

BM2 patent



NEW INFRARED OIL HEATER
FIRE 45

BM2 BIEMMEDUE

BM2 BIEMMEDUE

BM2 BIEMMEDUE

Arcotherm & Oklima



Tilting radiation cone

Radiant cone can be tilted unscrewing two plastic knobs

Fixing holes



Main features

2 speed version

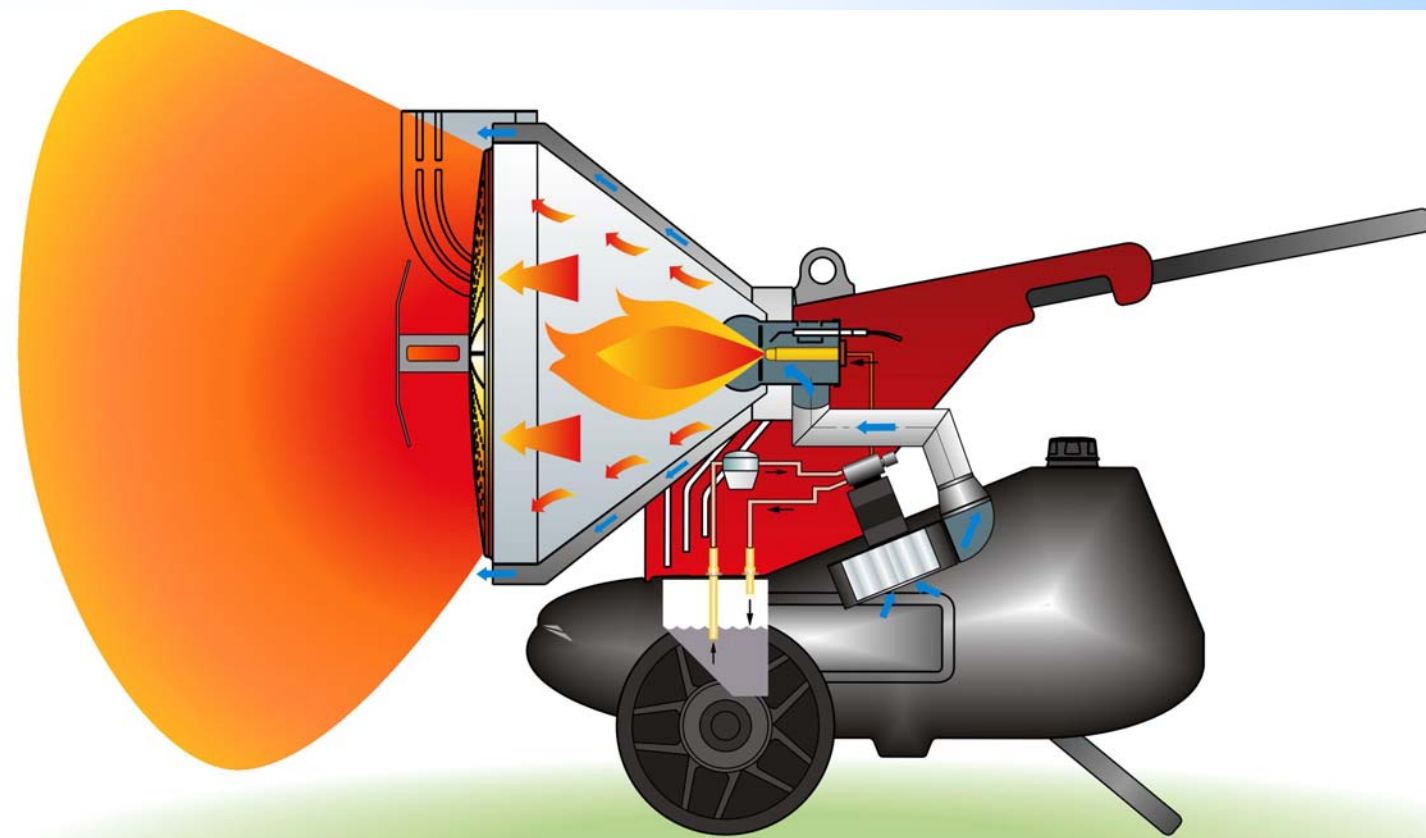
Thermal power capacity	42.7 kW (Hi)
2° speed	45.5 kW (Hs)
Thermal power capacity	34.4 kW (Hi)
1° speed	36.7 kW (Hs)
Tank capacity	65 litres
Run time	2° speed 15 hours
	1° speed 18 hours
Power	370 W - 3A
Weight	75kg
Power requirement	230V 50Hz
Dimensions	1380 x 705 x 990 [mm]
Shipping dimensions	1035 x 650 x 1125 [mm] - 93kg
Q.ty for container:	
	20' 38 heaters
	40' 80 heaters
	40' HC 80 heaters
	Tir 92 heaters

Main features

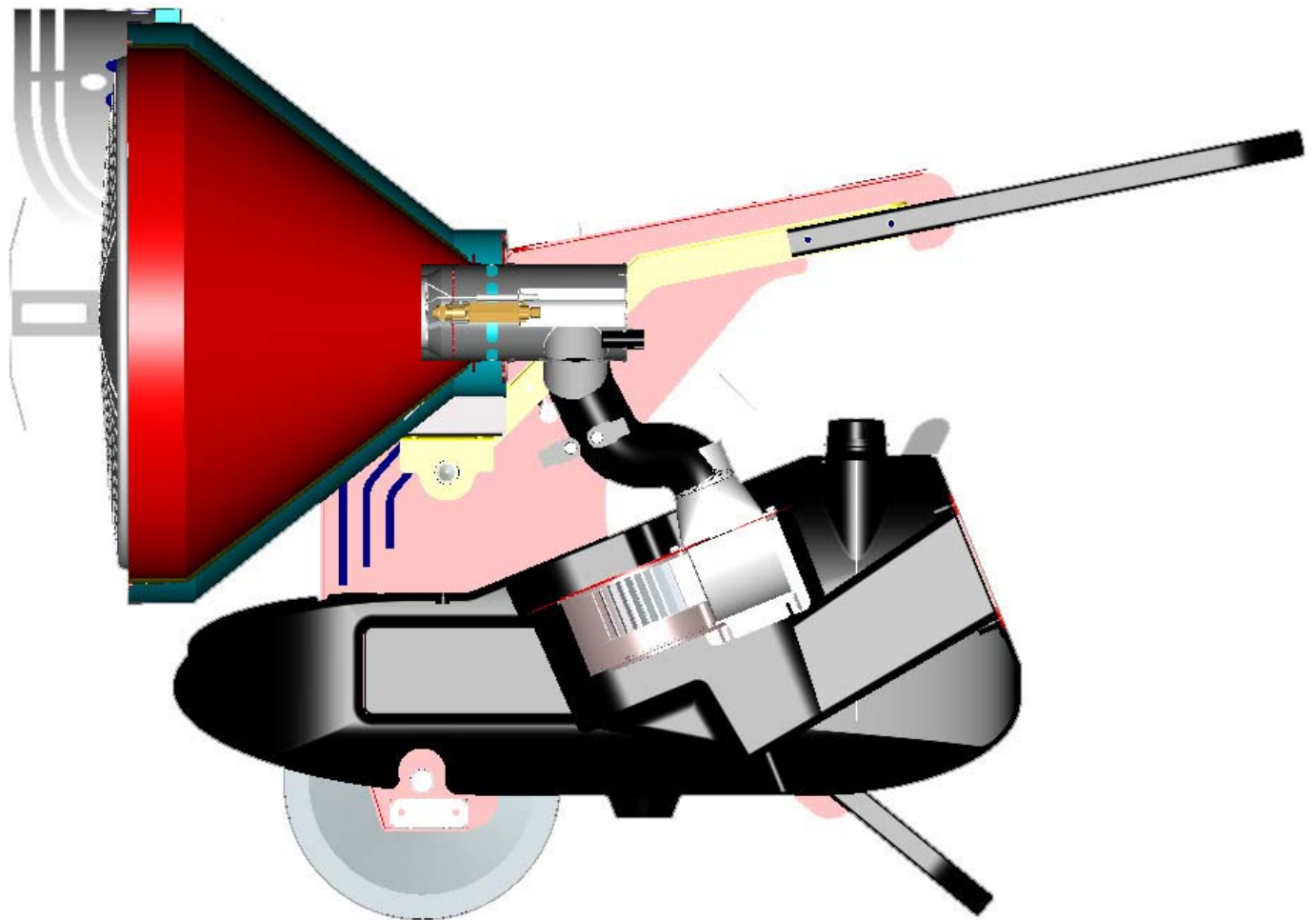
1 speed version

Thermal power capacity	42.7 kW (Hi) 45.5 kW (Hs)
Tank capacity	65 litres
Run time	15 hours
Power	370 W - 3A
Weight	75kg
Power requirement	230V 50Hz
Dimensions	1380 x 705 x 990 [mm]
Shipping dimensions	1035 x 650 x 1125 [mm] - 93kg
Q.ty for container:	
	20' 38 heaters
	40' 80 heaters
	40' HC 80 heaters
	Tir 92 heaters

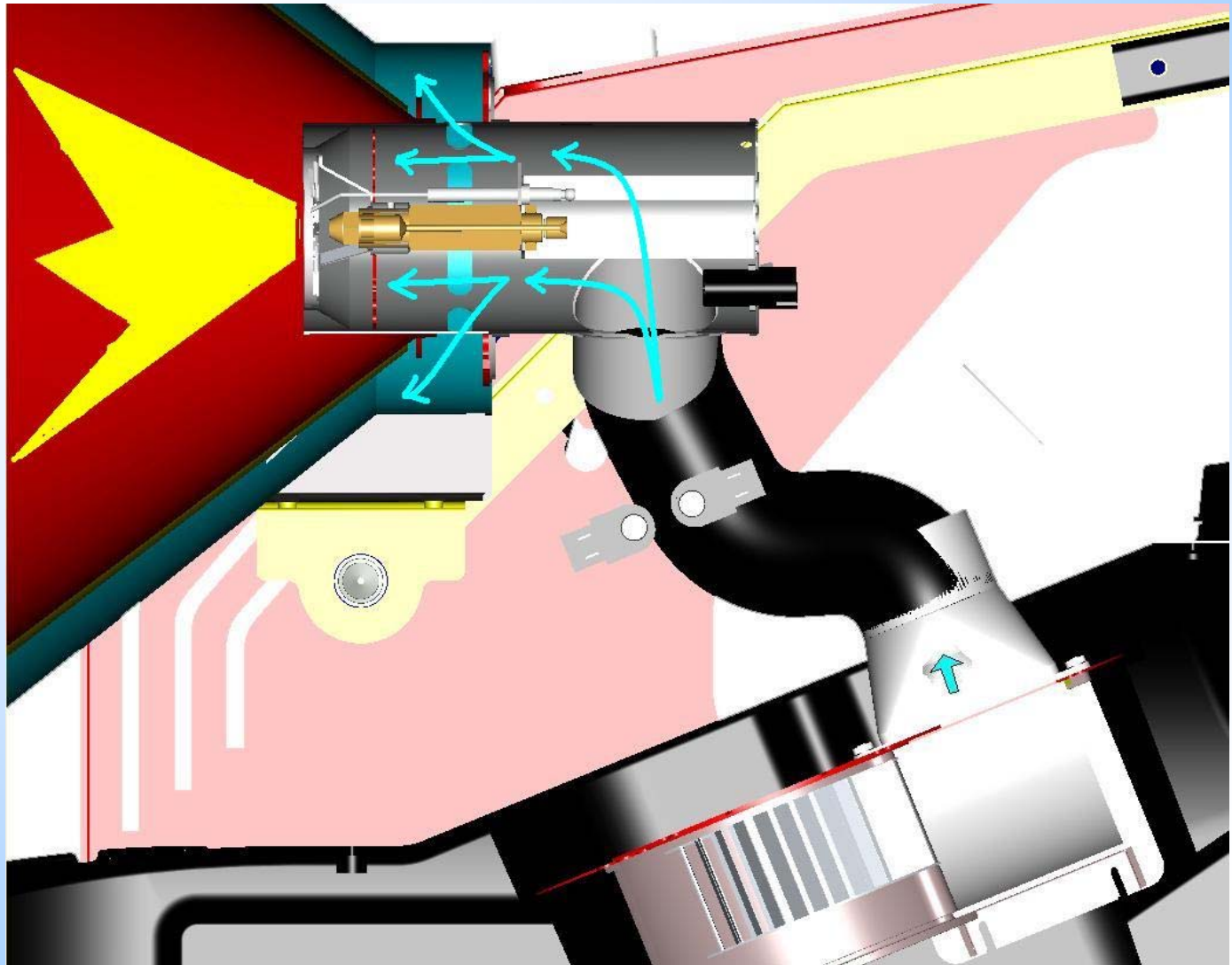
Functioning scheme



Heater cutted view



Functioning scheme – combustion head

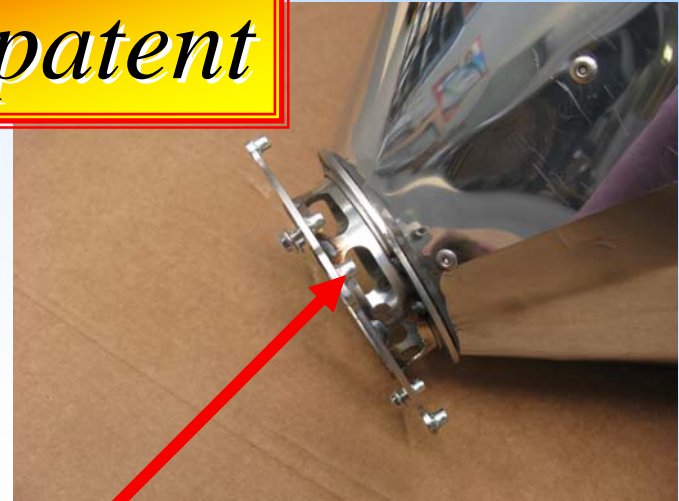


Combustion chamber no ceramic cone

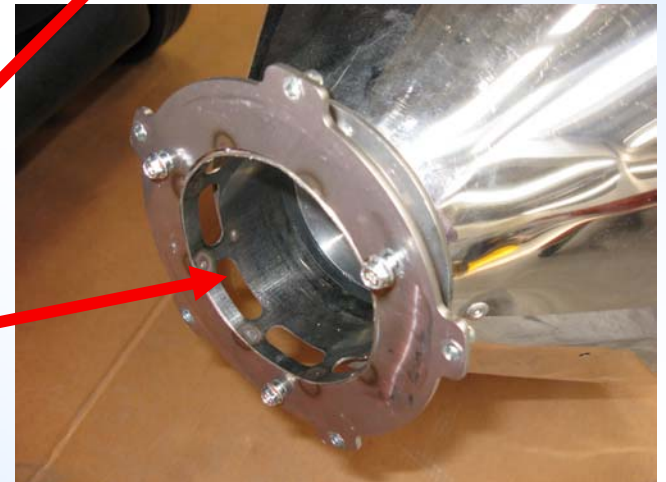
BM2 patent



Infrared shield



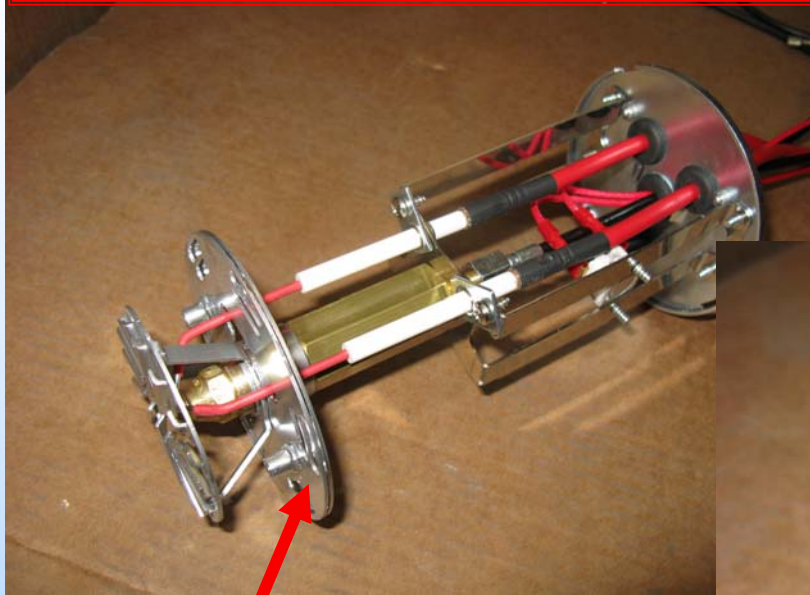
Air cooling holes



Combustion head

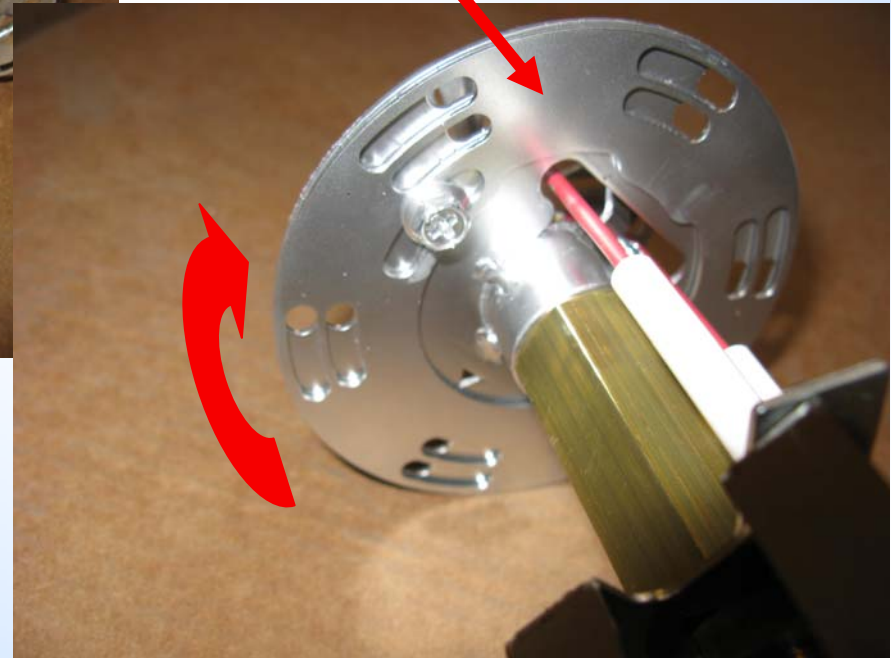
Very efficient combustion head allowing a perfect air/oil mix and consequent complete combustion, with very low (0 ppm) carbon monoxide level

Air intake set by a sliding air lock



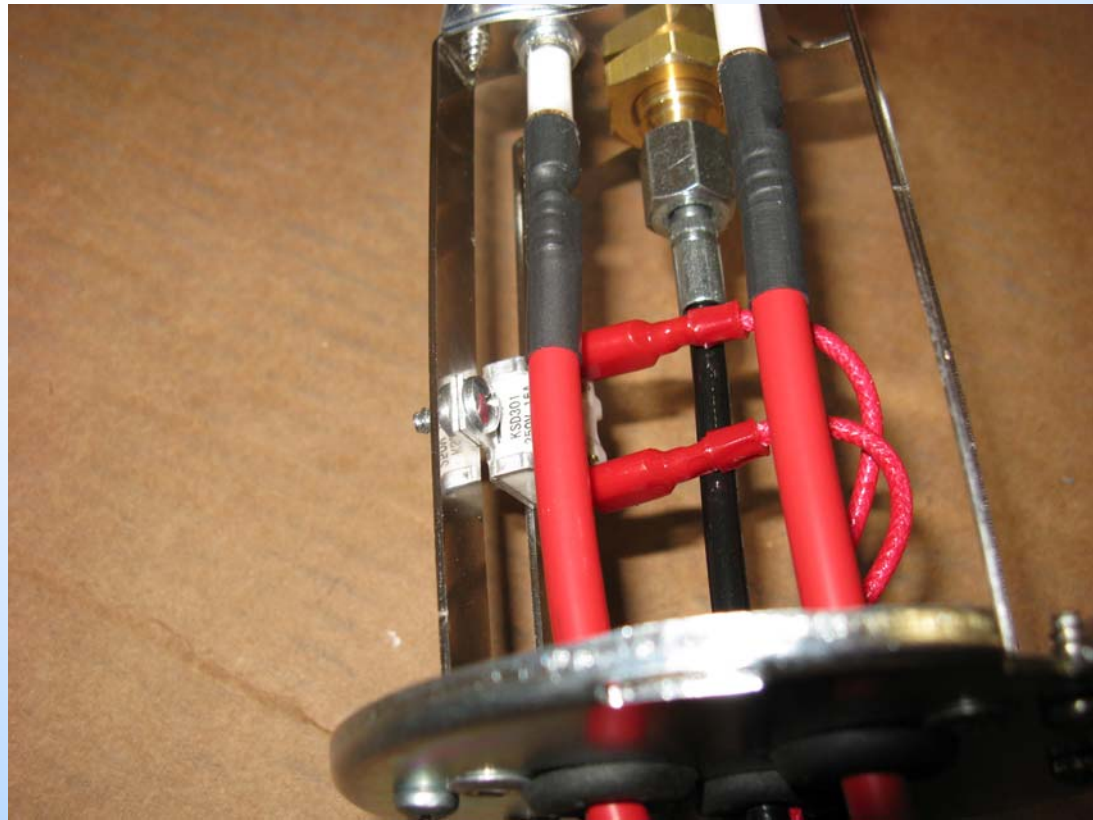
Combustion air turbolator

Air lock adjustable



Overheat thermostat

Stops the heater in case of problem



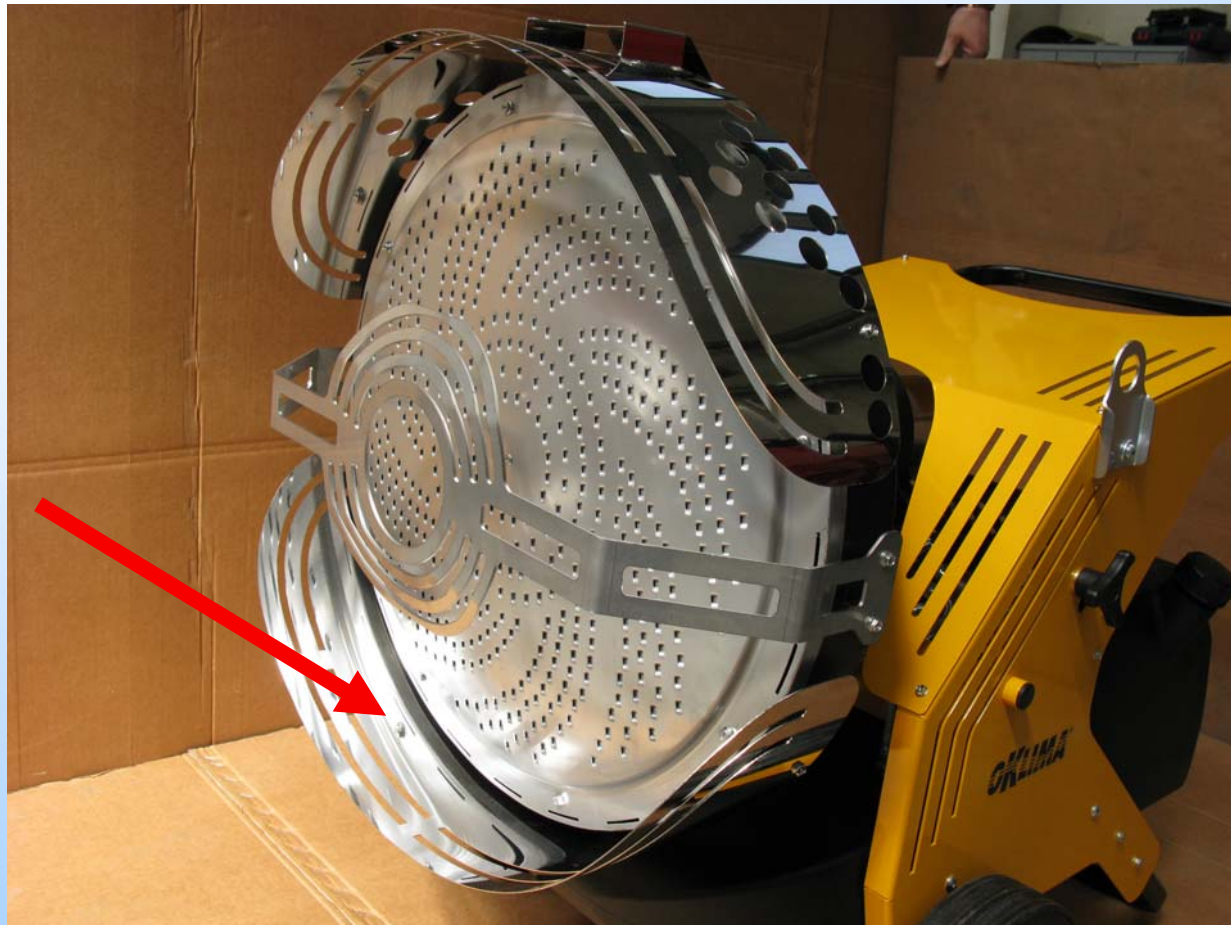
Front infrared shields

All stainless steel



Lower infrared shield - optional

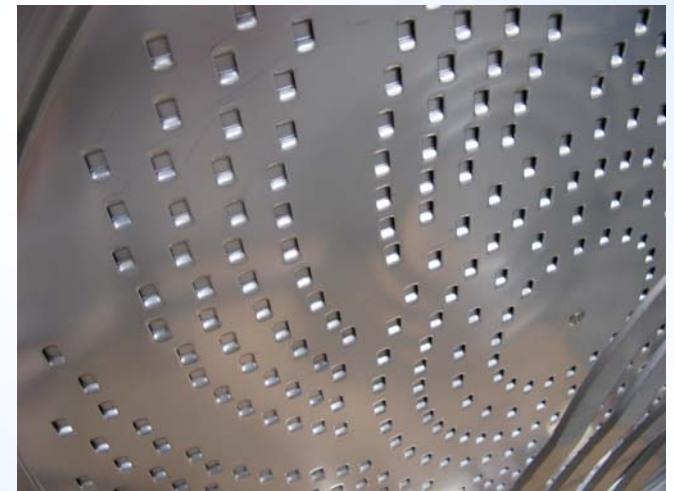
Lower protection shield to avoid the floor overheating



Large radiation disk



High temperature resistant
steel :
stainless steel AISI 309 L



One speed version 45kW



Two speed version 45-35 kW

The heater always starts at high power (45kW) which can be converted to low power (35kW) after 20 seconds

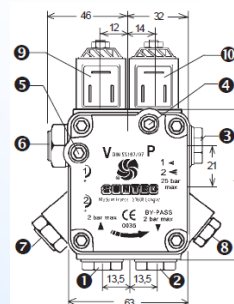
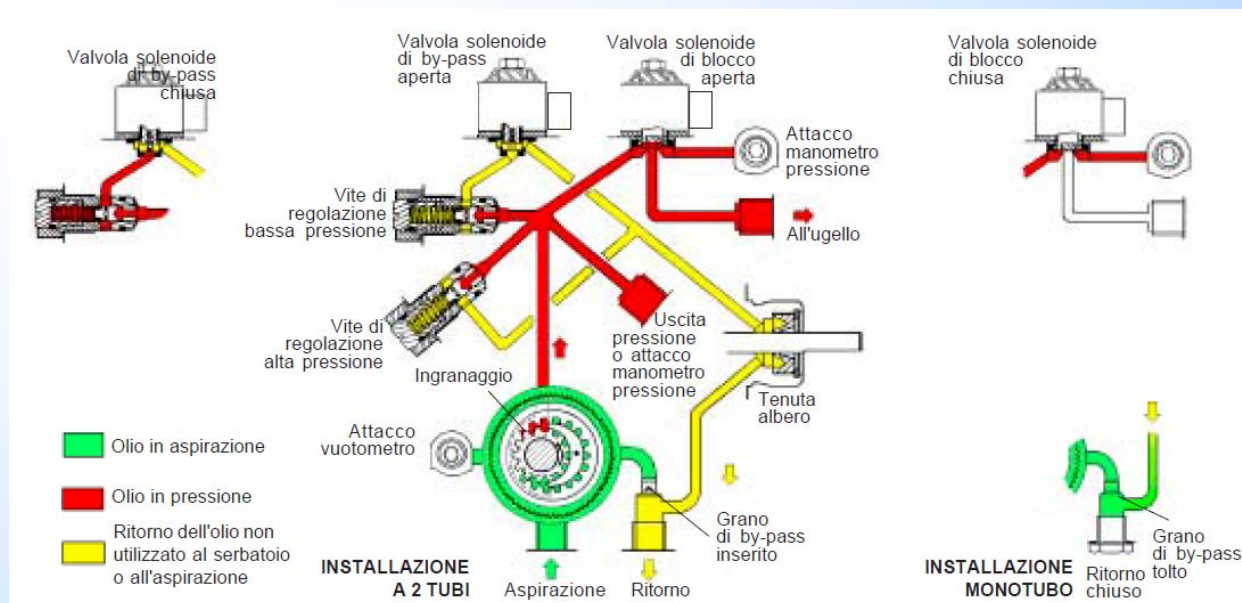
Two stage oil pump



Two stage switch



Two stage oil pump



- 1 Entrata (Aspirazione)
- 2 Ritorno con grano di by-pass interno
- 3 Uscita all'ugello
- 4 Attacco manometro pressione
- 5 Attacco vuotometro
- 6 Vite di regolazione bassa pressione
- 7 Vite di regolazione alta pressione
- 8 Attacco manometro pressione o uscita pressione
- 9 Elettrovalvola passaggio bassa/alta pressione
- 10 Elettrovalvola di blocco

Fuel tank

The strong and compact look is given by the innovative design. The oil tank is made of anti-shock polietylene, hydrocarbon resistant, reinforced with special additives, allowing the use in very cold or aggressive environments.

Tank capacity : 65 litres for a long run time autonomy

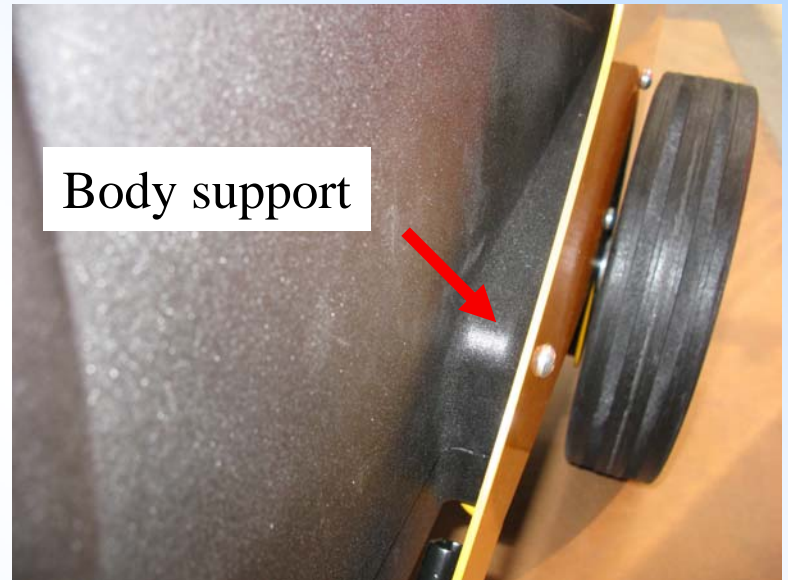


Fuel tank

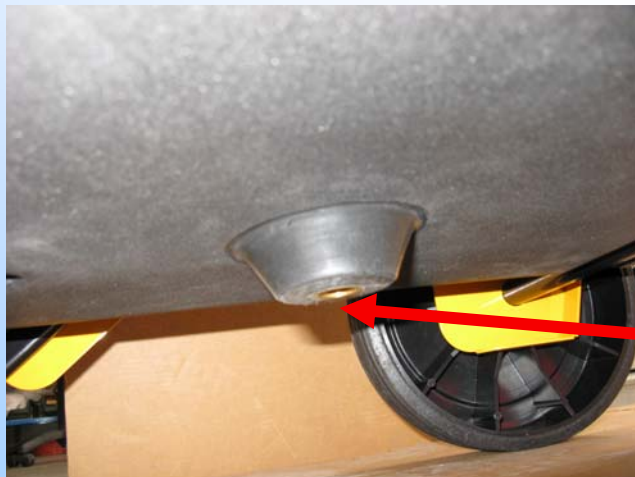
Oil sucking connections



Body support



Draining threaded cap to clean the oil tank



Fuel tank



Electrical housing

Water draining hole



Fuel tank gauge



Fuel tank cap



Oil filter and pipes

Rubber oil pipes, hydrocarbons resistant, reinforced with stainless steel sheath, guaranteeing :

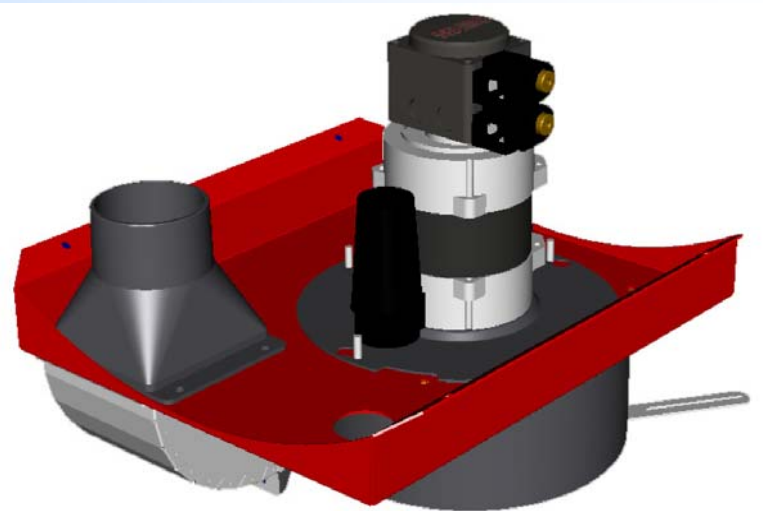
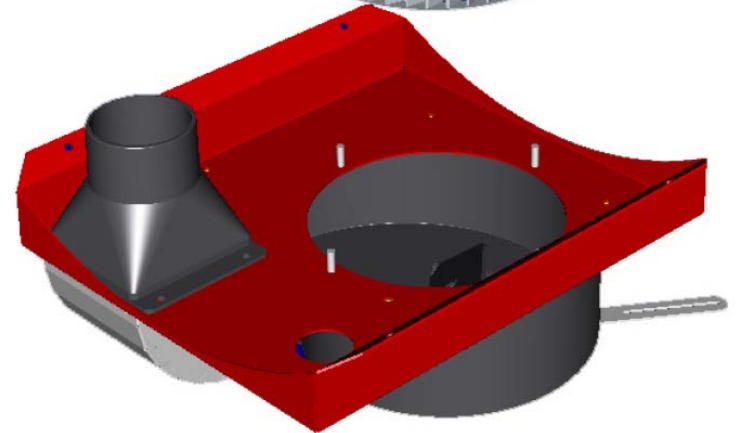
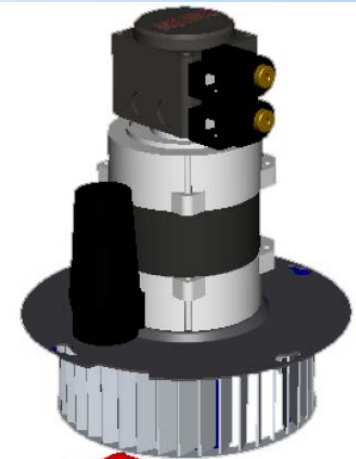
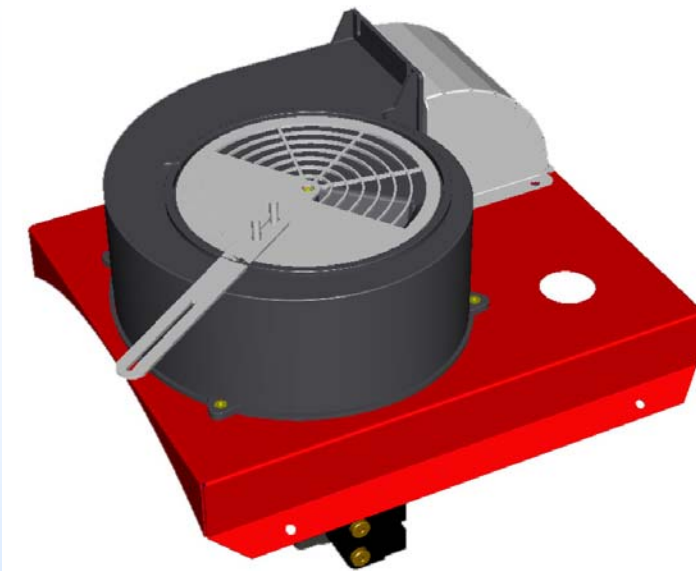
- Higher resistance to very cold conditions
- Higher mechanical resistance to cuts and cracks



Pre heated oil filter - optional



Burner

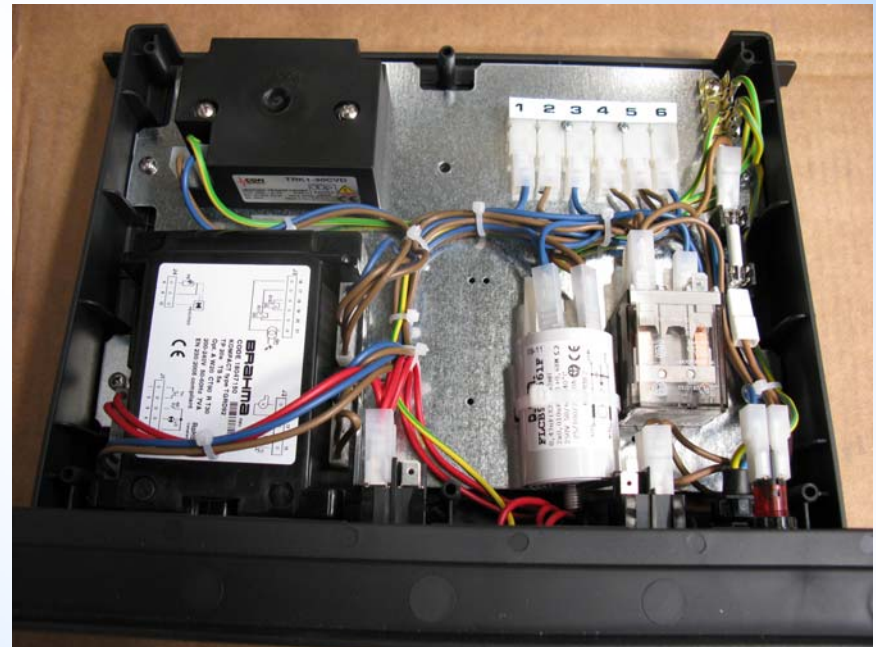


Electrical board

The electrical board is made of antishock and fire resistant polypropylen plastic class V0.

The componets are:

- ✓ Electronic control flame
- ✓ Fuse
- ✓ connections
- ✓ relays
- ✓ Ground connections
- ✓ High voltage transformer
- ✓ Switch 1-0-2
- ✓ Switch 0-1
- ✓ EMC Filter



Electrical board

Remote thermostat socket

Power light

Reset



Switch 1

- 1 Manual
- 2 Automatic
- 0 stop

Switch 2 – green light

- 1 2° speed – high power 45kW
- 0 1° speed – low power 35 kW

Running on automatic or manual

Three position switch:

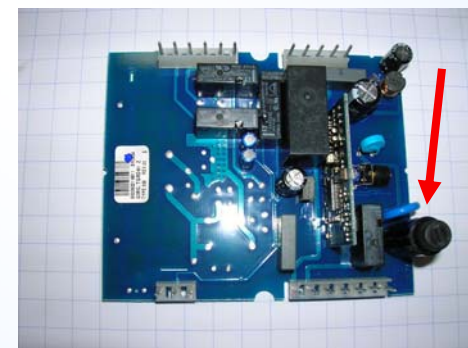
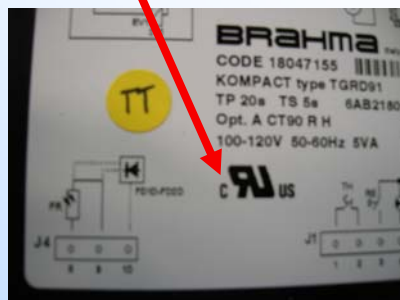
- Position 0 : stop
- Position 1 : running on *manual*
- Position 2 : running on *automatic* trough a remote thermostat
- No electric bridge required in the socket cap, avoiding problems due to lost caps.



Electronic control flame box

CE and CSA approved

- CE approved in conformity to the EN230:2004 standard
- UL-CSA approved, in conformity to the UL 733 by UL
- Three colour warning light:
 - Green colour : working position
 - Orange colour: stand-by position
 - Red colour: lock-out position
- Reset push button
- Fuse



Pre and post ventilation

All the models are equipped with:

- 15 seconds pre-ventilation cycle to “clean” the combustion chamber
- After switching off the machine, a post ventilation time is electronically set by a control flame box to lower the combustion chamber temperature. This *free* heat is blown into the room.

It is possible to select, by a switch on control panel, the fan continue ventilation.

Power cable support



Suspending plates



Caratteristiche termotecniche

Pot. termica massima gasolio		
Consumo @ 0°C	Kg/h	3,60
	L/h	4,34
	UK gal/h	0,95
rendimento	%	100,00

Pot. Cal. Inferiore Hi		
potenza bruciata	kcal/h	36.713
	kW	42,7
	BTU/h	146.116
potenza resa	kcal/h	36.713
	kW	42,7
	BTU/h	146.116

Pot. Cal. Superiore Hs		
potenza bruciata	kcal/h	39.130
	kW	45,5
	BTU/h	155.737
potenza resa	kcal/h	39.130
	kW	45,5
	BTU/h	155.737

Pressione del combustibile		
bar		18,00
indice bacharach max rendimento		
		0
apertura serranda aria		
mm		5,00

pot. Cal. inferiore gasolio MJ/kg	42,69
pot. Cal. superiore gasolio MJ/kg	45,50
secondo norma prEN 13842:2002	

Caratteristiche ventilazione

Ventola	
diametro	160x70

Rumore	a 1 m	a 2 m
media dBA	72	70

Autonomia di funzionamento continuo	
capacità serbatoio [litri]	65,00
autonomia [h]	15,0

Ugello gasolio		
Tipo	DELAVAN	80° W
Portata	GPH	0,75

Pompa gasolio		
Type	DANFOSS	BFPC 21 R3

Motore		
Potenza		200 W
corrente		
n. poli / giri [rpm]		2 / 2800

Ruote	
diametro ruote [mm]	300
diametro mozzo [mm]	25

Caratteristiche elettriche

Alimentazione		Potenza / corrente	
V/Hz	230 / 50	W / A	370 / ...

Quadro controllo fiamma	
costruttore	BRAHMA
tipo	TGRD 71
approvazione	CE

MACCHINA COMPLETA			
Peso a vuoto		Peso con serbatoio pieno	
kg	75	kg	130
Lunghezza		Larghezza	
mm	1380	mm	705
Altezza			
mm	990		

IMBALLO			
lunghezza	1.035	altezza	1.125
larghezza	650	peso [kg]	93

TRASPORTI [n. macchine imballate]	
Container 20'	38
Container 40'	80
Container 40' High Cube	80
T.I.R. H=2,4m	92

Caratteristiche termotecniche

Pot. termica massima gasolio 2° stadio			
Consumo	Kg/h		3,60
@ 0°C	L/h		4,34
	UK gal/h		0,95
rendimento	%		100,00

Pot. Cal. Inferiore Hi			
potenza bruciata	kcal/h		36.713
	kW		42,7
	BTU/h		146.116
potenza resa	kcal/h		36.713
	kW		42,7
	BTU/h		146.116

Pot. Cal. Superiore Hs			
potenza bruciata	kcal/h		39.130
	kW		45,5
	BTU/h		155.737
potenza resa	kcal/h		39.130
	kW		45,5
	BTU/h		155.737

Pressione del combustibile			
bar			18,00
indice bacharach max rendimento			
			0
apertura serranda aria			
mm			5,00

pot. Cal. inferiore gasolio MJ/kg	42,69
pot. Cal. superiore gasolio MJ/kg	45,50
secondo norma prEN 13842:2002	

Caratteristiche termotecniche

Pot. termica massima gasolio 1° stadio			
Consumo	Kg/h		2,90
@ 0°C	L/h		3,49
	UK gal/h		0,77
rendimento	%		100,00

Pot. Cal. Inferiore Hi			
potenza bruciata	kcal/h		29.574
	kW		34,4
	BTU/h		117.704
potenza resa	kcal/h		29.574
	kW		34,4
	BTU/h		117.704

Pot. Cal. Superiore Hs			
potenza bruciata	kcal/h		31.521
	kW		36,7
	BTU/h		125.455
potenza resa	kcal/h		31.521
	kW		36,7
	BTU/h		125.455

Pressione del combustibile			
bar			11,00
indice bacharach max rendimento			
			0
apertura serranda aria			
mm			5,00

Caratteristiche ventilazione

Ventola			
diametro			160x70
Rumore			
	a 1 m	a 2 m	
media dBA	72	70	

Autonomia di funzionamento continuo			
capacità serbatoio [litri]			65,00
autonomia [h]	2° velocità		15,0
autonomia [h]	1° velocità		18,6

Ugello gasolio			
Tipo	DELAVAN		80° W
Portata	GPH		0,75

Pompa gasolio			
Type	DANFOSS		BFP 52 R3

Motore			
Potenza			200 W
corrente			
n. poli / giri [rpm]			2 / 2800

Ruote			
diametro ruote [mm]			300
diametro mozzo [mm]			25

Caratteristiche elettriche

Alimentazione		Potenza / corrente	
V/Hz	230 / 50	W / A	370/....

Quadro controllo fiamma	
costruttore	BRAHMA
tipo	TGRD 91
approvazione	CE

Trasformatore di accensione	
costruttore	BRAHMA
tipo	TD2
approvazione	CE

MACCHINA COMPLETA			
Peso a vuoto		Peso con serbatoio pieno	
kg	75	kg	130
Lunghezza		Larghezza	
mm	1380	mm	705
Altezza			
mm	990		

IMBALLO			
lunghezza	1.035	altezza	1.125
larghezza	650	peso [kg]	93

TRASPORTI [n. macchine imballate]	
Container 20'	38
Container 40'	80
Container 40' High Cube	80
T.I.R. H=2,4m	92

