Liquid petroleum gas vaporizer:
safe and long-lasting

for a demand of 12–4000 kg/h

Dry-type-vaporizer:

Type ET8TO

Indirect electric heating system,
cylindric shape,
capacities available:
12 - 24 - 32 - 60 - 100 kg/h



Built according	DGRL 2014/68/EU
	AD2000 HP 801 Nr. 25
	for Ex-Zone 2

The TORPEDO dry-type vaporizer type ET8TO - is heated electrically in an indirect way via a solid aluminium core.
Thanks to the thermostat control, heating and monitoring of the heat carrier are ensured within the limits fixed by the DIN-DVGW Standards.
The solenoid valve opens when the necessary temperature for vaporization is obtained. Liquified petroleum gas enters the vaporizer where it is transformed into gas without any pressure fluctuations until the indicated rated capacity is reached.
The rather modern design immediately detects fluctuations of the gas flow and quickly readjusts the necessary heating capacity to come up to the changed operating parameters.

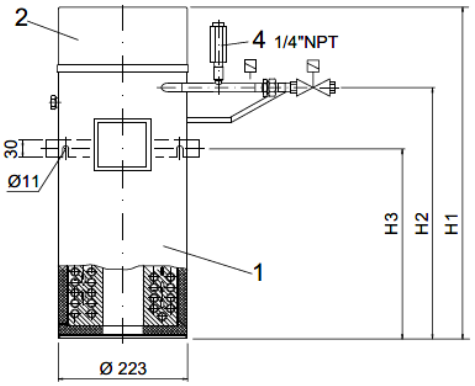
The solenoid valve will shut automatically in case of power failure or overload. An additional safty limiter monitors and avoids an excessive increase of the gas outlet temperature.
Vaprizer design and construction guarantee a sate and all-automatic vaporizer operation also within the protective area 2.

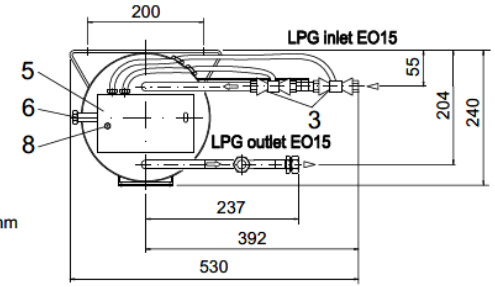
Fienemann TORPEDO GmbH
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Tel.: +49 (0)4106 62 77-0
Fax: +49 (0)4106 62 77 22
E-Mail: info@torpedo-online.de
www.torpedo-online.de

LPG dry type vaporizer
standard configuration
type: ET8TO
capacity: 12-32 kg/h

MZ 804 545 b

capacity kg/h	12	24	32
article no.	10013	10025	10033
H1 mm	487	559	559
H2 mm	370	442	442
H3 mm	265	337	337
voltage V/ frequence Hz	230/50	230/50	400/50
consumption kW	2	4	6
content l	1,0	1,3	1,3
weight kg	27	34	34





1 LPG vaporizer
2 cover
3 solenoid valves EO15/15
4 safety valve outlet G1/2"
5 control box
vapour-proof
6 cable gland for net connection
M 25x1,5 for cable diameter Ø 9-16 mm
only use heat resistant cable
for temperatures from at least 80°C
8 test connection vapour-proof
for pipe diameter Ø 4-8 mm

inlet Parker EO15 tapered thread connection
outlet Parker EO15 tapered thread connection

	inside pipes
max. operating pressure bar	25
design temperature °C	120
max. operating temperature °C	100
test pressure (20°C) bar	36

coating: standard blue, structured

bearb.: 27.02.2018 St
gepr.: 27.02.2018 Ed

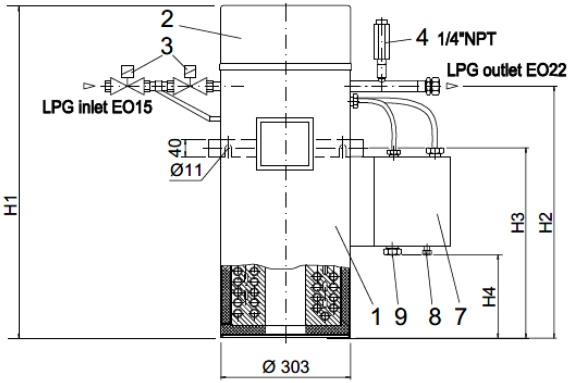
Final equipment according order acknowledgment!
All dimensions are approximate measures and are only for information!

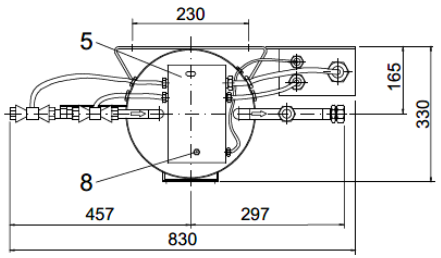
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Tel.: +49 (0)4106 62 77-0
Fax: +49 (0)4106 62 77 22
E-Mail: info@torpedo-online.de
www.torpedo-online.de

LPG dry type vaporizer
standard configuration
type: ET8TO
capacity: 60-100 kg/h

MZ 804 661

capacity kg/h	60	100
article no.	10062	10102
H1 mm	688	912
H2 mm	553	777
H3 mm	443	667
H4 mm	140	325
voltage V/ frequence Hz	400/50	400/50
consumption kW	12	18
content l	3,2	5,3
weight kg	76	105





1 LPG vaporizer
2 cover
3 solenoid valves EO15/15
4 safety valve outlet G1/2"
5 control box
vapour-proof
7 control box
vapour-proof
8 test connection vapour-proof
for pipe diameter Ø 4-8 mm
9 cable gland for net connection
M 25x1,5 for cable diameter Ø 13-18 mm
only use heat resistant cable
for temperatures from at least 80°C

inlet Parker EO15 tapered thread connection
outlet Parker EO22 tapered thread connection

	inside pipes
max. operating pressure bar	25
design temperature °C	120
max. operating temperature °C	100
test pressure (20°C) bar	36

coating: standard blue, structured

bearb.: 27.02.2018 St
gepr.: 27.02.2018 Ed

Final equipment according order acknowledgment!
All dimensions are approximate measures and are only for information!



Wet-type vaporizer cabinet design

Type ES

Indirect electric heating system,
cabinet type, with liquid heat carrier,

Capacities available:
60 - 100 - 200 - 300 - 400 - 500 – 600 - 700 - 800 - 1000 - 1400 kg/h

The TORPEDO liquified petroleum gas vaporizer – type ES – is heated electrically in an indirect way by using a liquid heat carrier consisting of a Glythermin NFT ® /water mixture in the ratio of 40% to 60%.

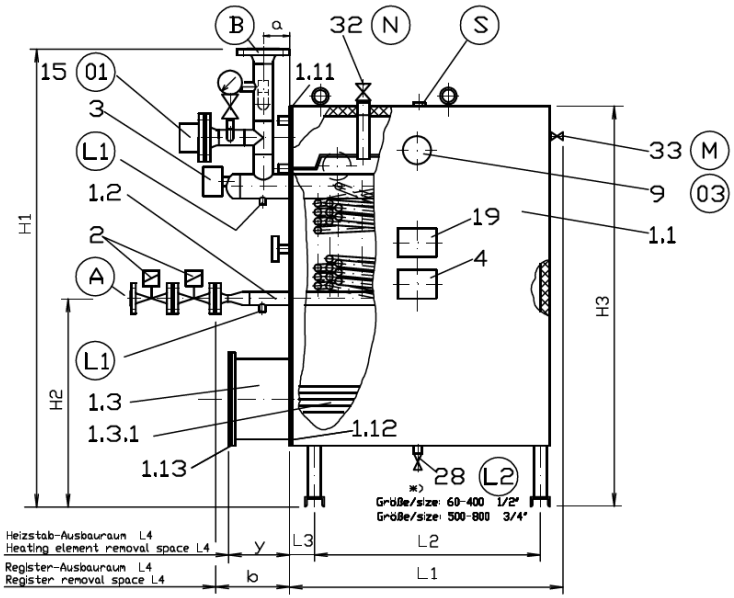
The vaporizer register and the terminal box for the heating element are flanged to the vaporizer front and can be removed without any difficulty for inspection purposes. The vaporizer is electrically started up from the switchboard. Heating and monitoring of the heat carrier are thermostat-controlled within the limits fixed by the DIN-Standards. The solenoid valve opens when the required minimal temperature required for vaporization is obtained. Liquified gas enters the vaporizer where it will be changed into the gaseous phase without any pressure fluctuations until the indicated rated capacity is reached. The solenoid valve will shut in case of power failure or overload.

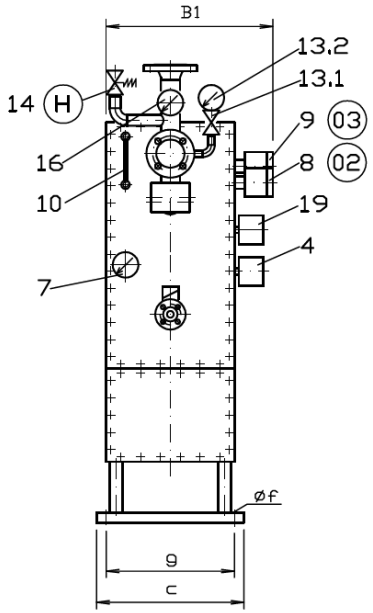


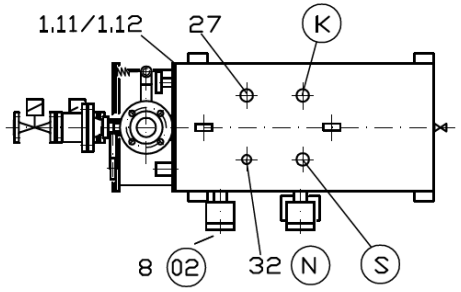
An additional safety limiter monitors and avoids an excessive increase of the gas outlet temperature. Vaporizer design and construction guarantee an almost maintenance-free and all automatic operation.

Built according	DGRL 2014/68/EU
	AD2000 HP 801 Nr. 25
	for Ex-Zone 1 and 2









Bez. symbol	Stück piece	DN	PN	Norm standard	Dichtleiste facing	Rohrltg.-Maß pipe size	Benennung description
S	1	1"					Füllanschluss (Wärmeträgermedium) filling connection (heat carrier medium)
03	1	1"					Wärmeträgermangel optional lack of heat carrier optional
02	1	1"					Gasleckagensicherung/Wärmeträgermangel gas leakage protection/lack of heat carrier
01	1	40	40	DIN EN 1092-1			Überflutungsschutz optional overflow protection optional
N	1	1/4"					Entlüftung (Wärmeträgermedium) vent (heat carrier medium)
M	1	1/4"					Überlauf (Wärmeträgermedium) overflow (heat carrier medium)
L1	1	1/4"					Entleerung (Verdampferregister) drain (vaporizer register)
L2	1	*)					Entleerung (Wärmeträgermedium) drain (heat carrier medium)
K	1	1"					Entlüftung (Wärmeträgermedium) vent (heat carrier medium)
H	1	1/2"					Sicherheitsventil-Austritt safety valve outlet
B	1		40	DIN EN 1092-1			Gas-Austritt (Gasphase) gas outlet (gaseous phase)
A	1		40	DIN EN 1092-1			Gas-Eintritt (Flüssigphase) gas inlet (liquid phase)

Stutzentabelle / table of pipe connection

Ausführung nach DGRL, AD2000/design and construction in accordance with PED, AD2000

	an die Rohre/outside tubes	in den Rohren/inside tubes
zul. Betriebsüberdruck/ max. allow. design pressure	ATM bar	25 bar
zul. Betriebstemperatur/ max. allow. design temperature	120 °C	120 °C
Prüfüberdruck/test pressure (20°)	0,2 bar	36 bar

Abnahme/Inspection: Größe 60/100 WAZ / Größe 200-800 TÜV
Schweißung/welding: AD2000-HP0
Schweißspezifikation/welding spezification: 801 055 Bl.1-6; 801 150
Stutzen sind spannungsarm anzuschließen/nozzles local loading have to be negligible
Arbeitsprüfung/production test piece: AD2000-HP5/2
Ausnutzung der zul. Berechnungsspannung in der Schweißnaht/joint effiency: v = 0,85
Zerstörungsfreie Prüfung/non-destructive testing: AD2000-HP0
Wärmebehandlung/heat treatment: - ohne/none - Auftrags-Nr./order no.:
Bau-Nr./manufacturing no.: Baujahr/year of construction:
Material und Werkstoff nach Auftrg.-Stückliste/see part list
Anordnung der Schraubenlöcher nach/arrangement of boltholes in accordance with: DIN EN 1092-1
(...) Kontrollmaß/dimensional check

Nur zur Information!
Techn. Änderungen vorbehalten!
Alle Maße sind Circa-Maße!

Maßgeblich für die Ausrüstung ist die jeweilige Auftragsbestätigung!

Leistung/capacity kg/h / kgs/h	DN Eing.	DN Ausg.	B1	H1	H2	H3	L1	L2	L3	L4	a	b	c	øf	g	y	Inhalt/contens	Anschlusswert/ connected load	Leergewicht/ weight empty (kg)
	Gas		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	L		
800	32	65	535	2030	905	1850	1195	995	130	1150	110	215	480	18	400	145	530	44,4	112,5	3x37,5	550
700	32	65	535	2030	970	1850	1195	995	130	1150	110	215	480	18	400	145	534	41,5	112,5	3x37,5	540
600	32	50	535	1885	905	1705	1195	995	130	1150	82	215	480	18	400	145	489	35,9	90	3x30	470
500	25	50	535	1885	985	1705	1195	995	130	1150	82	215	480	18	400	145	495	31,4	90	3x30	430
400	25	40	535	1660	710	1480	845	705	80	800	82	215	460	18	400	145	284	28,0	72	24/48	320
300	20	40	535	1660	800	1480	845	705	80	800	82	215	460	18	400	145	284	20,3	54	18/36	310
200	15	40	535	1295	565	1115	845	705	80	800	82	215	460	18	400	145	200	15,1	36	12/24	240
100	15	40	435	1280	525	1100	730	590	80	680	82	215	340	14	300	145	119	8,0	18	18/-	110
60	15	40	385	1185	490	1005	590	450	80	540	82	265	290	14	250	145	65	5,9	12	12/-	100

c	CAD/Norm	20.08.08	Ediger
b	ÄM 00-05	07.06.00	Wagner
a	ÄM 98-14	24.11.98	Wagner
Ind.	Änd.-Mittlg.	Tag	Name
1997	Tag		Name
Gez.	25.04.		Wagner
Gepr.			
Gen.			

Maße ohne Toleranzangaben/measures without tolerance
spanend DIN ISO 2768-1: mittel ☒ grob ☐ | spanlos: mittel ☐ grob ☐ | Brennschnitte DIN 2310-1: s ≤ 20 B, s > 20 C | Schweißkonstruktion DIN EN ISO 13920: B ☐ C ☒

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Ansicht(Projection) DIN ISO 128 | Maßstab: (Scale) %

Benennung (Denomination):
Schrankverdampfer Typ ES 60 - 800
LPG-Vaporizer cabinet type ES 60 - 800
Übersicht/arrangement
mit Anschluß für LS
with connecting branch for LS

torpedo
Fienemann TORPEDO GmbH
Friedrich-List-Straße 9
D-25451 Quickborn
Tel.: 04106-6277-0
Fax : 04106-627722

Zeichnungs-Nr.(Drawing-No): MZ 804 231 c
Format Kennz.: A3

Zeichnungs-Zusatzangaben nach | Zeichnung best. aus Blatt | Blatt-Nr.

Urspr.: MZ801892 + MZ801894a | Ers. für: | Ers. durch:

☒ Zutreffendes bitte ankreuzen

Hot water vaporizer:

Type WW

Built according	DGRL 2014/68/EU
	AD2000 HP 801 Nr. 25
	for Ex-Zone 1 and 2



Indirect hot water heating system, cylindric shape,

Capacities available:
100 - 200 - 300 - 400 - 500 - 700 - 1000 kg/h
Special sizes – also available with a combined heating system– up to 4000 kg/h.

The TORPEDO LPG-Vaporizer – type WW – is heated indirectly by means of hot water at a temperature of 90/70° C.

The vaporizer register is welded onto the vaporizer top plate and flanged to the vaporizer tank, thus allowing its removal for inspection purposes. The vaporizer is started up electrically from the switchboard. It will be ready for operation as soon as the necessary vaporization temperature is available in the unit.

The thermostat controlled solenoid valve opens automatically within the limits fixed by the DIN-Standards. Liquified gas enters the vaporizer where it will be changed into gas without any pressure fluctuations until the indicated rated capacity is obtained. The solenoid valve will shut in case of power failure or overload. Vaporizer design and construction guarantee a nearly maintenance-free and all-automatic operation.



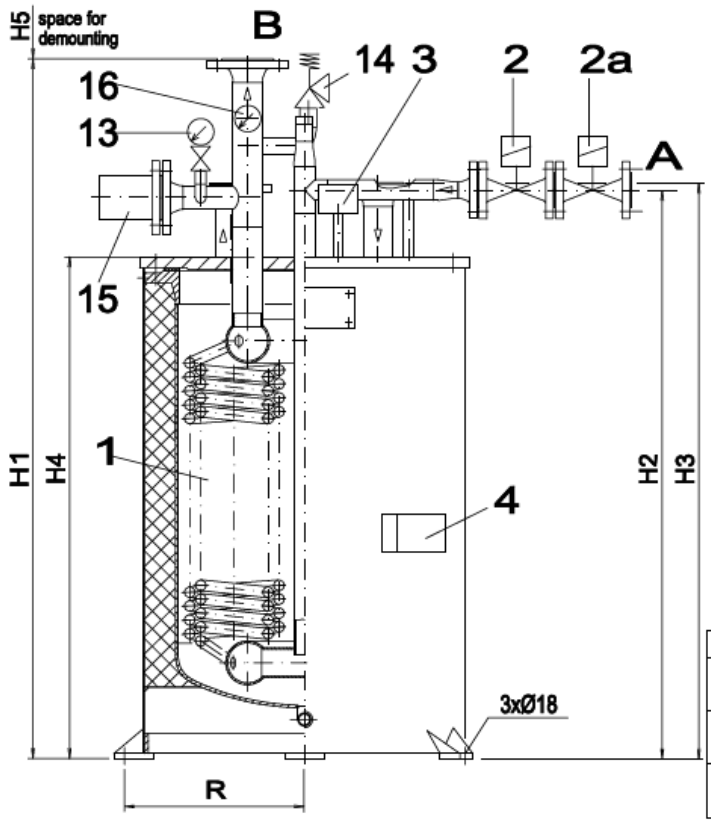
FienemannTORPEDO GmbH
Friedrich-List-Straße 9
25451 Quickborn
Tel.: 04106-6277-0
Fax.: 04106-627722

LPG-Vaporizer overview type WW

MZ 804 309b

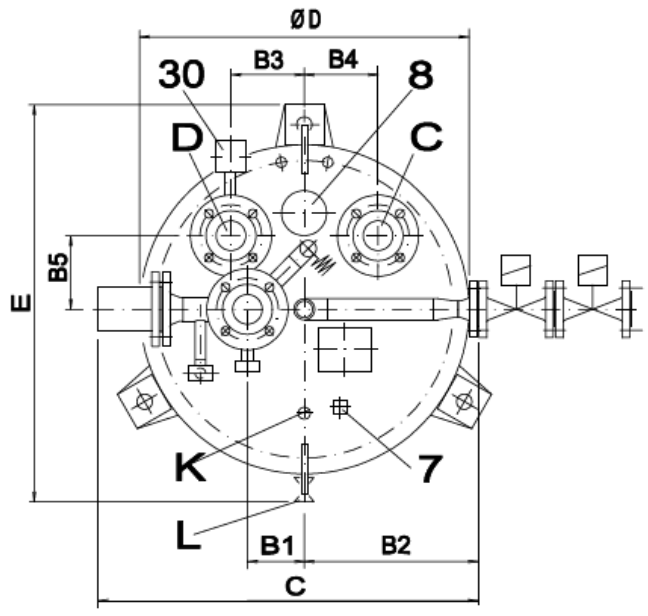
page: 1 from: 1

TORPEDO-order-no.:



1 LPG-Vaporizer
2 solenoid valve
2a solenoid valve optional
3 double thermostat (gasphase)
4 double thermostat
(temperature limiter;
low temperature limiter)
7 thermometer (heating media)
8 gas leakage control,
level control heating media (Liquiphant) optional
13 manometer with shout-off valve
(gasphase)
14 safety valve
15 overflow control (Liquiphant) optional
16 thermometer (gasphase)
30 pressure switch
A liquid phase-inlet
B gas-outlet
C water inlet
D water-outlet
K ventilation (heating media)
L filling and draining
(heating media)

	inside the tubes	inside the shell
allowed working pressure bar	25	6
allowed working temperature °C	-10/+120	-10/+120
test pressure (20°C) bar	36	9



dimens. \ type	WW 300	WW 400	WW 500	WW 600	WW 700	WW 800	WW 900	WW 1000
gas inlet	DN20	DN25		DN32			DN40	
gas outlet	DN40		DN50			DN65		
heat media								
H1(mm)	1245	1375	1421	1506	1591	1676	1786	1926
H2(mm)	965	1095	1156	1241	1326	1421	1531	1671
H3(mm)	995	1125	1171	1256	1341	1426	1536	1676
H4(mm)	845	975	1021	1106	1191	1276	1386	1526
H5(mm)	800	950	950	1050	1150	1250	1350	1500
B1(mm)	95		115					
B2(mm)	290		410					
B3-5(mm)	117		148			157		
C(mm)	700		840					
ØD(mm)	545		760					
E(mm)	690		870					
R(mm)	305		415					
content(l) in the pipes	85	102	198	217	236	255	280	310
content(l) in the shell	12	16	33	36	40	44	50	55
weight (kg)	170	210	400	420	450	460	500	550

drawn.: July 2008 TE
appr.:



Complete units:

Customized turn-key solutions for your demand

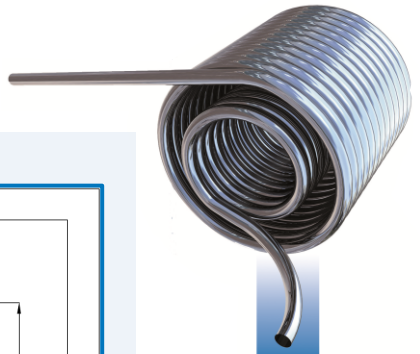


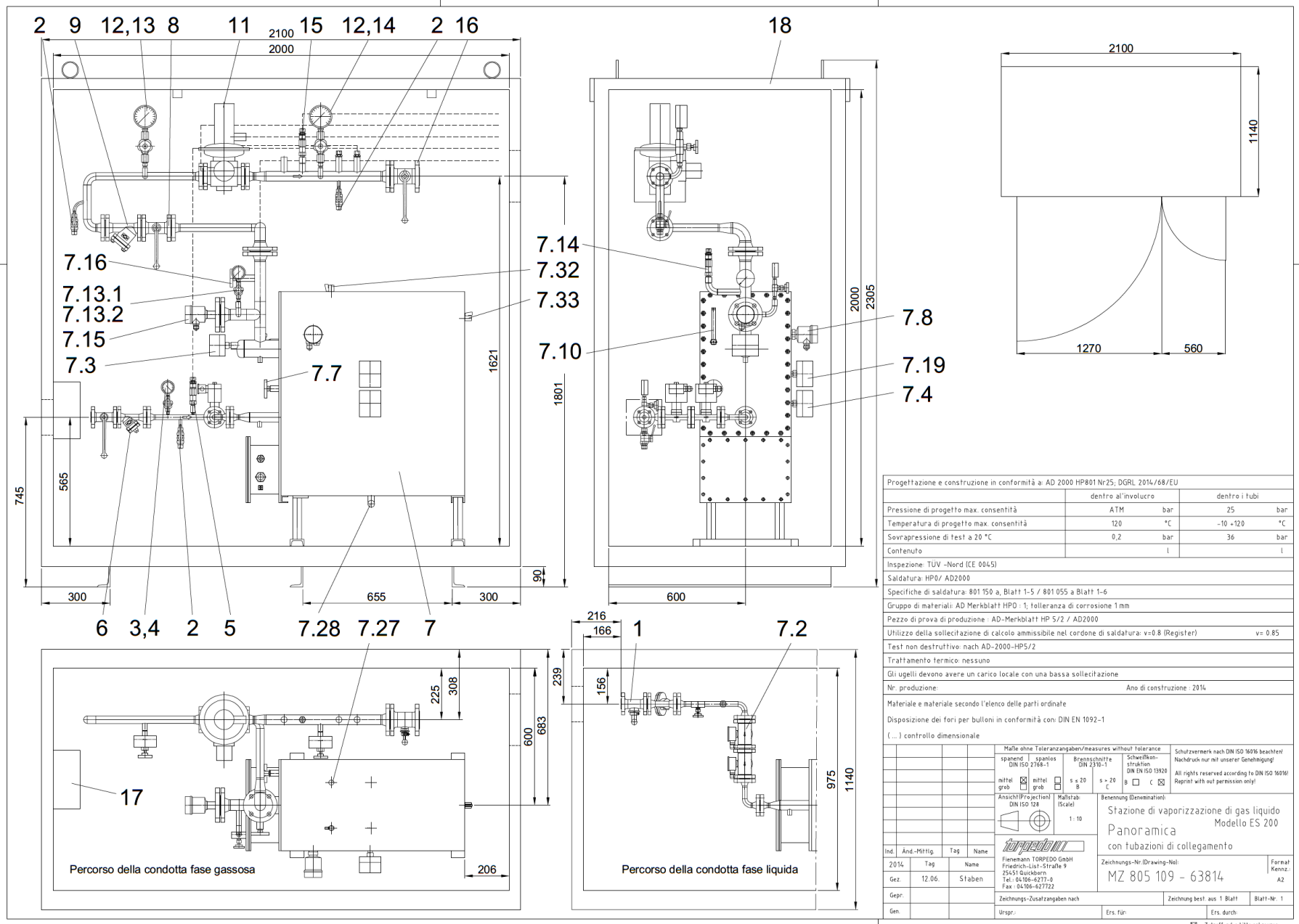
Torpedo presents a perfect and field tested vaporizer programme for all rated capacities. Heating depends on the local circumstances and can be provided either electrically or by means of steam, hot water or indirectly by using liquid gas.

The TORPEDO vaporizers are absolutely reliable in practical daily use thanks to their easy installation and their all-automatic vaporizer operation for gas supply. Make your choice to solve your special problem of gas supply most conveniently

- vaporizer only for site installation
- gas supply unit
- compact unit, vaporizer driven
- service at site







Progettazione e costruzione in conformità a: AD 2000 HP801 Nr25; DGRL 2014/68/EU				
	dentro all'involucro		dentro i tubi	
Pressione di progetto max. consentità	ATM	bar	25	bar
Temperatura di progetto max. consentità	120	°C	-10 +120	°C
Sovrapressione di test a 20 °C	0,2	bar	36	bar
Contenuto		l		l
Inspezione: TÜV -Nord (CE 0045)				
Saldatura: HP0/ AD2000				
Specifiche di saldatura: 801 150 a, Blatt 1-5 / 801 055 a Blatt 1-6				
Gruppo di materiali: AD Merkblatt HP0 : 1; tolleranza di corrosione 1 mm				
Pezzo di prova di produzione : AD-Merkblatt HP 5/2 / AD2000				
Utilizzo della sollecitazione di calcolo ammissibile nel cordone di saldatura: v=0.8 (Register)			v= 0.85	
Test non destruttivo: nach AD-2000-HP5/2				
Trattamento termico: nessuno				
Gli ugelli devono avere un carico locale con una bassa sollecitazione				
Nr. produzione:	Ano di costruzione : 2014			
Materiale e materiale secondo l'elenco delle parti ordinate				
Disposizione dei fori per bulloni in conformità con: DIN EN 1092-1				
(...) controllo dimensionale				

Maße ohne Toleranzangaben/measures without tolerance
spanend | spanlos DIN ISO 2768-1: mittel ☒ grob ☐ | mittel ☐ grob ☐
Brennschnitte DIN 2310-1: s ≤ 20 B | s > 20 C
Schweißkonstruktion DIN EN ISO 13920: B ☐ C ☒

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Ansicht(Projection) DIN ISO 128 | Maßstab (Scale) 1 : 10

Benennung (Denomination):
Stazione di vaporizzazione di gas liquido Modello ES 200
Panoramica
con tubazioni di collegamento

Ind.	Änd.-Mittlg.	Tag	Name
2014	Tag		Name
Gez.	12.06.		Staben
Gepr.			
Gen.			

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Zeichnungs-Nr.(Drawing-Nol): MZ 805 109 - 63814
Format Kennz.: A2

Zeichnungs-Zusatzangaben nach | Zeichnung best. aus 1 Blatt | Blatt-Nr. 1
Urspr.: | Ers. für: | Ers. durch:

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torpedo







We offer individual solutions and build the system to suit your needs!





We are your competent partner for the central gas supply

- propane-butane
- dimethyl ether
- ammonia gas NH_3
- gaseous methanol, CO_2, SO_2, chlorine and others
- liquified gas in general



Our devices are

- Durable and sustainable: 20 years and more service life
- Easy to install, low-maintenance and fully automatic operation
- Safe and reliable: ATEX, PED, PTB, SIL2
- Made in Germany: manufactured according to german industry standards

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