

MCS[®]



PORTABLE HEATERS

MCS GROUP
www.mcsworld.com

Distributed by:
Easy Climate Solutions
www.MCSHeater.com

I CHOOSE MASTER PORTABLE HEATERS. WHY?



SAVE MONEY

MCS® heaters are plug and play:
do not need installation



USE THE SAME HEATER IN DIFFERENT PLACES

MCS® heaters are portable



HEAT ONLY WHAT YOU NEED

MCS® heaters can heat
either large or limited areas



HEAT ONLY WHEN YOU NEED

MCS® heaters warm up very quickly



AVOID OVERHEATING AND OVERSPENDING

MCS® heaters can be controlled
by a remote thermostat



CHOOSE YOUR ENERGY

Choose the cheapest or the cleanest energy
you like: gas, oil, electricity



RESPECT THE ENVIRONMENT

The efficient **MCS**® burning process
minimizes pollution



REDUCE YOUR INVESTMENT BUYING ONLY THE POWER YOU NEED

Further **MCS**® heaters can be added
if necessary







PROTECT YOUR INVESTMENT

MCS® heaters last many years and can be
easily repaired with spare parts available for 10 years




INDEX








OIL FIRED INFRARED HEATERS		Infrared heaters deliver heat fast and exactly to the place where it is required without any air movement. They are suitable for dust-free drying walls or paints, defrosting machinery or pipe lines, heating the working areas. This powerful technology allows significant energy saving and can be used in dusty areas or outside.	POWER RANGE: 58 000 - 146 900 Btu/h	BEST FOR: ■ Agriculture ■ Construction ■ Industry ■ Warehouse	PAGE: 6-7
DIRECT FIRED HEATERS		Direct oil heaters are highly efficient devices that provide large volumes of instant heat where it is required. They are best for open or well ventilated areas like factories, warehouses or construction sites. Master direct heaters are known as very efficient and robust as well as safe and easy in use.	POWER RANGE: 379 000 Btu/h	BEST FOR: ■ Agriculture ■ Construction ■ Garage	PAGE: 8
INDIRECT FIRED HEATERS		Indirect oil heaters are highly efficient devices that provide large volume of 100% clean, dry and fume free warm air. They are best for places with limited ventilation like shops, event's tents, food preparation areas or exhibition halls. They can be used with flexible hoses that make the warm air be spread around easily.	POWER RANGE: 68 300 - 276 300 Btu/h	BEST FOR: ■ Agriculture ■ Construction ■ Industry ■ Warehouse ■ Garage ■ Emergency-Events	PAGE: 9-12
INDIRECT FIRED HEATERS AIRBUS		Indirect airflow heaters Airbus have a wide heat exchanger in stainless steel pipes and an external burner. They offer high efficiency and the possibility of connecting up to 4 hoses per unit.	POWER RANGE: 460 000 Btu/h	BEST FOR: ■ Agriculture ■ Construction ■ Industry ■ Warehouse	PAGE: 13
ACCESSORIES		The guide to mobile heaters accessories. This additional equipment makes the work with Master heaters more comfortable.			PAGE: 14
CHART		How to choose the best heater for your needs.			PAGE: 15

HEATING SOLUTIONS FOR:

CONSTRUCTION, PRODUCTION AND LOGISTIC, AGRICULTURE, EVENTS, MILITARY, WORKSHOPS, EMERGENCY

APPLICATION			
	DIRECT FIRED HEATERS	INDIRECT FIRED HEATERS	OIL FIRED INFRARED HEATERS

	CONSTRUCTION			
HEATING CONSTRUCTION SITES 				
HEATING ROADWORKS 				
DRYING BUILDINGS AND PAINT 				

	PRODUCTION & LOGISTIC			
HEATING SPACES 				
SPOT HEATING 				

	WORKSHOPS & GARAGES			
SPOT HEATING 				
HEATING SPACES 				

APPLICATION



DIRECT FIRED HEATERS



INDIRECT FIRED HEATERS



OIL FIRED INFRARED HEATERS

AGRICULTURE

HEATING
LIVESTOCK
FACILITIES



HEATING
GREENHOUSES



HEATING
STORAGE
FACILITIES



DRYING
CROPS



EVENTS & MILITARY

OUTDOOR
HEATING



HEATING
TENTS



EMERGENCY

SPACE
HEATING



SPOT
HEATING

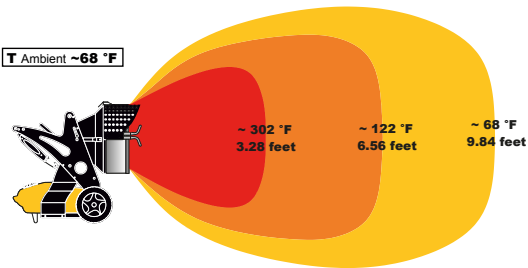


OIL FIRED INFRARED HEATERS

XL 9ER / XL 9SR




PATENTED



- Radiant heating
- No air flow
- Low noise
- Electronic flame control with photocell
- Possible connection to an optional room thermostat
- Post-ventilation
- Standard oil level indicator
- Strong and long lasting construction
- Adjustable direction / Tilting
- Two oil filters: oil pump filter and suction filter

OPTIONAL ACCESSORIES:



Fuel pre-heater
4031.120

Room thermostat TH 5 with 9.84 feet cable
4150.105
Room thermostat TH 5 with 32.81 feet cable
4161.967
Range: 32 - 96.8°F, Accuracy: ± 34.7°F

SPECIFICATIONS		XL 9ER	I	XL 9SR	II
Heating power	Btu/h	146 900	99 300		146 900
Fuel consumption	gph	0.76	0.52		0.76
Fuel autonomy	h	14	21		14
Thermostat control		optional	optional		
Power supply	V/Hz	110-120/60	110-120/60		
Rated current	A	0.6	0.7		
Tank capacity	gal	15.84	15.84		
Packaging dimension (l x w x h)	inches	47.5 x 30 x 44.5	47.5 x 30 x 44.5		
Net / gross weight	lb	151.8/187.4	151.8/187.4		
Pallet	pcs	1	1		

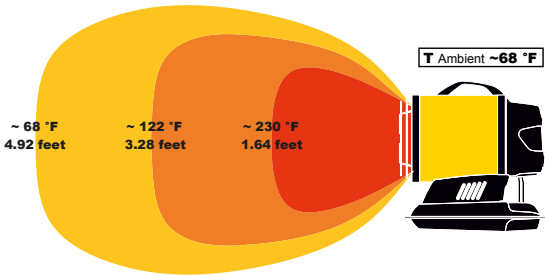
OIL FIRED INFRARED HEATERS



XL 6



PATENTED



- Radiant heating
- No air flow
- Low noise
- Electronic flame control with photocell
- On board room thermostat and digital temperature display
- Post-ventilation
- Standard oil level indicator
- Strong and long lasting construction
- Two oil filters: oil pump filter and suction filter



OPTIONAL ACCESSORIES:



Trolley
4201.159

Ventilation of the room is necessary to prevent a deficiency in oxygen supply.

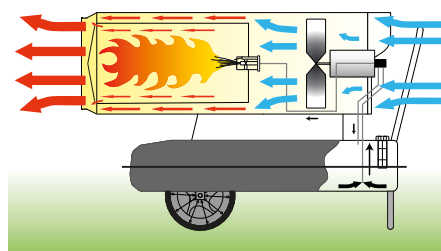
SPECIFICATIONS		XL 6
Heating power	Btu/h	58 000
Fuel consumption	gph	0.3
Fuel autonomy	h	8
Thermostat control		included
Power supply	V/Hz	110-120/60
Rated current	A	0.85
Tank capacity	gal	2.9
Packaging dimension (l x w x h)	inches	24 x 15.2 x 23.2
Net / gross weight	lb	39.6/44
Pallet	pcs	16

DIRECT FIRED HEATERS

HIGH PRESSURE



B 360



OPTIONAL ACCESSORIES:

- Overheat thermostat
- High quality fuel pump
- Post-ventilation thermostat
- Transparent external suction filter
- Possible connection to a fuel pre-heater
- High air displacement
- Possible connection to an optional room thermostat
- Two oil filters: oil pump filter and suction filter
- Thermally protected motor
- Electronic flame control with photocell
- Stainless steel combustion chamber
- Oil tank with level indicator
- Trolley included
- Easy maintenance with external pump
- Strong and long lasting construction



Room thermostat TH 5 with 9.84 feet cable
4150.105
Room thermostat TH 5 with 32.81 feet cable
4161.967
Range: 32 - 96.8°F, Accuracy: $\pm 34.7^\circ\text{F}$



Fuel pre-heater
4031.120

Ventilation of the room is necessary to prevent a deficiency in oxygen supply.

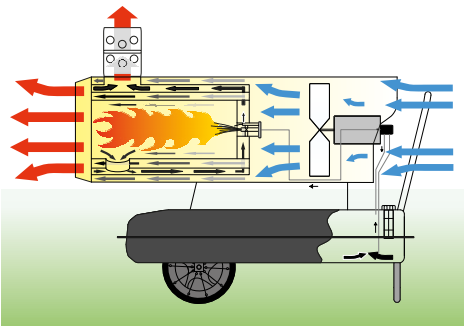
SPECIFICATIONS		B 360
Heating power	Btu/h	379 000
Air displacement	cfm	1944
Fuel autonomy	h	10
Thermostat control		optional
Fuel consumption	gph	1.98
Power supply	V/Hz	110-120/60
Rated current	A	4.6
Tank capacity	gal	27.72
Packaging dimension (l x w x h)	inches	63 x 30 x 46.5
Net / gross weight	lb	189.2/242.5
Pallet	pcs	1

INDIRECT FIRED HEATERS

HIGH PRESSURE



BV 77E



- Possible connection to an optional room thermostat
- Possible connection to a flexible tube
- Possibility of flue gas exhaust
- High air flow
- Overheat thermostat
- Post-ventilation
- Two oil filters: oil pump filter and suction filter
- Electronic flame control with photocell
- Heat exchanger
- Stainless steel combustion chamber
- Oil tank with level indicator
- Trolley included
- Easy maintenance with external pump
- Strong and long lasting construction



OPTIONAL ACCESSORIES:



Room thermostat TH 5 with 9.84 feet cable
4150.105
Room thermostat TH 5 with 32.81 feet cable
4161.967
Range: 32 - 96.8°F, Accuracy: ± 34.7°F



Flexible tubes
Ø 12.2 in. - 9.84 feet - 4515.550
Ø 12.2 in. - 24.93 feet - 4515.553
In 24.93 feet hoses first 6.56 feet (black part) are made of a material resistant to 302 °F
Hose binder included



Adaptor ring kit
Ø 11.76 in. - 4032.950

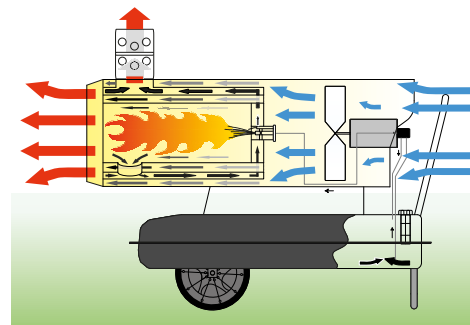
Ventilation of the room is necessary to prevent a deficiency in oxygen supply.

SPECIFICATIONS		BV 77E
Heating power	Btu/h	68 300
Air displacement	cfm	913
Fuel autonomy	h	17
Thermostat control		optional
Fuel consumption	gph	0.37
Power supply	V/Hz	110-120/60
Rated current	A	1.5
Tank capacity	gal	9.5
Flue tube Ø	inches	4.8
Blast opening Ø	inches	9.2
Packaging dimension (l x w x h)	inches	47.5 x 16 x 20.9
Net / gross weight	lb	70.4/79.5
Pallet	pcs	8

INDIRECT FIRED HEATERS HIGH PRESSURE



BV 110E



- Possible connection to an optional room thermostat
- Possible connection to a flexible tube
- Possibility of flue gas exhaust
- High air flow
- Overheat thermostat
- Post-ventilation
- Transparent external suction filter
- Two oil filters: oil pump filter and suction filter
- Electronic flame control with photocell
- Heat exchanger
- Stainless steel combustion chamber
- Oil tank with level indicator
- Trolley included
- Easy maintenance with external pump
- Strong and long lasting construction

OPTIONAL ACCESSORIES:



Fuel pre-heater
4031.120

Room thermostat TH 5 with 9.84 feet cable
4150.105
Room thermostat TH 5 with 32.81 feet cable
4161.967
Range: 32 - 96.8°F, Accuracy: ± 34.7°F



Flexible tubes
Ø 16.28 in. - 24.93 feet - 4031.401
In 24.93 feet hoses first 6.56 feet (black part) are made of a material resistant to 302 °F
Hose binder included



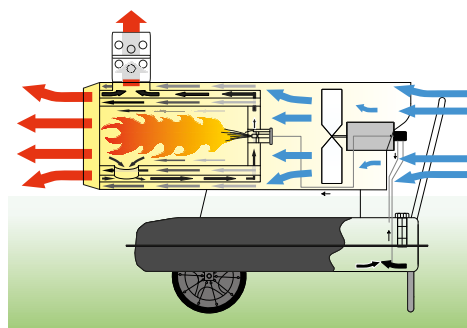
Adaptor ring kit
Ø 16 in. - 4031.909

SPECIFICATIONS		BV 110E
Heating power	Btu/h	112 800
Air displacement	cfm	1060
Fuel autonomy	h	19
Thermostat control		optional
Fuel consumption	gph	0.61
Power supply	V/Hz	110-120/60
Rated current	A	2.3
Tank capacity	gal	17.2
Flue tube Ø	inches	6
Blast opening Ø	inches	13.6
Packaging dimension (l x w x h)	inches	48 x 26 x 40
Net / gross weight	lb	134.2/169.4
Pallet	pcs	1

INDIRECT FIRED HEATERS HIGH PRESSURE



BV 170E



- Possible connection to an optional room thermostat
- Possible connection to a flexible tube
- Possibility of flue gas exhaust
- High air flow
- Overheat thermostat
- Post-ventilation
- Transparent external suction filter
- Two oil filters: oil pump filter and suction filter
- Electronic flame control with photocell
- Heat exchanger
- Stainless steel combustion chamber
- Oil tank with level indicator
- Trolley included
- Easy maintenance with external pump
- Strong and long lasting construction



OPTIONAL ACCESSORIES:



Fuel pre-heater
4031.120

Room thermostat TH 5 with 9.84 feet cable
4150.105
Room thermostat TH 5 with 32.81 feet cable
4161.967
Range: 32 - 96.8°F, Accuracy: ± 34.7°F



Flexible tubes
Ø 16.28 in. - 24.93 feet - 4031.401
In 24.93 feet hoses first 6.56 feet (black part) are made of a material resistant to 302 °F
Hose binder included



Adaptor ring kit
Ø 16 in. - 4031.909

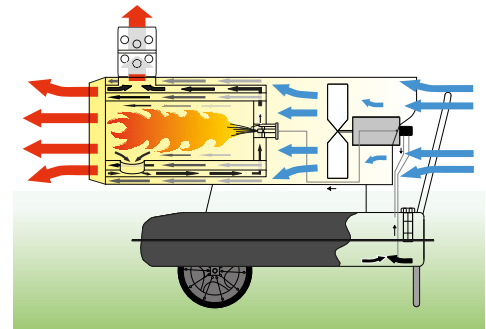
Ventilation of the room is necessary to prevent a deficiency in oxygen supply.

SPECIFICATIONS		BV 170E
Heating power	Btu/h	160 400
Air displacement	cfm	1060
Fuel autonomy	h	13
Thermostat control		optional
Fuel consumption	gph	0.87
Power supply	V/Hz	110-120/60
Rated current	A	2.3
Tank capacity	gal	17.2
Flue tube Ø	inches	6
Blast opening Ø	inches	13,6
Packaging dimension (l x w x h)	inches	53.2 x 26 x 40
Net / gross weight	lb	143/184.8
Pallet	pcs	1

INDIRECT FIRED HEATERS HIGH PRESSURE



BV 290E



- Possible connection to an optional room thermostat
- Possible connection to a flexible tube
- Possibility of flue gas exhaust
- High air flow
- Overheat thermostat
- Post-ventilation
- Transparent external suction filter
- Two oil filters: oil pump filter and suction filter
- Electronic flame control with photocell
- Heat exchanger
- Stainless steel combustion chamber
- Oil tank with level indicator
- Trolley included
- Easy maintenance with external pump
- Strong and long lasting construction

OPTIONAL ACCESSORIES:



Fuel pre-heater
4031.120

Room thermostat TH 5 with 9.84 feet cable
4150.105
Room thermostat TH 5 with 32.81 feet cable
4161.967
Range: 32 - 96.8°F, Accuracy: ± 34.7°F



Flexible tubes
Ø 24.4 in. - 24.93 feet - **4031.038**
In 24.93 feet hoses first 6.56 feet (black part) are made of a material resistant to 302 °F
Hose binder included



Adaptor ring kit
Ø 24 in. - **4031.910**

Ventilation of the room is necessary to prevent a deficiency in oxygen supply.

SPECIFICATIONS		BV 290E
Heating power	Btu/h	276 300
Air displacement	cfm	1944
Fuel autonomy	h	12
Thermostat control		optional
Fuel consumption	gph	1.53
Power supply	V/Hz	110-120/60
Rated current	A	4,6
Tank capacity	gal	27.72
Flue tube Ø	inches	6
Blast opening Ø	inches	16
Packaging dimension (l x w x h)	inches	63 x 29.6 x 46.5
Net / gross weight	lb	220/273.4
Pallet	pcs	1

INDIRECT FIRED HEATERS AIR-BUS HIGH PRESSURE, AXIAL FAN



BV 470FS



- Axial fan
- Achieved pressure 100 Pa
- Possible connection to an optional room thermostat
- Possible connection to 4, 2 or 1 flexible tubes
- Possibility of flue gas exhaust
- Separate oil burner
- Summer-Winter switch for ventilation only
- Fuel pre-heating
- Electronic flame control with photocell
- Fan-Limit thermostat with automatic reset
- Limit thermostat with manual reset
- Two oil filters: oil pump filter and suction filter
- Suction filter with heating option as a standard
- High efficiency heat exchanger
- Stainless steel combustion chamber
- Trolley included



OPTIONAL ACCESSORIES:



Room thermostat TH 5 with 9.84 feet cable
4150.105
Room thermostat TH 5 with 32.81 feet cable
4161.967
Range: 32 - 96.8°F, Accuracy: ± 34.7°F

















Flexible tubes
Ø 24.4 in. - 24.93 feet - 4031.038
In 24.93 feet hoses first 6.56 feet (black part) are made of a material resistant to 302 °F
Hose binder included

Other accessories you can see at page 14

Ventilation of the room is necessary to prevent a deficiency in oxygen supply.


SPECIFICATIONS		BV 470FS
Heating power	Btu/h	460 000
Air displacement	cfm	4 712
Fan		axial
Thermostat control		optional
Fuel consumption	gph	2.54
Power supply	V/Hz	230/60
Rated current	A	8.8
Flue tube Ø	inches	8
Blast opening Ø	inches	4x10.8
Packaging dimension (l x w x h)	inches	83.6 x 30.2 x 49.2
Net weight	lb	565.4

ACCESSORIES

PHOTO	ACCESSORIES	CODE	DESCRIPTION	DEVICES
	Fuel pre-heater	4031.120		XL 9, B 360, BV 77E, BV 110E, BV 170E, BV 290E
	Room thermostat TH 5 with cable	4150.105 4161.967	9.84 feet 32.81 feet	XL 9, B 360, BV 77E, BV 110E, BV 170E, BV 290E, AIR-BUS BV 470FS
	Fuel line 13.12 feet	4031.460		AIR-BUS BV 470FS
	Fuel scoop	4515.932		AIR-BUS BV 470FS
	Fuel tank	4514.098	36.96 gal	AIR-BUS BV 470
	Adaptor ring kit	4032.950 4031.909 4031.910	Ø 11.76 in. Ø 16 in. Ø 24 in.	BV 77E BV 110E, BV 170E BV 290E
	1-way outlet	4514.097	Ø 24 in.	AIR-BUS BV 470FS
	2-way outlet	4514.096	2 x Ø 16 in.	AIR-BUS BV 470FS
	Top	4514.085		AIR-BUS BV 470FS
	Flexible tubes	4515.550 4515.553 4031.401 4031.038	Ø 12.2 in. – 9.84 feet Ø 12.2 in. – 24.93 feet Ø 16.28 in. – 24.93 feet Ø 24.4 in. – 24.93 feet	BV 77E AIR-BUS: BV 470 (4-way outlet), BV 77E, BV 110E, BV 170E, AIR-BUS: BV 470 (2-way outlet) BV 290E, AIR-BUS BV 470 (1-way outlet)
	Bag for flexible tubes	4515.592 4515.591 4515.593	Ø 12.2 in. Ø 16.28 in. Ø 24.4 in.	
	Stainless steel exhaust-pipe 3.28 feet	4013.260 4013.243 4013.245	Ø 4.8 in. Ø 6 in. Ø 8 in.	BV 77E BV 110E, BV 170E, BV 290E AIR-BUS BV 470FS
	Stainless steel exhaust elbow 90°	4013.261 4013.247 4013.248	Ø 4.8 in. Ø 6 in. Ø 8 in.	BV 77E BV 110E, BV 170E, BV 290E AIR-BUS BV 470FS
	Stainless steel chimney pot	4013.262 4013.249 4013.250	Ø 4.8 in. Ø 6 in. Ø 8 in.	BV 77E BV 110E, BV 170E, BV 290E AIR-BUS BV 470FS





HOW TO CHOOSE THE BEST HEATER FOR YOUR NEEDS

INFRARED HEATING



Oil

SUGGESTED HEATED AREA

square feet

Btu/h

68 200

146 900



XL 6

XL 9

172.22



269.10

AIRFLOW HEATING

Direct Oil

Indirect Oil

-

BV 77E

-

BV 110E

-

BV 170 E

-

BV 290E

B 360

-

AIR-BUS BV 470

68 200

112 800





160 400

276 300

379 000

460 000

SUGGESTED HEATED VOLUME

cubic feet

cubic feet

cubic feet

cubic feet

28923

13490

8087

5791

47710

22284

13349

9535

67981

31713

19035

13596

117 138

54667

32807

23414

160 540

74902

44956

32101

193 806

90441

54279

38776

ΔT 86 °F





This chart will help you choosing the best heater for your needs. The selection can be made in two ways: you can either refer to the power required (Btu/h column) and choose the relevant heaters or refer to the room dimension (cubic feet column) and choose the correct heater according to level of insulation.

This calculation is intended for a temperature increase of 86 degrees: for lower or higher increases, the result will change in proportion. Example: for a temperature increase of 10 degrees it is required only 1/3 of the power indicated in the chart.

For a finer calculation you can refer to the following formula:

$$V \times \Delta T \times K / 3,97 = \text{Btu/h}$$

V is the volume to be heated in cubic feet
 ΔT is the difference between the existing and desired temperature in F
 K is the dispersion coefficient (from 0,5 to 3,5)

- | | | |
|---|-------|---|
|  | K=0,5 | Well insulated buildings
(houses and offices) |
|  | K=1,5 | Moderately insulated buildings
(garages) |
|  | K=2,5 | Poorly insulated buildings
(old houses and cellars) |
|  | K=3,5 | Not insulated buildings
(wood or corrugated metal buildings,
greenhouses) |

1 kW = 860 kcal/h
1 kcal/h = 3,97 Btu/h
1 kW = 3412 Btu/h
1 Btu/h = 0,292 kcal/h



HEATERS DEHUMIDIFIERS FANS COOLERS

MCS ITALY: Via Tione 12, 37010 Pastrengo (VR), Italy, (0039) 045 6770533, info@mcsitaly.it

MCS CENTRAL EUROPE: ul. Magazynowa 5a, 62-023 Gądk, Poland, (0048) 61 654 4000, office@mcs-ce.pl

MCS RUSSIA: Transportnaya 22 vl 2, 142802 Stupino, Russia, tel./fax (007) 495 642 444 8, info@mcsrur.ru

MCS CHINA: Unit A1, No. 1515 Jinshao Rd, Baoshang Industrial Zone, Shanghai, 200949, (0086) 21 - 61486668, office@mcs-china.cn

For further information, please contact your distributor:



america@mcsitaly.it



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