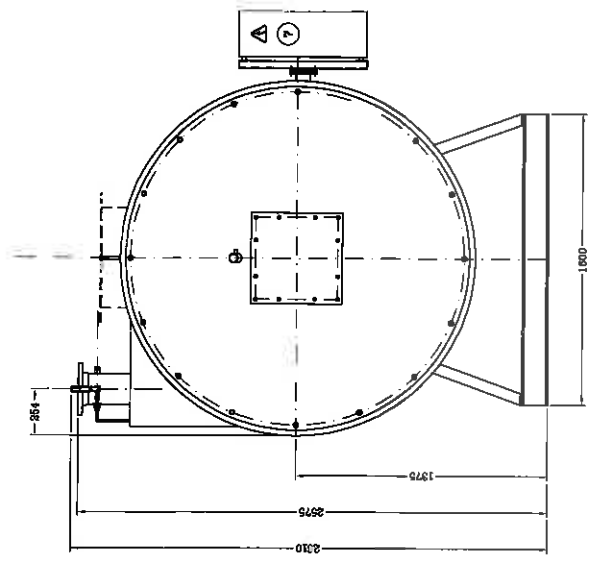
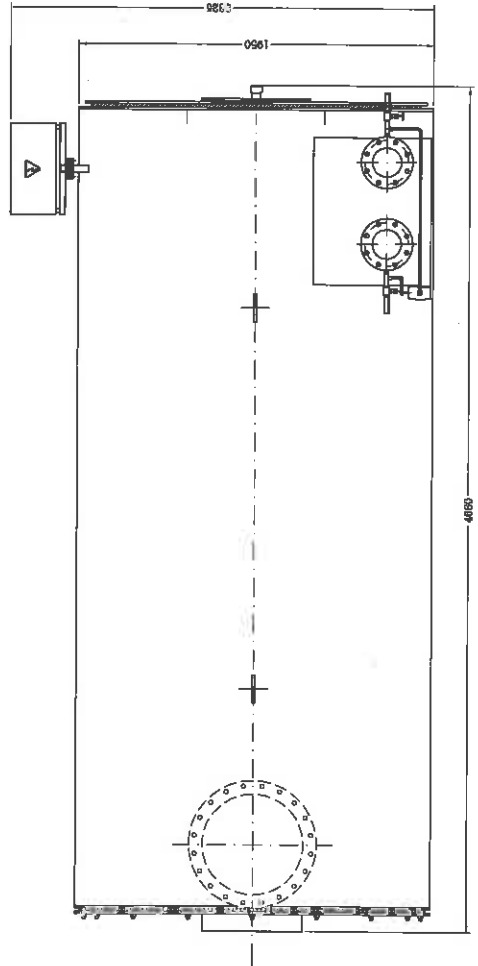
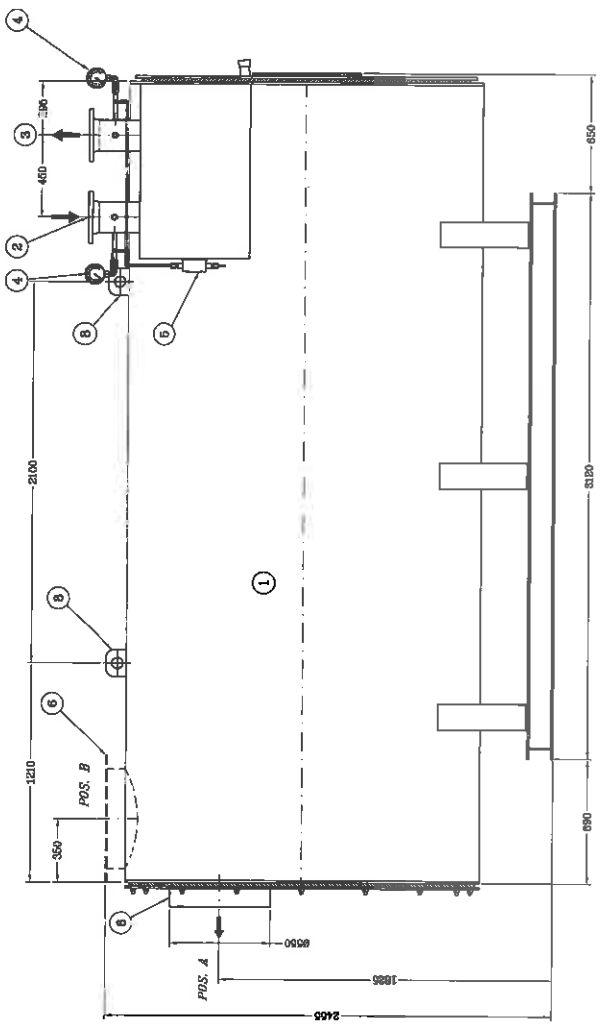
DISegnATO  
F. S.

APPROVATO  
P. A.

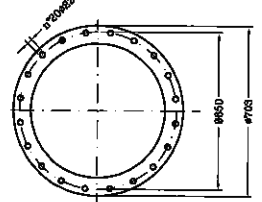
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1:20

DATA  
27/05/2008

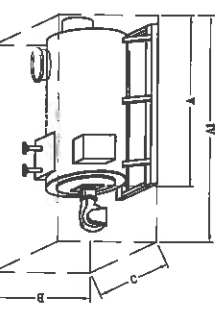
QUESTO DISEGNO E' IN POSSESSO DI GARIONI NAVAL. I DIRITTI DI GARIONI NAVAL SONO RISERVATI. E' VIETATA LA RIPRODUZIONE O L'UTILIZZO IN QUALSIASI MODO SENZA LA SCRITTA AUTORIZZAZIONE.



PARTIC. FLANGIA USCITA FUMI  
SMOKE EXIT FLANGE DETAIL  
POS. 6



DIMENSIONI INGOMBRO TRASPORTO  
TRANSPORT EXTERNAL DIMENSIONS



A	4700 mm
A1	6000 mm
B	2700 mm
C	2400 mm
PESO A VUOTO EMPTY WEIGHT	6500 Kg

POS.	NR.	DESCRIZIONE	DESCRIPTION
8	2	GANCIO DI SOLLEVAMENTO	LIFTING LIGCS
7	1	QUADRO ELETTRICO	CONTROL PANEL
6	1	USCITA FUMI	SMOKE EXIT
5	1	PRESSOSTATO DIFFERENZIALE	DIFFERENTIAL PRESSURE SWITCH
4	2	MANOMETRO	PRESSURE INDICATOR
3	1	USCITA OLIO	OIL OUTLET
2	1	INGRESSO OLIO	OIL INLET
1	1	CALDAIA AD OLIO DIATERMICO TR2500	TR2500 THERMAL OIL HEATER
			EMPTY WEIGHT: 6500 Kg OIL CONTENTS: 1344 l
			NOTE

**GARIONI NAVAL**  
 Viale dei Caduti 3  
 26030 CASTELMELLA (PS)  
 Tel. (030) 2881641 r.a  
 Fax (030) 2880910

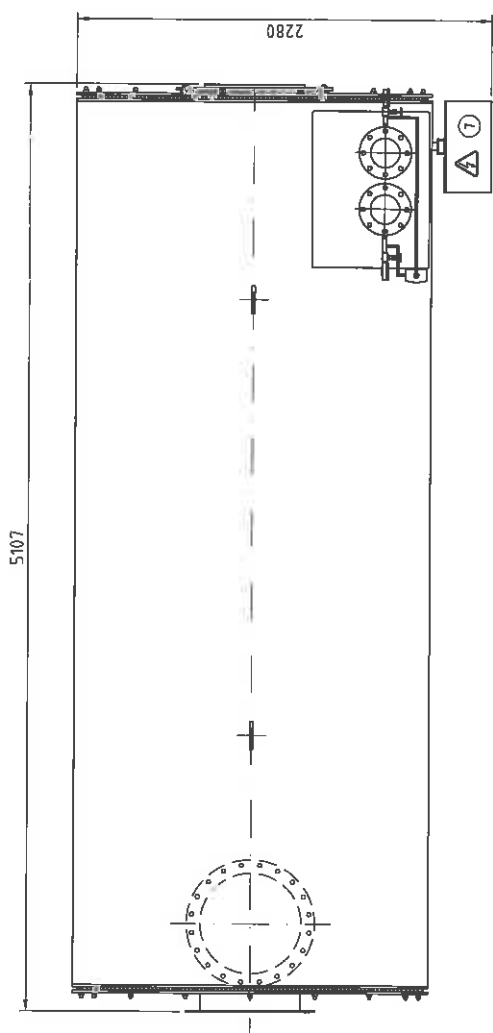
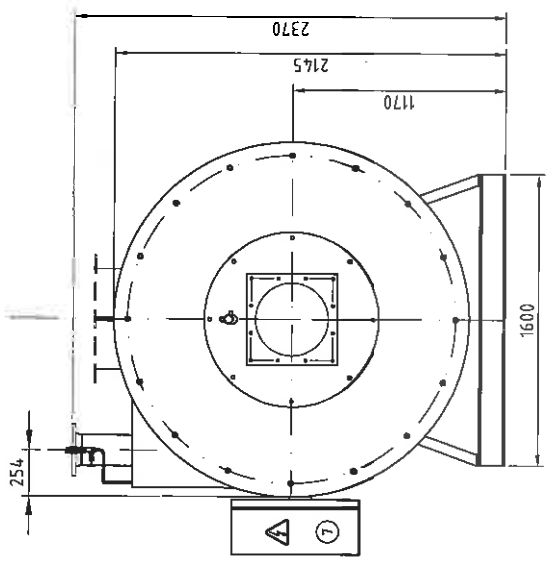
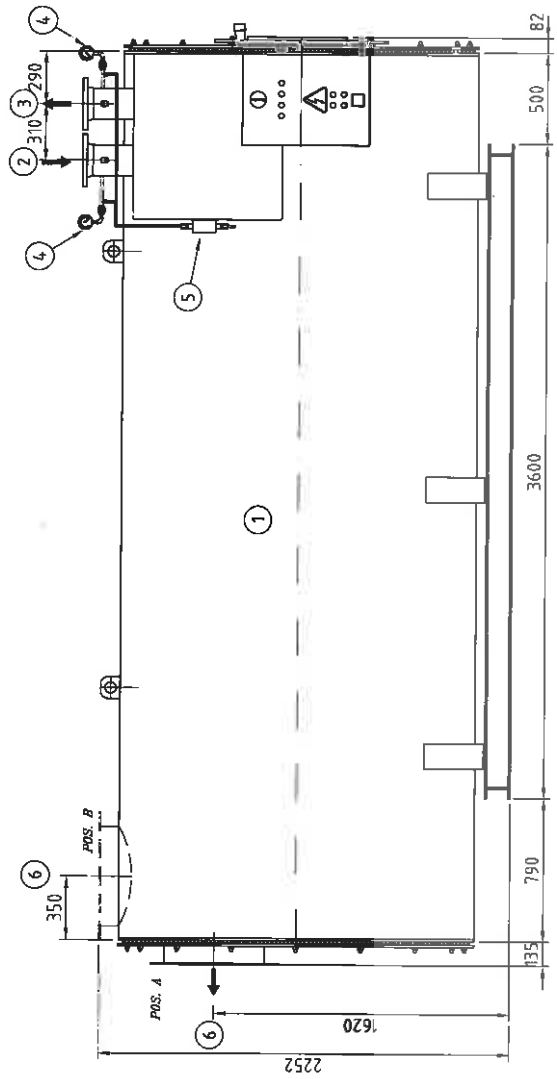
TH 2500  
 STANDARD EXTERNAL DIMENSIONS  
 DIMENSIONI DI INGOMBRO STANDARD  
 DISEGNO N.  
 TH 1058

COMMESSA  
 SOSTITUISCE IL 04-0075 Rev.2  
 REVISIONE 2  
 SOSTITUISCE IL 04-0075 Rev.2  
 DATA 29/04/2008  
 APPROVATO PA  
 DISegnATO FS  
 SCALE 1:20

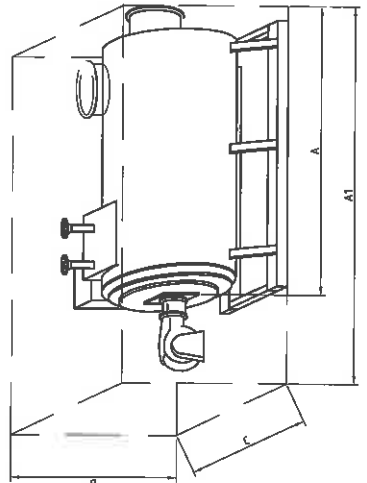
GARIONI NAVAL  
 E' UN'AZIENDA DEL CONSORZIO ITALIANO  
 PER LA RICERCA E LO SVILUPPO DI SISTEMI DI  
 PROTEZIONE ANTINCENDIO PER VEICOLI E IMPIANTI

GARIONI NAVAL  
 GARANTISCE LA QUALITA' DEI PRODOTTI E IL SERVIZIO AL CLIENTE

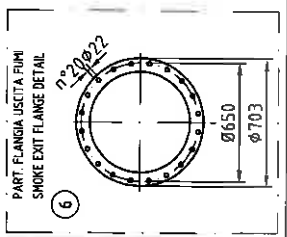
GARIONI NAVAL  
 GARANTISCE LA QUALITA' DEI PRODOTTI E IL SERVIZIO AL CLIENTE



DIMENSIONI INCOMERO TRASPORTO  
TRANSPORT EXTERNAL DIMENSIONS



A	510 mm	PESO A VUOTO	6650 Kg
A1	6310 mm	EMPTY WEIGHT	
B	2370 mm		
C	2300 mm		



POS. NR.	DESCRIZIONE	NOTE
7	QUADRO ELETTRICO	
6	USCITA FUMI	DIN66044 DN550
5	PRESSOSTATO DIFFERENZIALE	
4	MANOMETRO	
3	USCITA OLIO	DN150 PN16
2	INGRESSO OLIO	DN150 PN16
1	CALDAIA AD OLIO QUATERMICO TH3000	EMPTY WEIGHT: 6650 Kg OIL CONTENTS: 1695 l

ES. P.A.	ES. P.A.	ES. P.A.	ES. P.A.	ES. P.A.	ES. P.A.	ES. P.A.	ES. P.A.	ES. P.A.	ES. P.A.		
7	W/07/2007	Miscelatore	7	W/07/2007	Miscelatore	7	W/07/2007	Miscelatore	7	W/07/2007	Miscelatore
6	20/02/06	Trasporto	5	17/02/06	Revisione generale	4	21/02/06	Revisione generale	3	15/02/06	Revisione generale
3	15/02/06	Revisione generale	2	25/02/05	però basata sulla... cambio-dati cart.	1	06/02/05	revisione finale			
REV.	DATA	REVISIONE	REV.	DATA	REVISIONE	REV.	DATA	REVISIONE	REV.	DATA	REVISIONE

184 TH 01 R2

Viale dei Camilli, 3  
20136 Sesto San Giovanni (MI)  
Tel. 02 26091111  
Fax 02 26091110

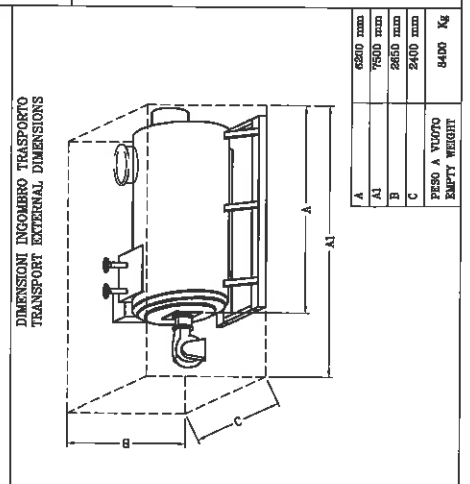
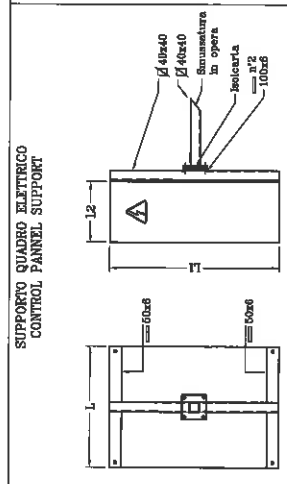
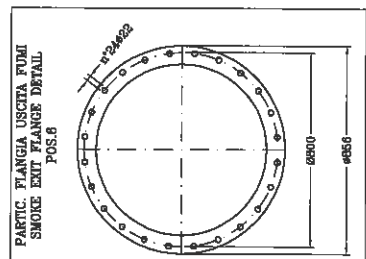
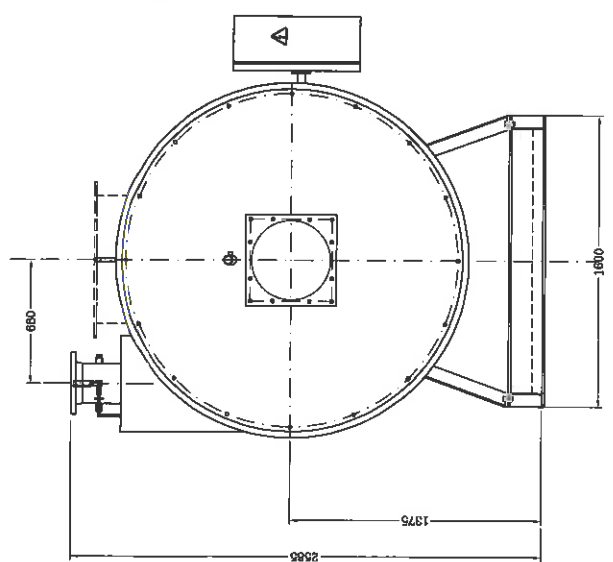
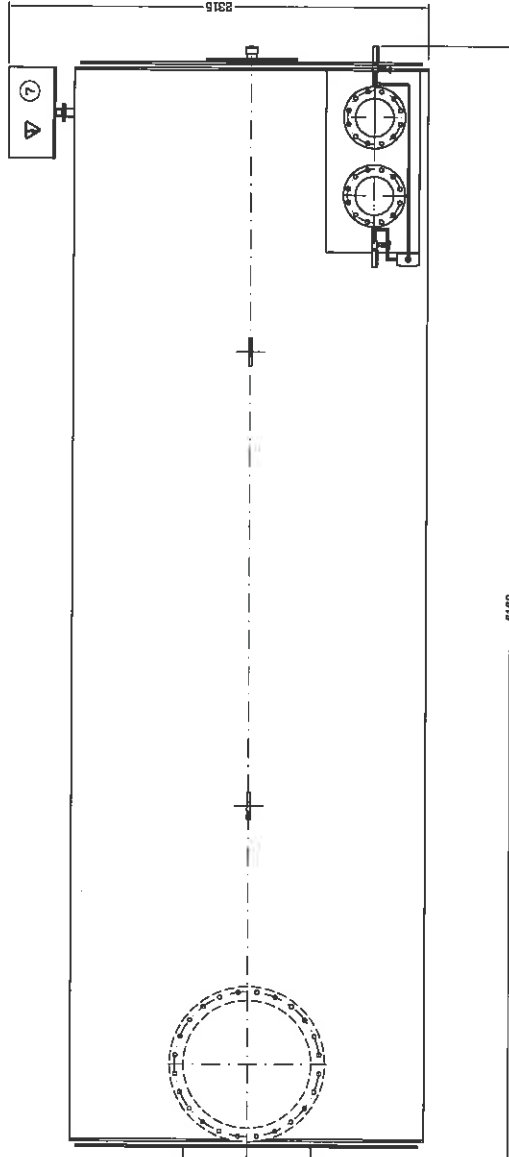
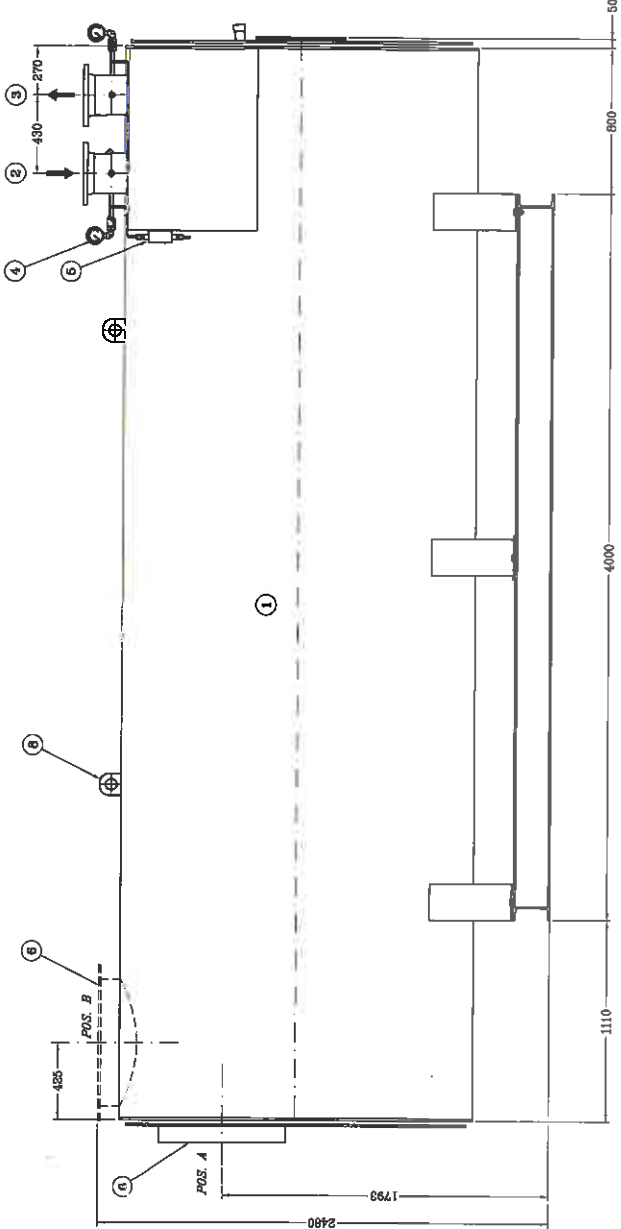
**GARIONI NAVAL**

DIMENSIONI INCOMERO STANDARD  
STANDARD EXTERNAL DIMENSIONS  
TH 3000

APPROVATO S.F. C.D. 01/04/2004  
SCALA DATA 1:20

DISSEGNO N. 04-0076

QUESTO DISSEGNO E' IN ADERSA LEGGERIA, IMPRONTATA E' VENDUTO A FORME DI LEGGE, AUTOMATICO O SEPARATO. I TITOLI SONO LA NOSTRA RESPONSABILITA'.



POS. NR.	DESCRIZIONE	DESCRIZIONE
6 2	CANCO DI SOLLEVAMENTO	LIFTING LUGS
7 1	QUADRO ELETTRICO	CONTROL PANNEL
6 1	USCITA FUMI	SMOKE EXIT
6 1	PRESISTIVO DIFFERENZIALE	DIFFERENTIAL PRESSURE SWITCH
4 2	MANOMETRO	PRESSURE INDICATOR
3 1	USCITA OLIO	OIL OUTLET
2 1	INGRESSO OLIO	OIL INLET
1 1	CALDAIA AD OLIO DIATERMICO TH2000	TH2000 THERMAL OIL HEATER
		EMPTY WEIGHT: 8400 Kg
		OIL CONTENTS: 1989 l
		NOTE

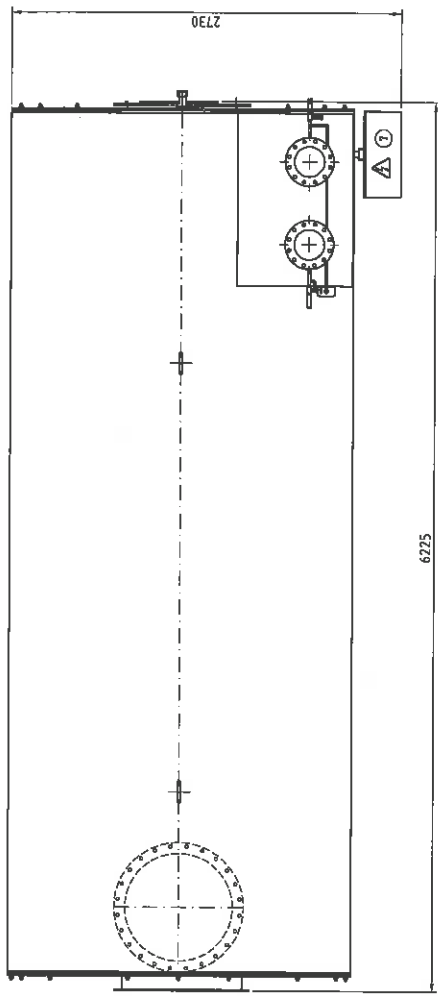
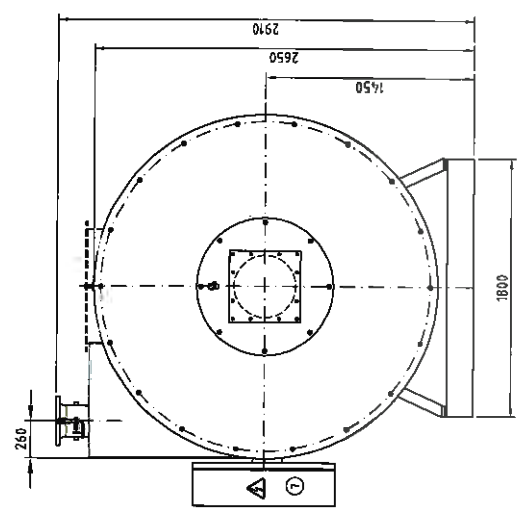
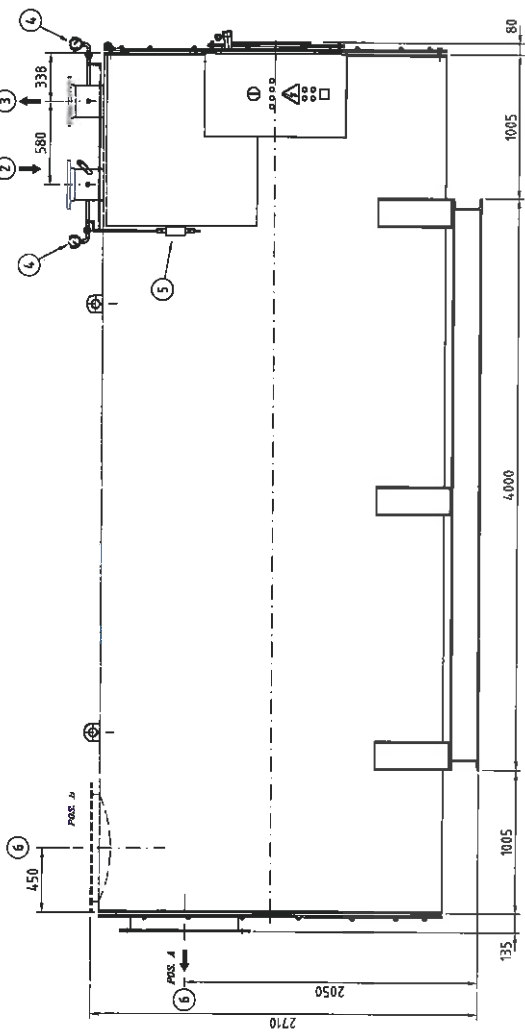
**GARIONI NAVAL**

Viale dei Calcoli, 3  
25030 CASTELMELLA (BS)  
Tel. (030) 2681541 r.a.  
Fax (030) 2680910

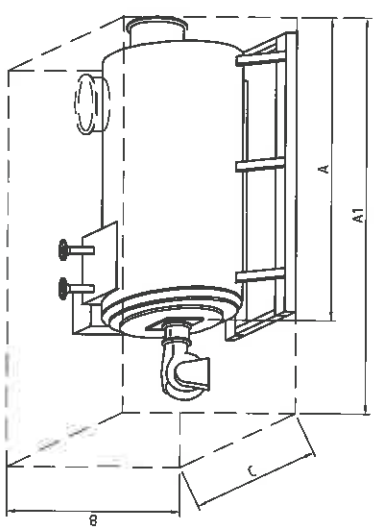
TH 4000  
STANDARD EXTERNAL DIMENSIONS  
DIMENSIONI DI INGOMBRO STANDARD

DISCERNATO F.S. APPROVATO PA 1:20 09/06/2009  
SOSTITUISCE IL 04-0977 Rev.5  
REVISIONE 0  
SOSTITUITO DAL  
DISEGNO N. TH 1125

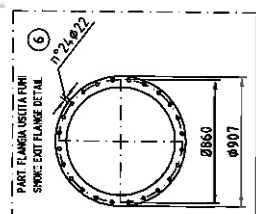
FORM IO BL 288



DIMENSIONI INGOMBRO TRASPORTO  
TRANSPORT EXTERNAL DIMENSIONS



A	6225 mm
A1	8150 mm
B	2910 mm
C	2750 mm
PESO A VUOTO EMPTY WEIGHT	12600 Kg



POS.	NR.	DESCRIZIONE	DESCRIPTION	NOTE
7	1	QUADRO ELETTRICO	CONTROL PANEL	
6	1	USCITA FUMI	SMOKE EXIT	DN86044 DN750
5	1	PRESSOSTATO DIFFERENZIALE	DIFFERENTIAL PRESSURE SWITCH	
4	2	MANOMETRO	PRESSURE INDICATOR	
3	1	USCITA OLIO	OIL OUTLET	DN200 PN16
2	1	INGRESSO OLIO	OIL INLET	DN200 PN16
1	1	CALDAIA AD OLIO DIATERMICO TH5000	TH5000 THERMAL OIL HEATER	EMPTY WEIGHT: 12600 Kg OIL CONTENTS: 2833 l

REV. 1 DATA 20/10/2006 TRASPORTO MODIFICHE

**GARIONI NAVAL**  
 Via de' Cechi, 3  
 20090 CASTELLE DI STABIA  
 Tel. 02 90904173  
 Fax 02 90904173  
 COMMISSIO

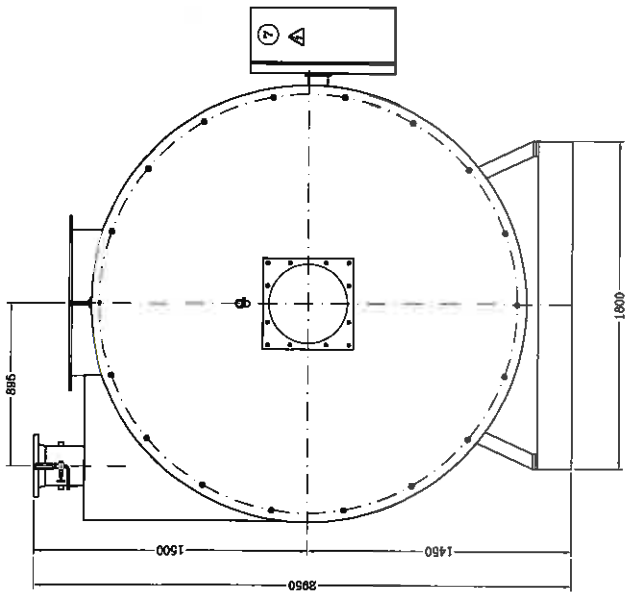
REVISIONE  
 SOSTITUZIONE II SOSTITUITO DA I

APPROVATO P.A. 13/05/2006  
 APPROVATO P.A. 13/05/2006

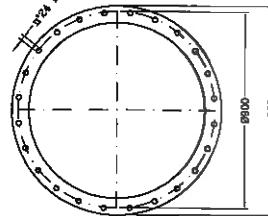
225 TH 0180

DESIGNO N. 06-0221

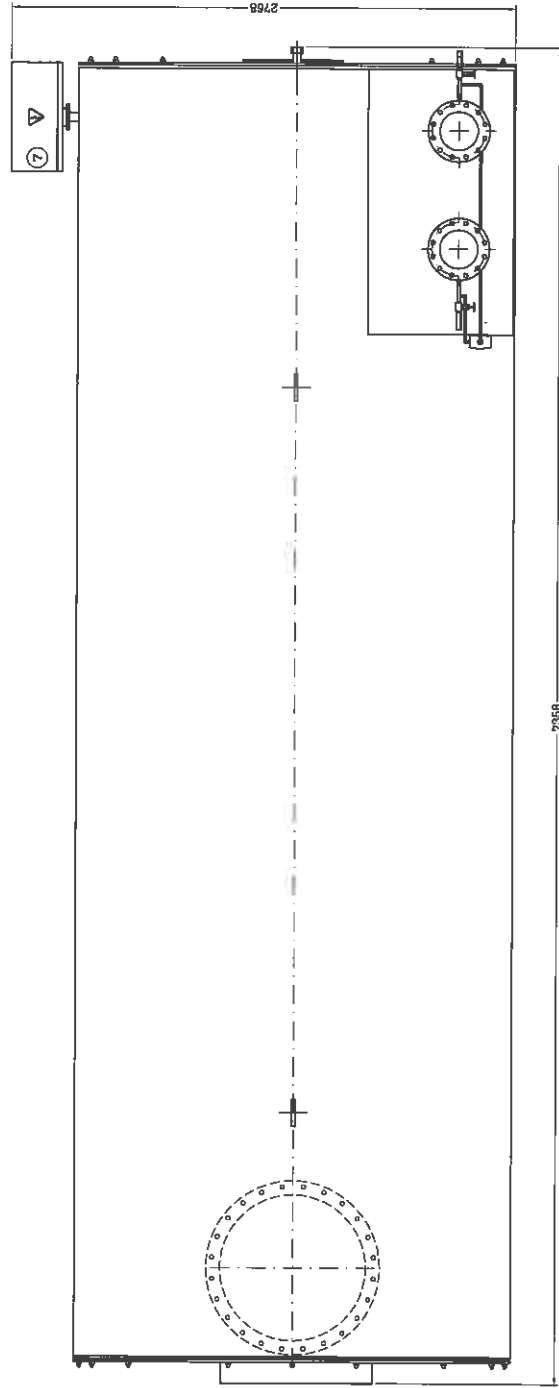
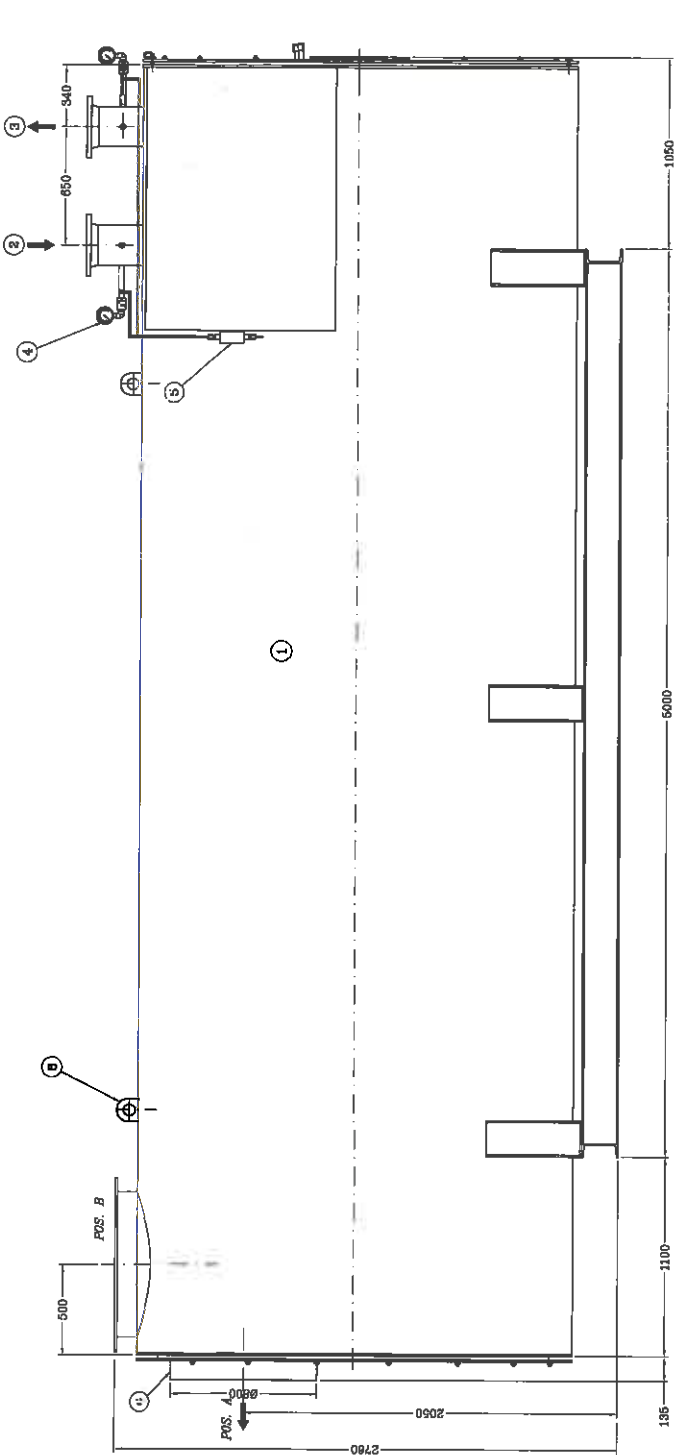
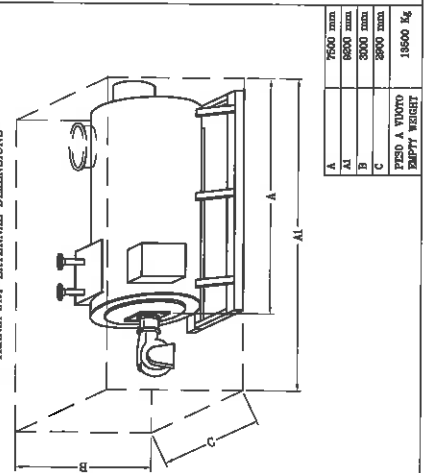
DEBITO DESIGNO P. E. NOSTRA ESCLUSIVA PROPRIETA' E' VETINATA A TERMINI E CONDIZIONI DI LEGGE. RESPONSABILITA' E' SOLO DELLA NOSTRA AUTORIZZAZIONE



PARTI FLANGIA USCITA FUMI  
SMOKE EXIT FLANGE DETAIL.



DIMENSIONI INGOMBRO TRASPORTO  
TRANSPORT EXTERNAL DIMENSIONS



POS. NR.	DESCRIZIONE	DESCRIZIONE
8 2	GAMCO DI SOLLEVAMENTO	
7 1	QUADRO ELETTRICO	LIFTING LUGS
6 1	USCITA FUMI	CONTROL PANEL
5 1	PIRESSOSTATO DIFFERENZIALE	SMOKE EXIT
4 2	MANOMETRO	DIFFERENTIAL PRESSURE SWITCH
3 1	USCITA OLIO	PRESSURE INDICATOR
2 1	INGRESSO OLIO	OIL OUTLET
1 1	CALDAIA AD OLIO DIATERMICO TH6000	OIL INLET
		TH6000 THERMAL OIL HEATER
		EMPTY WEIGHT: 14500 kg
		OIL CONTENTS: 3340 l
		NOTE

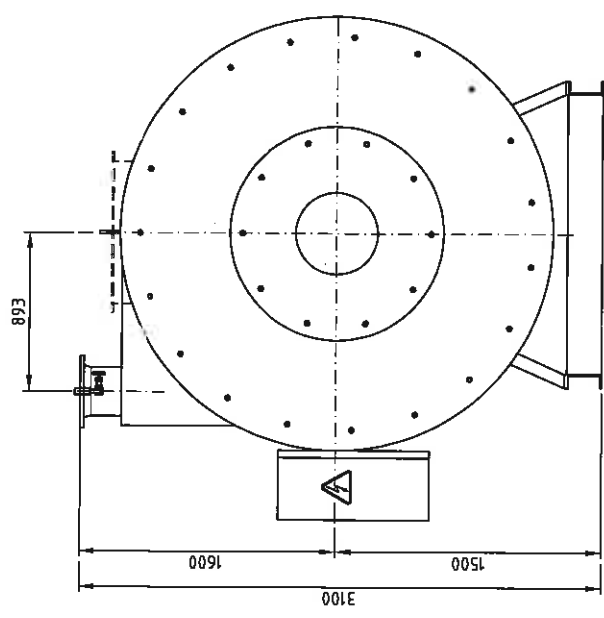
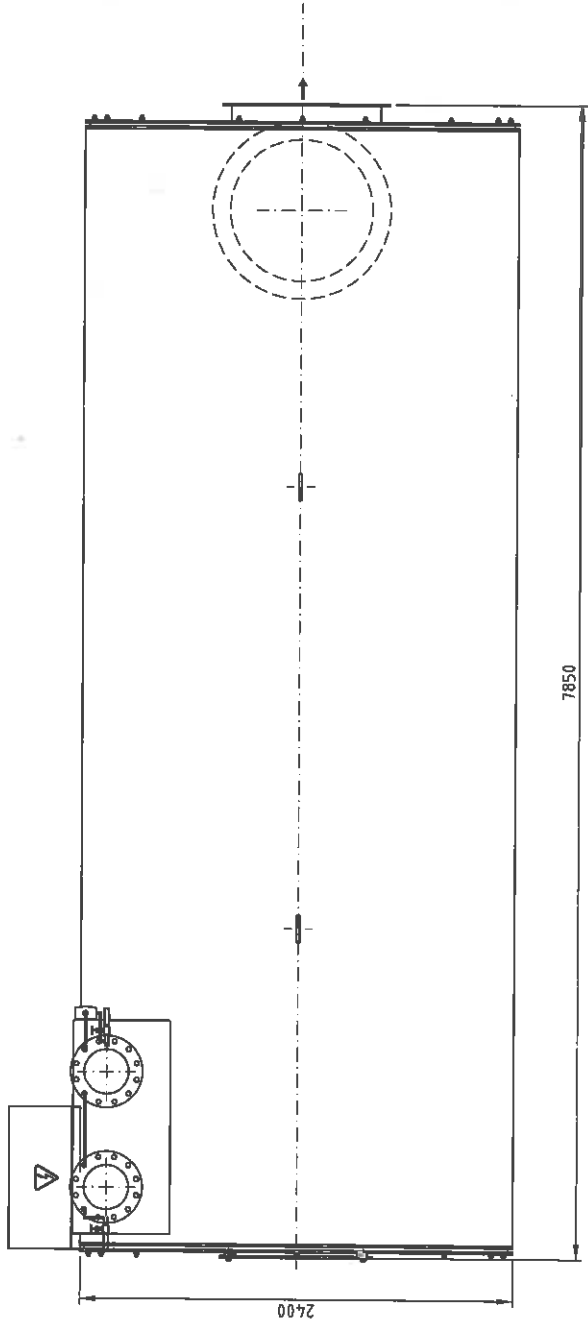
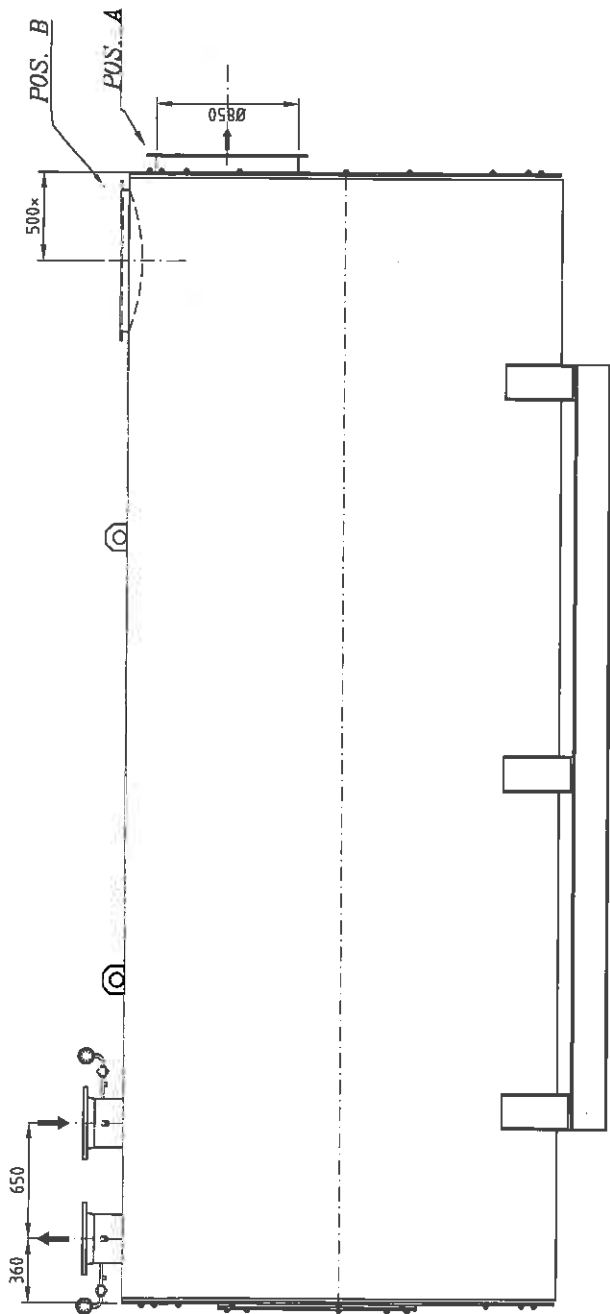
**GARIONI NAVAL**  
 Viale dei Caduti 3  
 25030 CASTELMELLA (BS)  
 Tel. (030) 2881641 r.a.  
 Fax (030) 2880910

TH 6000  
 STANDARD EXTERNAL DIMENSIONS  
 DIMENSIONI DI INGOMBRO STANDARD

DESIGNATO FS VERIFICATO PA APPROVATO PA  
 DATA 18/10/10  
 SCALA 1:20

COMMESSA - REVISIONE  
 SOSTITUISCE IL 05-0205 Rev.3  
 DISEGNO N. TH 1194

QUESTO DISEGNO E' IN POSSESSO DELL'ARMATA ITALIANA. E' VIETATO A PENSA DI SANCA REPRODUCCIONE O UTILIZZAZIONE IN SENSO DIVERSO DA QUELLO AUTORIZZATO.



**PRELIMINARY**

\* QUOTA INDICATIVA

PESO INDICATIVO A VUOTO  
INDICATIVE EMPTY WEIGHT:  
14200 Kg  
CONTENUTO OLIO  
OIL CONTENT: 3342 l  
ENTRATA/USCITA OLIO  
INLET/OUTLET OIL  
DN250 PN16

Viale dei Caduti, 3  
25030 CASTEMELLA (BS)  
Tel. (030) 269541 r.a  
Fax (030) 269990

**GARIONI NAVAL**

DIMENSIONI DI INCOMBRO  
EXTERNAL DIMENSIONS  
TH 7000

COMANDA	ARMATORE
SUBSTITUISCE IL	SUBSTITUITO DALL
DISSEGNO N.	06-0015
DATA	20/01/2005
SCALA	/
APPROVATO C.D.	
REVISIONI S.F.	

QUESTO DISEGNO E' IN MOSTRA ESCLUSIVAMENTE PER VERIFICARE IL TIPO DI LEGGE APPLICABILE O PER VERIFICARE IL TIPO DI LEGGE APPLICABILE