

# MOBILE VENTILATION RESPONSE EQUIPMENT









### AN INTERNATIONAL PRESENCE

SUBSIDIARIES AND A STRONG NETWORK OF DISTRIBUTORS





### **LEADER**

Since 1985, LEADER **designs** and **manufactures** higher performing equipment used in **firefighting, fire training** and **Search & Rescue** applications and proposes them to Fire & Rescue Services, Civil Defense, Hazardous Industries, NGOs, Maritime Services, etc. on the 5 continents.

### A major axis : INNOVATION

To meet the evolving challenges of fire hazards and search & rescue missions, equipment must continually **evolve** and **adapt** to be **more effective** while ensuring **maximum safety for workers**.

To meet these challenges, LEADER is committed to constant innovation and new technologies and has its own in-house Research & Development team which works alongside end-users to design and develop the equipment that will be proposed tomorrow.

To test our equipment and assess its performance, we at LEADER continually invest in our own infrastructure:

- ► Water and High-Expansion Foam test room (400 sq m)
- ➤ Ventilation test room (400 sq m)
- ► Casualty Search Equipment test area
- ► Fire test area in fire container Fire extinguishing equipment

### **Our commitment**

When you choose LEADER equipment, you are assured of the **quality and compliance of our products**. These have been made in our workshops by our engineering and electronics **specialists**.

#### **ISO 9001 certified since 1999, LEADER:**

- Carries out **checks** at every stage of the manufacturing process as well as on the finished products before dispatch,
- Provides continuous training for all its staff.

### **Guaranteed equipment**

Every LEADER product comes with a specific contractual guarantee.

#### Close to our customers

Through our sales force, subsidiaries in **Germany and the USA**, **agencies in Latin America and China and an international distribution network**, LEADER is present worldwide, keeping us as close as possible to our customers.

### An organisation at your service

For optimal and long-term use of the equipment you purchase, LEADER can propose suitable training on the handling, on the use and maintenance of the equipment. Training can be done at our site or on site.



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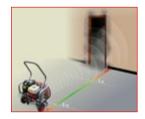
# LEADER HAS DEVELOPED EASY POW'AIR TECHNOLOGY:

### A POWERFUL, CONCENTRATED JET OF AIR: A LEADER INNOVATION

The speed and concentrated shape of the Easy Pow'Air jet entrains surrounding air, thereby increasing the fan's flow rate.







### CREATES SPACE FOR RESPONSE TEAMS WORKING AROUND DOORS

The force and stability of the jet gives **constant and optimal efficiency from 2 to 6 m** between fan and opening.

This creates valuable space for interventions teams working in /around the entrance. The fans can also be positioned as close as 0.90 m.

The increased distance reduces noise levels for responders.



### SIMPLE SET-UP

Automatic  $+10^{\circ}$  tilt: when raised, the lifting handle automatically positions the fan at its optimal angle of tilt.

Fine adjustment of the tilt from +10° to +20° is also possible.

### EASY TO VENTILATE UP ENTRANCE STEPS

The ability to withdraw the apparatus and tilt it to its maximum angle makes ventilation possible in these situations: raised doors and windows, entrance steps, landings, etc.

Ventilation on a slope: Its optional prop allows the fan to be aimed down at an angle of -10°. Very useful for basement work.



### **EXTENDED APPLICATIONS USING ACCESSORIES**

Blowing ducts, extraction ducts, high-expansion foam adaptor, mister, etc. These options increase the number of ways a fan can be used and so circumvent the constraints of a given operation.

### *NEO* LEADE⊋ Fan

### EASY POW'AIR

TECHNOLOGY



### **INNOVATION 2015**

## THE NEW NEO CONCEPT FOR EVEN MORE EFFICIENT LEADER FANS!

Drawing on Easy Pow'Air technology, LEADER's engineers have developed the NEO concept:

an optimal combination of GRILLE, PROPELLER and SHROUD



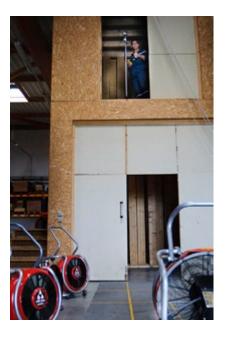
**The synergy** between their technology and their aeraulic design significantly boosts the performance of the 420 mm diameter petrol-driven, electric, and water-driven fans of the LEADER range.

Up to 20% greater flow rate, for unrivalled power in their category!

### An operational advantage for the firefighter:

Set up compact, lightweight fans with outputs that were previously deliverable only by higher category fans.





### VERIFIED PERFORMANCE

**LEADER has its own test center** with an instrumented "test house" including a dedicated room for measuring flow rates and pressures to standard AMCA 240-06.

To allow for the variability of real life situations, the test house incorporates multiple features allowing fans to be tested and compared.

This installation is indispensable to our R&D department for testing and developing innovations to LEADER fans and maximizing their performance. The test house also allows us to demonstrate to customers and partners the efficiency of our fans and the firefighting benefits of controlling ventilation.

# CONTROL THE **AIR** AND YOU CONTROL THE **FIRE!**

# ASSOCIATED VENTILATION TECHNIQUES:

### POSITIVE PRESSURE VENTILATION (PPV)

Blowing a large quantity of fresh air into a fire-affected space raises the internal pressure, allowing the smoke to be controlled.

The effects are rapidly obvious:

Increased visibility, lowered temperature, reduced toxicity, control of smoke movement, and reduced calorific potential.

These effects are beneficial to responders and trapped persons alike.

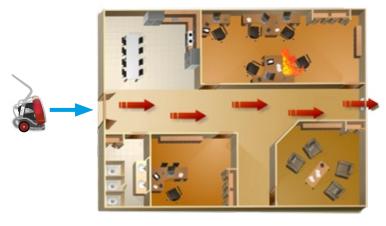
Firefighters must decide which fan or fans will be best in a given situation, depending on the layout of the premises to be ventilated.



### OFFENSIVE PPV TACTIC

The offensive tactic is direct ventilation of the volume in which the fire is developing, combined with fire extinguishing resources.

This tactic aims to modify the behavior of the fire and guickly reduce its intensity.



### **DEFENSIVE PPV TACTIC**

This defensive tactic protects particular areas. It prevents smoke and hot gases propagating to locations that are to be protected.

Only volumes not affected by fire are ventilated. This tactic employs ventilation dissociated from fire-extinguishing actions.

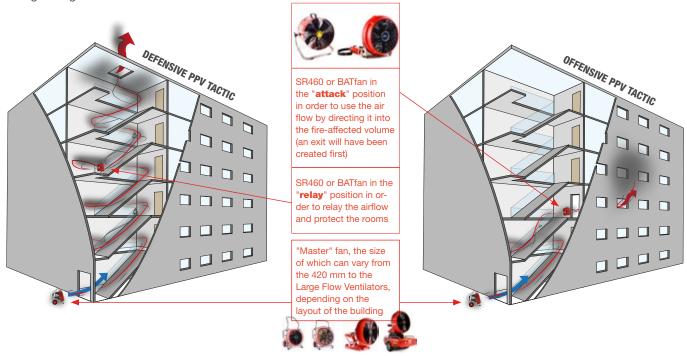
It creates a logistical route with a slightly higher air pressure through which, for example, victims can be evacuated.

#### COMBINED VENTILATION TACTICS

Also known as operational ventilation, this combined tactic involves using both the preceding tactics on high-rise tower blocks:

- 1/ Defensive ventilation is first deployed using a high-power "master" fan positioned at the foot of the building facing its entrance.
- **2/** With the stair well pressurized and thus made safe, the intervention team climbs up to the affected floor to set up a portable relay fan at the entrance of the burning volume.
- 3/ Once the exit is created, the offensive phase can begin:

The air flow from the master fan is relayed by the secondary fan, which is on the affected floor, and pushes the hot toxic smoke out of the building so that the combustible materials of the smoke cannot spread. Smoke control facilitates the work of the teams, especially the fire extinguishing team.



### **NEGATIVE PRESSURE VENTILATION (NPV)**

**This involves lowering the pressure inside the volume.** The fan is placed inside the smoke-filled area and blows the smoke to the exterior. Simultaneously the crew create a fresh air inlet opening on the opposite side. A continuous stream of air then evacuates all smoke. NPV is used in a variety of situations, primarily where conditions and location do not favor natural ventilation or positive-pressure ventilation.

This method is particularly effective on fires in covered parking lots, underground tunnels/stations, basements, and cellars.

The ParkFan 80 was designed as an efficient, easy-to-implement solution for smoke removal from covered parking lots.

In their combination of performance and maneuverability, these fans remain unequalled.

A single crewmember can easily deploy 1 or 2 ParkFans inside the smoke-filled volume and direct the airstream and smoke out of the premises.

Accessories such as extraction ducts or suction/blow kits convert fans designed for PPV into extractors of smoke from confined spaces (cellars, basements etc.) or large volumes such as parking lots by using the Easy 4000 LFV fan and its extraction ducts.



### LFV: LARGE-FLOW **VENTILATORS**

### MOBILE SOLUTION FOR VENTILATING **LARGE VOLUMES**

Large buildings continue to proliferate and are becoming ever larger. To meet these challenges, LEADER has designed large-flow ventilators to effectively fight fires in very large places such as: Warehouses, Tunnels, Airports, Industrial Complexes, High-Rise Tower Blocks, etc.



### **ASSURED RESULTS**

Being totally independent of fixed fire-protection systems, these large-flow ventilator units are mobile and capable of mass ventilating enormous volumes.

### EASILY MANEUVERED BY ONE PERSON

LEADER trailer-mounted LFVs are easily maneuvered and positioned by one

Their combination of weight, power and maneuverability give these LFVs unequalled effectiveness.

### ADAPTABLE TO VEHICLES OF ALL TYPES

Fans are available in trailer and skid versions for mounting on any mobile intervention unit.



Truck



**Rail-going platform** 

**Elevator arm** 



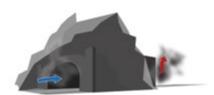
Trailer

### CHOOSING THE RIGHT APPARATUS TO VENTILATE LARGE STRUCTURES

To meet the diverse needs of fire intervention or industrial applications, LEADER has developed large-flow ventilators:

		THE PARTY HERE
	Easy 2000	Easy 4000
Effectiveness	Open air flow 150,000 m3/h	Open air flow 400,000 m3/h
	One fan is an effective means of ventilating more modest large volumes such as industrial units, medium height/tall buildings, underground parking lots etc.	For ventilating very large volumes <b>tunnels, indus-</b>
Application	Multiple fans offer flexibility of action since they can be used simultaneously to optimize blowing power.  They can also be positioned at strategic points around a city or town.	trial buildings, very tall buildings, airport buildings, etc.

VARIED VENTILATION APPLICATIONS REQUIRING LARGE BLOWING POWER



#### Road or rail tunnel ventilation

Sets up an air stream if the fixed ventilation system is defective, or boosts it if it is working, to expel smoke from the tunnel, refresh the volume, and intervene more efficiently.



#### **Ventilation of smoke-generating factories**

Production stoppages can be very costly. Fixed smoke capture systems can be overwhelmed to the point where production grinds to a halt. An LFV is a mobile independent low-cost solution for occasional use, accelerating smoke removal times for industrial sites.



### Ventilation of airplanes and other aircraft

Valuable assistance when evacuating passengers. Quickly brings in fresh air and increases visibility in a restricted space where smoke can rapidly cut visibility to zero.



#### **Ventilation of shopping centers**

These very often consist of one large shop and connected shopping walkways. In such large spaces smoke can spread rapidly. It is important to be able to remove the smoke quickly, both to protect people and to safeguard merchandise.



#### Airport ventilation

Airports contain many very large interconnected halls and need the ability to remove harmful smoke rapidly to prevent it spreading and enable the rest of the airport to continue operating.

### **Ventilation of tall tower blocks**

The varied configurations of buildings often require large blowing power to create an air stream sufficient to pressurize the stairwell right up to the top floor. The larger the building, the greater the number of openings through which pressure can be lost.

Pressurizing the total volume is therefore more effective with an LFV.



### **Ventilation of covered parking lots**

Extraction ducts allow LFV to remove smoke from underground parking lots.

### **ATEX** MOBILE VENTILATION



### FOR RISK-FREE USE IN **EXPLOSIVE ATMOSPHERE**

To meet the need for mobile ventilation in at-risk industries, LEADER has designed special fans incorporating the most frequently requested features for use in explosive atmospheres to meet the requirements laid down in the ATEX Directive 94/9/EC and standard EN 14986-2007 specifically about fans.

There are no exceptions to the latter and a certificate must accompany every machine sold. The directive covers electrical and mechanical equipment designed to be used in potentially explosive atmospheres within the European Union and applies to all manufacturers worldwide.

### THE ENTIRE APPARATUS MUST BE ATEX-CERTIFIED

An isolated component such as an ATEX-certified motor is not sufficient to obtain certification. LEADER fans are tested to the standards listed in the ATEX Directive.

Their certification covers the entirety of the unit - motor, frame, shroud, grille, propeller, electronic module with its power supply cable, wheels, etc.





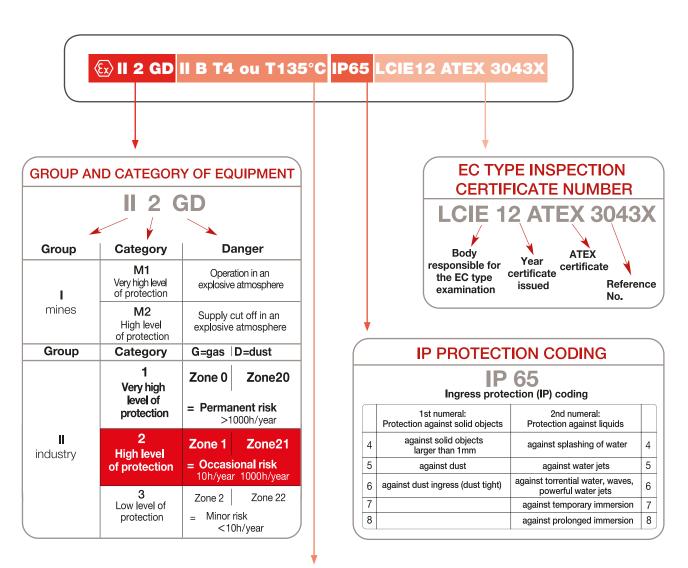
### VARIOUS MOBILE FAN APPLICATIONS IN INDUSTRY

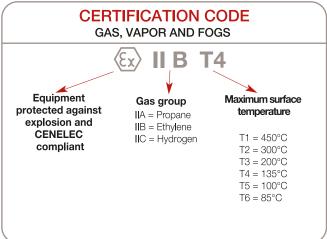
Pressurizing a volume to make it safe, Expelling harmful smoke, Cooling an overheating machine, Removing smoke, explosive or toxic gases, etc.

### INTERPRETING THE ATEX CLASSIFICATION

The following information explains the ATEX classification, taking the ID plate of the ESX230 as an example.

So as not to limit your field of action in an explosive area, choose category 1or 2-certified products.







# RISKS IN CONFINED SPACES

Aside from general risks, confined space work exposes responders to three kinds of risk:

- asphyxiation
- poisoning
- fire and explosion

There are several processes that can reduce the oxygen concentration in a confined space: The oxygen is consumed, a blanket gas is introduced, or a gas of natural origin is released.



### CLEANING THE AIR BY VENTILATION

It is possible to mitigate the causes of oxygen deficiency with ventilation techniques:

- by capture if the pollution source is localized extracting bad air directly from close to its source,
- by dilution if the pollution source is diffuse: Prefer extraction if a small volume, blowing if a larger volume.

**By blowing,** whether directly or through blowing ducts, LEADER fans enable responders to:

- introduce new air
- cool a volume
- expel toxic gases or smoke from the structure
- pressurize a volume, thereby preventing the smoke or gases from spreading

**By suction using dedicated accessories (ducts and extraction/blow kits)**, the LEADER range of electric fans can extract toxic gases or smoke where the blowing technique is not suitable.

### TRAINING

### LEADER SHARES ITS EXPERT VENTILATION EXPERIENCE



### TAILOR-MADE TRAINING

LEADER regularly organises fire ventilation training courses around the world and at fire departments' request, where we teach the basics of the use of positive and negative pressure ventilation (PPV and NPV).

The different ventilation techniques are presented and practical sessions held to put the theory into practice.

#### Courses can be held:

- ▶ at LEADER's premises, with the advantage of being able to use the "test house", used by the R&D team on a daily basis to test our own fans.
- ▶ at the fire department's site,
- at a dedicated training site.



### TEACHING SOFTWARE FOR FIRE VENTILATION TRAINING

**LEADER** has developed software consisting of interactive courses that can be freely downloaded from its website.

Created in partnership with the well-known fire training organisation EducExpert, these lessons are specially designed to be used by fire instructors in their task of passing on the skills of implementing ventilation techniques.

### COMPLETE, EFFECTIVE LESSONS

Downloadable in 4 languages (French, English, Spanish and Chinese), these lessons introduce three main topics:

- ► The basics of three key firefighting ventilation techniques (offensive, defensive and combined ventilation).
- A review of the underlying principles of fire and the different phases of fire development,
- ► Thermal phenomena and their consequences.





#### BETTER ASSIMILATION OF KNOWLEDGE

Interactive lessons! Through the use of animations and clickable buttons, learners feel more engaged and therefore remember better.

### **OPTIMIZED LEARNING TIME**

When used as part of the broader training of firefighters, it enables more efficient assimilation of knowledge.

#### **ERGONOMIC**

Quality, simplicity and user-friendliness are other advantages students appreciate.

### **TEST WHAT STUDENTS HAVE LEARNED**

Each lesson unit includes a self-assessment section consisting of questionnaires and practical interactive exercises for rapid validation of what trainees have learned.



### A RANGE OF **POWERFUL FANS:**



PETROL-D	RIVEN F	ANS						
Model	Outlet Ø in mm	Ventilation type	Application*	Motor**	Open air flow in m3/h	Flow rate according to AMCA 240-06 (m3/h)	Weight in kg	See details page
MT 215 L NEO	420	PPV	1	Honda GXH50 - 2.1 HP	28 800	Pending	20,3	p20
MT 225 NEO	420	PPV	1	Honda GX120 - 3.6 HP	37 700	Pending	26,8	p21
MT 236 NEO	420	PPV	1	Honda GX160 - 4.8 HP	51 650	Pending	39,6	p22
MT 240 NEO	420	PPV	1	Honda GX200 - 5.5 HP	56 150	Pending	41,7	p23
MT 245	570	PPV	1-2	Honda GX200 - 5.5 HP	51 200	Pending	52	p24
MT 280	570	PPV	1-2	Honda GX390 - 11.7 HP	85 200	Pending	69,4	p35
MT 296	570	PPV	1-2	B&S-Vanguard - 16 HP	96 000	Pending	76,7	p26
Easy 2000	885	PPV LFV	2-3	Honda GX630 - 20.8 HP	150 000	-	301	p48
Easy 4000	1200	PPV LFV	3	BMW - 115 HP	400 000	-	546	p50
ELECTRIC	FANS							
ON BATTERY								
BAT FAN NEO	420	Relay and PPV	1	600 W (0.8 HP) - 110v / 220v -	24 050	Pending	23,5	p30
DIRECT START			•					
SA315	300	Extraction	1	DIRECT START	7 000	-	29,8	p40
SR460	400	Relay and PPV	1	1.1 kW (1.5 HP) - 220v - 50Hz	13 000	-	15,5	p32
ES 220 NEO	420	PPV	1	1 375 W (0.5 HP) - 110v / 220v – 3		Pending	25,9	p33
ES 230 NEO	420	PPV	1	50Hz / 60 Hz	40 750	Pending	39,3	p34
EDS 230 NEO	420	PPV	1	1.5 kW (2 HP) - 220v - 50Hz	28 750	Pending	37	p35
ES 245	570	PPV	1-2	2.2 kW (3 HP) - 220v - 50Hz	41 500	Pending	50,5	p37
WITH SOFT STARTE	R							
ESP 230 NEO	420	PPV	1	15 / 20 amp - 115v – 60Hz	40 750	Pending	40	p34
ESP 280	570	PPV	1-2	2.2 kW (3 HP) - 220v - 50Hz	85 700	Pending	74,6	p38
WITH VARIABLE-SF	PEED DRIVE						l.	
ESV 230 NEO	420	PPV	1	2.2 kW (3 HP) - 220v - 50Hz / 60 Hz	40 750	Pending	41	p34
EVG 230 NEO	420	PPV	1	1.1 kW (1.5 HP) – 15 / 20 amp – 115v – 50Hz / 60Hz	28 900	Pending	35,5	p35
ESV 245	570	PPV	1-2	2.2 kW (3 HP) - 220v - 50Hz / 60 Hz	41 500	Pending	53	p37
ESV 280	570	PPV	1-2	7.5 kW (10 HP) - 400V - 50Hz / 60Hz	85 700	Pending	81,4	p38
PARK FAN 80	570	NPV or PPV	1-2	7.5 kW (10 HP) - 400V - 50Hz / 60 Hz with wireless remote control	85 700	Pending	83	p39
ATEX		<u> </u>						
SAX 320	300	Extraction	1	1.1 kW - 110v / 220v - 50Hz / 60Hz	9 000	Pending	42	p41
ESX 230	420	PPV	1	1.85 kW (2.5 HP) - 400v - 50Hz / 60Hz	30 000	Pending	57	p36
WATER-DF	DIVEN EA	NC						
		PPV	1	6 6 KW (0 HD)	40.050	Dondina.	22.6	p44
MH 236 NEO	420	rr v	1	6.6 kW (9 HP)	49 050	Pending	32,6	p44

MH 260

420

PPV

2

NPV = Negative Pressure Ventilation

Relay = Relay fan in a combined ventilation set-up

50 500

LFV = Large-Flow Ventilator

6.6 kW (9 HP)

p45

49

Pending

<sup>\*</sup>Application::
1 - Ventilation through single-leaf door, e.g. houses, small blocks of flats ...

<sup>2</sup> - Ventilation through single/double doors, e.g. high-rise tower blocks, medium-size  $\,$ 

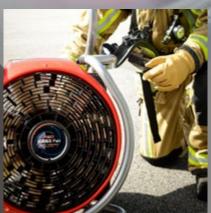
<sup>3 -</sup> Ventilation through industrial unit door, underground parking lots, industrial sites, tunnels etc.

PPV = Positive Pressure Ventilation

<sup>\*\*</sup>Electric motor = power in W measured on the shaft







Have the advantage of containing their own power source and have great blowing power.

LEADER offers a complete range of fans of different powers.







### PETROL-DRIVEN MT215 L

### Compact and lightweight: 20.3 kg!

### A very **concentrated and ultra-powerful** jet of air due to an optimal combination of:

- A high-strength propeller matched to the power of the engine
- A red double-layer monobloc shroud made of reinforced high-density polyethylene
- ► A high-tech composite grille

### Positioning from 0.90 m to 6 m

in front of a door without loss of power for:

- more space to move about
- less noise inside the building

With folding pull/steer handle for easier set-up

#### Precise tilt adjustment

from -10° to +20° with indicator for optimization of direction of air stream up entrance steps or down into a semi-basement

#### **Protective frame**

with grey epoxy coating

**Stable & easy to handle** with large rear wheels

Compact for easy storage in vehicle trunks

### Characteristics

Model	MT215 L NEO
Reference	I60.10.062N
Open air flow	28 800 m3/h
PPV air flow according to AMCA	Pending
Weight (dry)	20.3 kg
Dimensions L x H x D	530 x 495 x 555 mm
Propeller diameter	420 mm
Run time at full speed	1h40
Engine	HONDA GXH50 engine (4-stroke) 56% less CO than a 5 HP engine Assembly inspected and approved by Honda Motor Co., Ltd
Engine power	2.1 HP according to standard SAE J1349 of 2007
Noise level	84,5 dB à 3m
Ventilation type	PPV blowing
Application	Single door, e.g. house, small apartment block

High expansion foam adapter without coupling delivered with 35m of polyane plastic film duct (products with coupling: see p. 52)	160.20.105
Hour meter	160.20.135
Adapter for connecting ventilation duct to fan	160.20.149
5m ventilation duct	160.20.147











PETROL-DRIVEN MT225

### A very **concentrated and ultra-powerful** jet of air due to an optimal combination of:

- A high-strength propeller matched to the power of the engine
- A red double-layer monobloc shroud made of reinforced high-density polyethylene
- ► A high-tech composite grille

### Positioning from 0.90 m to 6 m

in front of a door without loss of power for:

- more space to move about
- less noise inside the building

### **Precise tilt adjustment**

from -10° to +20° with indicator for optimization of direction of air stream up entrance steps or down into a semi-basement

#### **Protective frame**

with grey epoxy coating

Compact for easy storage in vehicle trunks

### Characteristics

Model	MT225 NEO
Reference	I60.10.054N
Open air flow	37 700 m3/h
PPV air flow according to AMCA	Pending
Weight (dry)	26,8 kg
Dimensions L x H x D	550 x 568 x 436 mm
Propeller diameter	420 mm
Run time at full speed	1h40
Engine	HONDA GX 120 engine (4-stroke) Automatic engine cutout if oil runs out. Assembly inspected and approved by Honda Motor Co., Ltd
Engine power	3,6 HP according to standard SAE J1349 of 2007
Noise level	94,8 dB at 3 m
Ventilation type	PPV blowing
Application	Single door, e.g. house, small apartment block

Mister without coupling (products with coupling: see p. 52)	Consult us
High expansion foam adapter without coupling delivered with 35m of polyane plastic film duct (products with coupling: see p. 52)	160.20.105
5m ventilation duct	160.20.147
Adapter for connecting ventilation duct to fan	160.20.149







### PETROL-DRIVEN MT236

### A very **concentrated and ultra-powerful** jet of air due to an optimal combination of:

- A high-strength propeller matched to the power of the engine
- A red double-layer monobloc shroud made of reinforced high-density polyethylene
- A high-tech composite grille

### Positioning from 0.90 m to 6 m

in front of a door without loss of power for:

- more space to move about
- less noise inside the building

Automatic optimal +10° tilt when handle raised

#### Precise tilt adjustment

from +10° to +20° for optimization of direction of air stream up entrance steps

#### **Protective frame**

with grey epoxy coating

**Stable & easy to handle** with large rear wheels

**Compact for easy storage in vehicle trunks** 

### Characteristics

Model	MT236 NEO			
Reference	I60.10.052N I60.10.053N			
Open air flow	51 650 m3/h			
PPV air flow according to AMCA	Pending			
Weight (dry)	39,6	6 kg		
Dimensions L x H x D	550 x 550	x 490 mm		
Propeller diameter	420 mm			
Run time at full speed	2h10			
	HONDA GX 160 engine (4-stroke)			
Engine	Automatic engine cutout if oil runs out.			
	Assembly inspected and approved by Honda Motor Co., Ltd			
Engine power	4.8 HP according to standard SAE J1349 of 2007			
Noise level	93 dB at 3 m			
Ventilation type	PPV blowing			
Application	Single door, e.g. house, small apartment block			
-10° prop for negative tilt of fan	No Yes			

o peromen erocopo mest			
CO-reducing LEADER Cat catalytic converter	160.20.142	Exhaust adapter	160.20.014
Mister without coupling (products with coupling: see p. 52)	I60.20.104	Exhaust extension (length: 2.5m)	I60.20.012
High expansion foam adapter without coupling delivered with 35m of polyane plastic film duct (products with coupling: see p. 52)	160.20.105	Protective cover	I60.20.017
Hour meter	160.20.135	-10° prop for negative tilt of fan	I60.20.130
5m ventilation duct	160.20.101		









### PETROL-DRIVEN MT240

### A very **concentrated and ultra-powerful** jet of air due to an optimal combination of:

- A high-strength propeller matched to the power of the engine
- A red double-layer monobloc shroud made of reinforced high-density polyethylene
- ► A high-tech composite grille

### **Positioning from 0.90 m to 6 m** in front of a door without loss of power for:

- more space to move about
- less noise inside the building

Automatic optimal +10° tilt when handle raised

### Precise tilt adjustment

from +10° to +20° for optimization of direction of air stream up entrance steps

### Characteristics

Model	MT240 NEO
Reference	I60.10.061N
Open air flow	56 150 m3/h
PPV air flow according to AMCA	Pending
Weight (dry)	41,7 kg
Dimensions L x H x P	550 x 550 x 490 mm
Propeller diameter	420 mm
Run time at full speed	1h30
Engine	Engine HONDA GX 200 (4-stroke) Automatic engine cutout if oil runs out. Assembly inspected and approved by Honda Motor Co., Ltd
Engine power	5.5 HP according to standard SAE J1349 of 2007
Noise level	93 dB at 3 m
Ventilation type	PPV blowing
Application	Single door, e.g. house, small apartment block

### Optional accessories:

CO-reducing LEADER Cat catalytic converter	160.20.142	Exhaust adapter	160.20.014
Mister without coupling (products with coupling: see p. 52)	160.20.104	Exhaust extension (length: 2.5m)	160.20.012
High expansion foam adapter without coupling delivered with 35m of polyane plastic film duct (products with coupling: see p. 52)	160.20.105	Protective cover	I60.20.017
Hour meter	160.20.135	5m ventilation duct	160.20.101

#### **Protective frame**

with grey epoxy coating

**Stable & easy to handle** with large rear wheels

Compact for easy storage in vehicle trunks

**Integrated stabilizer prop** at rear. Also enables fan to be tilted to -10° for downward ventilation.





### PETROL-DRIVEN MT245

### A concentrated, powerful jet of air due to:

- high-strength propeller matched to the power of the motor
- double-layer aluminum/ABS thermoplastic red shroud
- metal grille

### Positioning from 0.90 m to 6 m

in front of a door without loss of power for:

- more space to move about
- less noise inside the building

Automatic optimal +10° tilt when handle raised

#### Precise tilt adjustment

from +10° to +20° for optimization of direction of air stream up entrance steps

#### **Protective frame**

with grey epoxy coating

Stable & easy to handle with large rear wheels

### Characteristics

Model	MT245
Reference	160.10.051
Open air flow	51 200 m3/h
PPV air flow according to AMCA	Pending
Weight (dry)	52 kg
Dimensions L x H x P	710 x 720 x 617 mm
Propeller diameter	570 mm
Run time at full speed	2h00
Engine	HONDA GX 200 (4-stroke) Automatic engine cutout if oil runs out. Assembly inspected and approved by Honda Motor Co., Ltd
Engine power	5.5 HP according to standard SAE J1349 of 2007
Noise level	96 dB at 3 m
Ventilation type	PPV blowing
Application	Single door (e.g. house, small apartment block) and double door (e.g. tall apartment block, mid-size industrial unit)

I			
CO-reducing LEADER Cat catalytic converter	160.20.142	Exhaust adapter	160.20.014
Mister without coupling (products with coupling: see p. 52)	160.20.104	Exhaust extension (length: 2.5m)	160.20.012
High expansion foam adapter without coupling delivered with 35m of polyane plastic film duct (products with coupling: see p. 52)	160.20.116	Protective cover	160.20.097
Hour meter	160.20.135	-10° prop for negative tilt of fan	160.20.108
5m ventilation duct	160.20.113		









### PETROL-DRIVEN MT280

### A concentrated, powerful jet of air due to:

- ▶ high-strength propeller matched to the power of the motor
- ▶ double-layer aluminum/ABS thermoplastic red shroud
- metal grille

### Positioning from 0.90 m to 6 m

in front of a door without loss of power for:

- ▶ more space to move about
- less noise inside the building

Automatic optimal +10° tilt when handle raised

#### Precise tilt adjustment

from +10° to +20° for optimization of direction of air stream up entrance steps

### **Protective frame**

with grey epoxy coating

**Stable & easy to handle** with large rear wheels

### Characteristics

Model	MT280
Reference	160.10.048
Open air flow	85 200 m3/h
PPV air flow according to AMCA	Pending
Weight (dry)	69,4 kg
Dimensions L x H x P	710 x 720 x 617 mm
Propeller diameter	570 mm
Run time at full speed	1h20
Engine	HONDA GX 390 (4-stroke) Automatic engine cutout if oil runs out. Assembly inspected and approved by Honda Motor Co., Ltd
Engine power	11.7 HP according to standard SAE J1349 of 2007
Noise level	99 dB at 3 m
Ventilation type	PPV blowing
Application	Single door (e.g. house, small apartment block) and double door (e.g. tall apartment block, mid-size industrial unit)

Mister without coupling (products with coupling: see p. 52)	160.20.104	Exhaust adapter (products with coupling: see p. 52)	160.20.125
High expansion foam adapter without coupling delivered with 35m of polyane plastic film duct (products with coupling: see p. 52)	160.20.116	Exhaust extension (length: 2.5m)	160.20.012
Hour meter	160.20.135	Protective cover	160.20.097
5m ventilation duct	I60.20.113	-10° prop for negative tilt of fan	160.20.108







### PETROL-DRIVEN MT296

### A **concentrated**, **powerful** jet of air due to:

- high-strength propeller matched to the power of the motor
- double-layer aluminum/ABS thermoplastic red shroud
- metal grille

### Positioning from 0.90 m to 6 m

in front of a door without loss of power for:

- more space to move about
- less noise inside the building

Automatic optimal +10° tilt when handle raised

### Precise tilt adjustment

from +10° to +20° for optimization of direction of air stream up entrance steps

#### **Protective frame**

with grey epoxy coating

Stable & easy to handle with large rear wheels

### Characteristics

Model	MT296
Reference	160.10.045
Open air flow	96 000 m3/h
PPV air flow according to AMCA	Pending
Weight (dry)	76,7 kg
Dimensions L x H x P	710 x 780 x 617 mm
Propeller diameter	570 mm
Run time at full speed	1h50
Engine	B&S Vanguard two-cylinder engine (4-stroke)
Engine power	16 HP according to standard SAE J1349 of 2007
Noise level	98.3 dB at 3 m
Ventilation type	PPV blowing
Application	Single door (e.g. house, small apartment block) and double door (e.g. high rise buildings, mid-size industrial unit)

5m ventilation duct	160.20.113	Exhaust extension (length: 2.5m)	160.20.012
Mister without coupling (products with coupling: see p. 52)	160.20.111	Protective cover	160.20.097
High expansion foam adapter without coupling delivered with 35m of polyane plastic film duct (products with coupling: see p. 52)	160.20.116	-10° prop for negative tilt of fan	160.20.108
Hour meter	160.20.135		











Have the advantage of not producing any toxic fumes and are quieter than petrol-driven engines. However, they need a power supply which must be allowed for ahead of time based on their power and the number of fans deployed.

LEADER offers a complete range of electric fans of different powers with or without variable speed drive and suitable for differing electricity supplies (110/220 V, 50/60 Hz, GFCI (RCD), soft starter, etc.).













### ELECTRIC BATfan

### Portable battery-mounted fan

### Powerful and lightweight for completely self-contained operation!

### **versions** to choose from:

- BATfan 20 with a 20-minute runtime and total weight of 23.5 kg
- BATfan 45 with a 45-minute runtime and total weight of 27.5 kg

### **Totally self-contained**

- No cables: Avoids further accidents
- No need for a generator or power socket

### Compact & mobile

- Folds up and stows easily in the trunk of a vehicle: 2 BATfans occupy the space of one conventional fan!
- Portable by one person alone
- Carrying handle and strap
- Folding trolley for even easier transport (optional)

### Quicker to set up than conventional fans

- No time wasted searching for a power socket: Starts off instantly
- Easy set-up

### **Powerful** concentrated jet of air with optimal combination of:

- propeller specifically matched to the motor power
- reinforced double-laver monobloc shroud
- high-tech composite grille

### Positioning from 0.90 m to 6 m in front of a door

### Dual power source means **greater flexibility:**

Runs on battery or mains electricity if necessary (battery will automatically recharge at same time)

### **Practical**

- Tilt is adjustable from -10° to +30° due to locking system with angle indicator
- Integred variable-speed drive
- ► Powered by NiMH battery
  - Can recharge while in use
  - Low maintenance: only 1 recharge every 6 months
  - No restrictions on air transport
  - Battery charge indicator







### Electric fan

- ▶ No exhaust gases
- Noise level lower than a petrol-driven engine

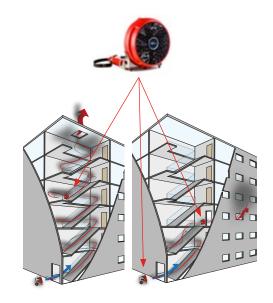
### Multi-use, can be used:

- indoors or outdoors: protected against splashing water (IP55)
- ▶ on its own at a building entrance for PPV
- ▶ for PPV combined tactics with other fans:
  - as a relay in a corridor or stairwell
  - for attack in front of an apartment door for offensive ventilation
- ▶ in blowing mode with duct (optional)
- ▶ as a foam generator with adapter (optional)

### **Two BATfans together** for even more flexibility

Taking up no more space than one standard fan, two BATfans give greater operational flexibility:

- at the building entrance for PPV tactic for more air flow
- ► for combined PPV tactic: one at the entrance, the other as relay or attack on a higher floor of a building



### Characteristics

Model	BATfan 20	BATfan 45	
References 110V	I63.12.001N	I63.12.004N	
References 220V	I63.12.002N	I63.12.003N	
Open air flow	24 050	m3/h	
PPV air flow according to AMCA	Pendiı	ng	
Weight	23.5 kg	27.5 kg	
Dimensions L x H x P	524 x 542 x	265 mm	
Propeller diameter	420 m	nm	
Run time at full speed	20 min	45 min	
Engine	600 W with variable s	peed drive – IP55	
Power supply	Self-contained: NiMH battery On mains: single-phase 110V - 50/60 Hz or 220V - 50/60 Hz		
Electrical safety	Meets EN 50178 for user safety (leakage current less than 3.5 mA)		
Power consumption in steady operation	8A when plugged into 110V 4A when plugged into 220V		
Electric power plug	CE-220V male plug or	US-110V male plug	
Charging time	100% in 5 h	100% in 10 h	
Use temperature	Use -20°C to +50°C  Permanent storage -20°C to +35°C  1 week storage -20°C to +60°C  Charging -5°C to + 45°C		
Protection	IP55 = protected from water spray in all directions from fire hose		
Noise level	73,5 dB at 3 m		
Ventilation type	PPV and combined PPV		
Application	Single door – houses, sn or as a relay fan on upstairs floors or in at	•	

operation decessories	
High expansion foam adapter without coupling delivered with 35m of polyane plastic film duct (products with coupling: see p. 52)	160.20.105
Adapter for connecting ventilation duct to fan	160.20.149
5m ventilation duct	I60.20.147
Folding transport trolley	I63.12.005
100m extension in bag with lockable plugs - weight 12kg - high-flex cable 3x1.5 mm <sup>2</sup>	I63.00.016





### FAN SR460

### **Auxiliary Relay Fan (ARF)**

### Lightweight and quiet.

Allows responders to work in complete safety close to the fire, reduce the temperature, and remove hot gases and smoke through vents (windows, etc.).

**It is positioned on an upstairs floor as a relay for a more powerful fan** positioned at the building entrance (see combined ventilation concept)

Robust protective sheet-steel housing - red epoxy paint

**High-strength propeller** matched to the power of the motor

**Transportable by one operator** due to its low weight and small size (with carry handle)

**Adjustable tilt angle** to optimize the direction of the air stream

**Compact,** stows easily in the trunk of a vehicle.

### Characteristics

Model	SR460
Reference	163.00.015
Open air flow	13 000 m3/h
PPV air flow according to AMCA	Pending
Weight	15,5 kg
Dimensions L x H x P	566 x 547 x 422 mm
Propeller diameter	400 mm
Engine	370 W IP55 protection
Power supply	Single-phase - 230V – 50/60Hz – IP55
Electrical safety	Meets EN 50178 for user safety (leakage current less than 3.5 mA)
Power consumption in steady operation	2.75 A
Mains plug	CE male plug – 220 V
Noise level	65.5 dB at 3 m
Ventilation type	Combined PPV
Application	As a relay fan on upstairs floors or for attack in front of an apartment door

### Optional accessories:

100m extension in bag with lockable plugs - weight 12kg - high-flex cable 3x1.5 mm<sup>2</sup> l63.00.016











### A very concentrated and ultra-powerful jet of air due to an optimal combination of:

- A high-strength propeller matched to the power of the engine
- A red double-layer monobloc shroud made of reinforced high-density polyethylene
- A high-tech composite grille

### Positioning from 0.90 m to 6 m

in front of a door without loss of power for:

- more space to move about
- less noise inside the building

### Precise tilt adjustment from -10° to

+20° with indicator to optimize direction of air stream up entrance steps or down into a semi-basement

Protective frame with gray epoxy coating

Compact for easy storage in vehicle trunks

### Characteristics

Model	ES220 NEO
Reference	I63.10.039N
Open air flow	31 200 m3/h
PPV air flow according to AMCA	Pending
Weight	25,9 kg
Dimensions L x H x P	550 x 568 x 436 mm
Propeller diameter	420 mm
Engine	1.5 kW
Power supply	220V – 50Hz
Electrical safety	Meets EN 50178 for user safety (leakage current less than 3.5 mA)
Power consumption in steady operation	7.2 A
Mains plug	CE male plug – 220 V
Noise level	86,5 dB at 3 m
Ventilation type	PPV blowing
Application	Single door, e.g. house, small apartment block

### Ontional accessories ·

Optional accessories.	
Adapter for connecting ventilation duct to fan	160.20.149
5m ventilation duct	160.20.147
High expansion foam adapter without coupling delivered with 35m of polyane plastic film duct (products with coupling: see p. 52)	l60.20.105
V-BOX cube for extractor/blower kit	163.20.017
5m diam. duct 400mm for V-Box extractor/blower kit	163.20.014







### ELECTRIC ES230 - ESP230 - ESV230

### A very **concentrated and ultra-powerful** jet of air due to an optimal combination of:

- A high-strength propeller matched to the power of the engine
- A red double-layer monobloc shroud made of reinforced high-density polyethylene
- A high-tech composite grille

### Positioning from 0.90 m to 6 m

in front of a door without loss of power for:

- ▶ more space to move about
- less noise inside the building

**Automatic optimal +10° tilt** when handle raised

#### Precise tilt adjustment

from +10° to +20° for optimization of direction of air stream up entrance steps

#### **Protective frame**

with grey epoxy coating

**Stable & easy to handle** with large rear wheels

Compact for easy storage in vehicle trunks

### Characteristics

Model 220 V	ES230 NEO	ESP230 NEO	ESV230 NEO
Reference	I63.10.010N	I63.10.012N	I63.10.011N
Open air flow		40 750 m3/h	
PPV air flow according to AMCA	Pending		
Weight	39,3 kg	40 kg	41 kg
Dimensions L x H x P		550 x 550 x 490 mm	
Propeller diameter	420 mm		
Engine	2.2 kW – IP55	2.2 kW with <b>soft starter</b> – IP55	2.2 kW with <b>variable speed drive</b> – IP55
Power supply	Single phase - 230V – 50Hz Single phase - 230V 50/60Hz – IP55		Ŭ '
Electrical safety	Meets EN 50178	B for user safety (leakage current l	ess than 3.5 mA)
Power consumption in steady operation	12,5 A	14 A	16,5 A
Mains plug	CE male plug – 220 V		
Noise level	85,3 dB at 3 m		
Ventilation type	Blowing – VPP		
Application	Single door – houses, small apartment blocks		

Optional accessories.				
Mister without coupling (products with coupling: see p. 52)	160.20.104	Prop for -10° tilt, useful for ventilating semi-basements	160.20.130	
High expansion foam adapter without coupling delivered with 35m of polyane plastic film duct (products with coupling: see p. 52)	I60.20.105	5m diam. duct 400mm for V-BOX extractor/blower kit	l63.20.014	
5m ventilation duct	160.20.101	V-BOX cube for extractor/blower kit	163.20.017	
Protective cover	160.20.017			









### ELECTRIC EDS230 - EDS230.2 - EVG230

### A very **concentrated and ultra-powerful** jet of air due to an optimal combination of:

- A high-strength propeller matched to the power of the engine
- A red double-layer monobloc shroud made of reinforced high-density polyethylene
- A high-tech composite grille

### Positioning from 0.90 m to 6 m

in front of a door without loss of power for:

- ▶ more space to move about
- less noise inside the building

### Precise tilt adjustment

from  $+10^{\circ}$  to  $+20^{\circ}$  for optimization of direction of air stream up entrance steps

#### **Protective frame**

with grey epoxy coating

**Stable & easy to handle** with large rear wheels

Compact for easy storage in vehicle trunks

#### Automatic optimal +10° tilt when handle raised

### Characteristics

Model 110 V	EDS230 NEO	EDS230.2 NEO	EVG230 NEO
Reference	I63.10.032N	I63.10.033N	I63.10.042N
Open air flow	28 750 m3/h	32 400 m3/h	28 900 m3/h
PPV air flow according to AMCA	Pending		
Weight	33.1kg	37kg	35.5kg
Dimensions L x H x P	550 x 550 x 490 mm		
Propeller diameter	420 mm		
Engine	1.1 kW GFCI compatible – IP55	1.5 kW GFCI compatible – IP55	1.1 kW with variable speed drive GFCI compatible – IP55
	Runs on 15 A circuit breaker and compatible with GFCI circuit breaker	Runs on 20 A circuit breaker and compatible with GFCI circuit breaker	Runs on 20 A circuit breaker and compatible with GFCI circuit breaker
Power supply	Single phase - 115V±10% – 60Hz Single phase - 115V±10% 50/60Hz		
Electrical safety	Meets EN 50178 for user safety (leakage current less than 3.5 mA)		
Power consumption in steady operation	13.2 A	18.7 A	13.9 A
Mains plug	US male plug – 110 V		
Noise level	85,2 dB à 3m	86,3 dB à 3m	85,2 dB à 3m
Ventilation type	Blowing – VPP		
Application	Single door – houses, small apartment blocks		

High expansion foam adapter without coupling delivered with 35m of polyane plastic film duct (products with coupling: see p. 52)	160.20.105	Prop for -10° tilt, useful for ventilating semi-basements	I60.20.130
5m ventilation duct	160.20.101	5m diam. duct 400mm for V-BOX extractor/blower kit	163.20.014
Protective cover	160.20.017	V-BOX cube for extractor/blower kit	163.20.017





### **ELECTRIC ESX230 - ATEX certified**

### Usable in an explosive atmosphere

ATEX certification: II 2 GD II B T4 or T135°C according to LCIE 12 ATEX 3043 X

### A concentrated, powerful jet of air due to:

- high-strength propeller matched to the power of the motor
- ▶ double-layer aluminum/ABS thermoplastic red shroud
- metal grille

### Positioning from 0.90 m to 6 m

in front of a door without loss of power for:

- ▶ more space to move about
- less noise inside the building

Automatic optimal +10° tilt when handle raised

#### Precise tilt adjustment

from  $+10^{\circ}$  to  $+20^{\circ}$  to optimize direction of air stream up entrance steps

#### **Protective frame**

with grey epoxy coating

**Stable & easy to handle** even on unstable ground due to large rear wheels

**Compact** for easy storage in vehicle trunks

**Integrated misting system** 

### Characteristics

Model	ESX230	
Reference	163.11.006	
Open air flow	<ul><li>→ 30 000 m3/h on 50Hz</li><li>→ 36 000 m3/h on 60Hz</li></ul>	
PPV air flow according to AMCA	Pending	
Weight	57 kg	
Dimensions L x H x P	550 x 550 x 490 mm	
Propeller diameter	420 mm	
Engine	1.85 kW – IP65	
Power supply	3-phase - 230/400V - 50/60Hz	
Electrical safety	Meets EN 50178 for user safety (leakage current less than 3.5 mA)	
Engine consumption	3,5 A (in steady operation) and 30 A (starting current)	
Mains plug	Not supplied	
Integrated misting system	1" BSP F inlet	
Noise level	83.6 dB at 3 m	
Ventilation type	Blowing - PPV in explosive atmosphere	
Application	Single door - houses, small apartment blocks, confined spaces, etc.	

### Optional accessories:

5m ATEX duct 160.20.099







### ELECTRIC ES245 - ESV245

#### A concentrated, powerful jet of air due to:

- high-strength propeller matched to the power of the motor
- ▶ double-layer aluminum/ABS thermoplastic red shroud
- metal grille

#### Positioning from 0.90 m to 6 m

in front of a door without loss of power for:

- ▶ more space to move about
- less noise inside the building

### **Automatic optimal +10° tilt** when handle raised

**Precise tilt adjustment** from +10° to +20° to optimize direction of air stream up entrance steps

#### **Protective frame**

with grey epoxy coating

**Stable & easy to handle** even on unstable ground due to large rear wheels

#### Characteristics

Model	ES245 ESV245		
Reference	I63.10.017	I63.10.015	
Open air flow	41 500	) m3/h	
PPV air flow according to AMCA	Pen	ding	
Weight	50.5 kg	53 kg	
Dimensions L x H x P	710 x 720	x 617 mm	
Propeller diameter	570mm		
Engine	2,2 kW – IP55	2.2 kW with variable speed drive - IP55	
Power supply	220V 50Hz single-phase 220V 50/60Hz single-phase		
Electrical safety	Meets EN 50178 for user safety (leakage current less than 3.5 mA)		
Engine consumption	15,5 A 17 A		
Mains plug	CE male plug		
Noise level	88.7 dB at 3 m		
Ventilation type	PPV blowing		
Application		, small apartment blocks) wer blocks, mid-size industrial units)	

Mister without coupling (products with coupling: see p. 52)	160.20.104	Protective cover	160.20.097
High expansion foam adapter without coupling delivered with 35m of polyane plastic film duct (products with coupling: see p. 52)	160.20.116	-10° prop for negative tilt of fan	160.20.108
5m ventilation duct	160.20.113		









### ELECTRIC ESP280 - ESV280

#### A concentrated, powerful jet of air due to:

- high-strength propeller matched to the power of the motor
- ▶ double-layer aluminum/ABS thermoplastic red shroud
- metal grille

#### Positioning from 0.90 m to 6 m

in front of a door without loss of power for:

- more space to move about
- less noise inside the building

#### **Automatic optimal +10° tilt** when handle raised

#### **Precise tilt adjustment**

from  $+10^{\circ}$  to  $+20^{\circ}$  to optimize direction of air stream up entrance steps

#### **Protective frame**

with grey epoxy coating

**Stable & easy to handle** even on unstable ground due to large rear wheels

#### Characteristics

Model	ESP280	ESV280	
Reference	I63.10.037	I63.10.038	
Open air flow	85 700	m3/h	
PPV air flow according to AMCA	Pen	ding	
Weight	74.6 kg	81,4 kg	
Dimensions L x H x P	710 x 720	x 678 mm	
Propeller diameter	570mm		
Engine	7.5KW with soft starter IP55	7.5KW with variable speed drive* IP65	
Power supply	400V 50Hz three-phase 400V 50/60 Hz three-p		
Electrical safety	Meets EN 50178 for user safety (leakage current less than 3.5 mA)		
Engine consumption	15.5A 16A		
Mains plug	CE male plug – 400 V 32Amp IP67		
Noise level	96.3 dB at 3 m		
Ventilation type	PPV blowing		
Application	Single door (e.g. houses, small apartment blocks) and double doors (e.g. high-rise tower blocks, mid-size industrial units		

<sup>\*</sup>If used on an electricity generator, generator must be fitted with a Type B GFCI

5m ventilation duct	I60.20.113	Protective cover	160.20.097
High expansion foam adapter without coupling delivered with 35m of polyane plastic film duct (products with coupling: see p. 52)	l60.20.116	-10° prop for negative tilt of fan	160.20.108











Designed for **rapid smoke removal from underground parking lots**. The ParkFan is placed within the smoke-filled volume to blow the smoke out.

Can be controlled from outside the smoke-filled area with a wireless remote control.

### FAN ParkFan 80

#### A concentrated, powerful jet of air due to:

- high-strength propeller matched to the power of the motor
- ▶ double-layer aluminum/ABS thermoplastic red shroud
- metal grille

#### Positioning from 0.90 m to 6 m

in front of a door without loss of power for:

- more space to move about
- less noise inside the building

**Automatic optimal +10° tilt** when handle raised

#### **Precise tilt adjustment**

from  $+10^{\circ}$  to  $+20^{\circ}$  to optimize direction of air stream up entrance steps

#### **Protective frame**

with grey epoxy coating

**Stable & easy to handle** even on unstable ground due to large rear wheels

Integrated misting system

#### Characteristics

Model	ParkFan 80
Reference	163.10.045
Open air flow	85 700 m3/h
PPV air flow according to AMCA	Pending
Weight	42 kg
Dimensions L x H x P	710 x 720 x 678 mm
Propeller diameter	570mm
Engine	7.5KW with variable speed drive IP65*
Power supply	400V 50/60 Hz three-phase
Electrical safety	Meets EN 50178 for user safety (leakage current less than 3.5 mA)
Engine consumption	16A
Mains plug	CE male plug – 400 V 32Amp IP67
Feature	Integrated 2.4 GHz radio remote control for ON/OFF control and speed variation. Range 30m
Integrated mister	1" BSP female inlet
Noise level	96.3 dB at 3 m
Ventilation type	NPV extraction and PPV blowing
Application	Single door (e.g. houses, small apartment blocks) and double doors (e.g. high-rise tower blocks, mid-size industrial units)

<sup>\*</sup>If used on an electricity generator, generator must be fitted with a Type B GFCI

#### Optional accessories:

Optional accessories.			
5m ventilation duct	160.20.113	-10° prop for negative tilt of fan	160.20.108
High expansion foam adapter without coupling delivered with 35m of polyane plastic film duct (products with coupling: see p. 52)	160.20.116		



Ventilation tactics in the catalogue or at www.leader-group.eu





### FAN SA 315

#### Extractor/Blower electric fan

#### For safe removal of dangerous gases:

- Ventilation by blowing or extraction
- ▶ With 300mm diam. ZAG couplings for connection to suction and blowing ducts
- Stainless steel body.

Compact, stows easily in the trunk of a vehicle.

Portable, easy to handle, stable and robust

#### Characteristics

Model	SA315
Reference	163.00.022
Nominal air flow	2 500 m3/h
Air flow in extraction	2,980 m3/h 2400 m3/h with 5m duct
Weight	29,8 kg
Dimensions L x H x P	374 x 435 x 460 mm
Diamètre grille de sortie	300mm
Engine	1.1 kW IP55 protection
Power supply	Single phase - 230V – 50Hz
Electrical safety	Meets EN 50178 for user safety (leakage current less than 3.5 mA)
Power consumption in steady operation	6.1 A
Mains plug	CE male plug – 220 V
Ventilation type	Blowing and Extraction
Application	Smoke or gas removal from premises. Smoke removal from basements and ships

#### Optional accessories:

Extraction/blowing duct for SA315. Ø 300 mm - L 5m









### **ELECTRIC SAX320 ATEX certified**

#### Extractor/Blower electric fan

Usable in an explosive atmosphere

**ATEX certification:** II 2 G II B T4 according to LCIE 13 ATEX 3085 X For safe removal of dangerous gases:

- Ventilation by blowing or extraction
- ▶ With 300mm diam. ZAG couplings for connection to suction and delivery ducts
- Stainless steel body.

Compact, stows easily in the trunk of a vehicle.

#### Portable, easy to handle, stable and robust

#### Characteristics

Model	SAX320	SAX320 MN	SAX320 MNT
Reference	163.00.006	163.00.007	l63.00.012
Nominal air flow	2 500 m3/h	3 070 m3/h	2 560 m3/h on 50Hz 3 070 m3/h on 60Hz
Air flow in extraction	3150 m3/h	3800 m3/h	3150-3800 m3/h
Weight		42 kg	
Dimensions L x H x P		374 x 585 x 520 mm	
Outlet grille diameter		300mm	
Engine	1.1 kW  Protection IP55 – ATEX: II 2 G II B T4  (Other motor: consult us)		
Power supply	Single-phase - 230V 50-60Hz	Three-phase - 115V 60Hz	Single-phase - 230V 50/60Hz Tropicalized
Electrical safety	Meets EN 50178 for user safety (leakage current less than 3.5 mA)		
Power consumption in steady operation	4,5 A	8 A	4,5 A
Mains plug	Not supplied		
Ventilation type	Blowing and Extraction		
Application		Dilution of explosive atmosphere. nemical vapor removal by extracti Tank degassing.	

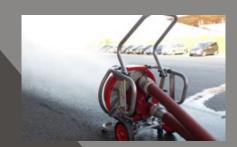
#### Optional accessories:

Antistatic PVC extraction/blowing duct for SAX320. Ø 300 mm - L 5m





# Water-driven fans



These must be connected to a pump to operate.

They are used for special situations or in the context of particular working modes where electric or petrol-driven fans cannot be used.





NEW!

### WATER-DRIVEN MH236

### A very **concentrated and ultra-powerful** jet of air due to an optimal combination of:

- A high-strength propeller matched to the power of the engine
- A red double-layer monobloc shroud made of reinforced high-density polyethylene
- A high-tech composite grille

#### Positioning from 0.90 m to 6 m

in front of a door without loss of power for:

- more space to move about
- less noise inside the building

Automatic optimal +10° tilt when handle raised

#### Precise tilt adjustment

from +10° to +20° for optimization of direction of air stream up entrance steps

#### **Protective frame**

with grey epoxy coating

**Stable & easy to handle** even on unstable ground due to large rear wheels

Compact for easy storage in vehicle trunks

**Integrated misting system** 

#### Characteristics

Model	MH236 NEO
Reference	I61.00.034N
Open air flow	49 050 m3/h
PPV air flow according to AMCA	Pending
Weight (dry)	32.6 kg
Dimensions L x H x P	550 x 550 x 490 mm
Propeller diameter	420 mm
Engine	Water-driven motor in aluminum with DSP 65 coupling, cutoff and control valve, and pressure gage
Engine power	9 HP
Power supply	Water under pressure
Engine comsumption	620 L/min @ 10 bar
Engine supply couplings	2" male for inlet and outlet
Integrated misting system	Yes
Noise level	92.8 dB at 3 m
Ventilation type	PPV blowing
Application	Single door - houses, small apartment blocks

5m ventilation duct	160.20.101	Protective cover	160.20.017
High expansion foam adapter without coupling delivered with 35m of polyane plastic film duct (products with coupling: see p. 52)	160.20.105	-10° prop for negative tilt of fan	160.20.130









### WATER-DRIVEN MH260

#### A **concentrated, powerful** jet of air due to:

- ▶ high-strength propeller matched to the power of the motor
- ▶ double-layer aluminum/ABS thermoplastic red shroud
- metal grille

#### Positioning from 0.90 m to 6 m

in front of a door without loss of power for:

- ▶ more space to move about
- less noise inside the building

Automatic optimal +10° tilt when handle raised

#### Precise tilt adjustment

from +10° to +20° for optimization of direction of air stream up entrance steps

#### **Protective frame**

with grey epoxy coating

**Stable & easy to handle** even on unstable ground due to large rear wheels

**Integrated misting system** 

#### Characteristics

Model	MH260
Reference	161.00.037
Open air flow	50 500 m3/h
PPV air flow according to AMCA	Pending
Weight (dry)	49 kg
Dimensions L x H x P	710 x 720 x 617 mm
Propeller diameter	570 mm
Engine	Water-driven motor in aluminum with cutoff and control valve. With pressure gage
Engine power	9 HP
Power supply	Water under pressure
Engine comsumption	620 L/min @ 10 bar
Engine supply couplings	2" male for inlet and outlet
Integrated misting system	Yes
Noise level	92.8 dB at 3 m
Ventilation type	PPV blowing
Application	Single door (e.g. house, small apartment block) and double door (e.g. tall apartment block, mid-size industrial unit)

5m ventilation duct	160.20.113	Protective cover	160.20.097
High expansion foam adapter without coupling delivered with 35m of polyane plastic film duct (products with coupling: see p. 52)	l60.20.116	-10° prop for negative tilt of fan	160.20.108







# Large-Flow Ventilators



These fans are mobile solutions for ventilating large or even very large volumes, e.g. Warehouses, Tunnels, Airports, Industrial Complexes, High-Rise Tower Blocks, etc.





### LARGE-FLOW EASY 2000

#### Mobile large-volume ventilation system

The most powerful large-flow ventilator in its category for smoke removal, cooling and fire extinguishing in large volumes (covered / closed parking lots, warehouses, product line, exhibition halls, etc...)

### **Very powerful airflows:** 150 000 m<sup>3</sup>/h **2 versions available** for varied configurations:

- On Skic
  - movable and usable with forklift truck
  - mounted on THEIS trolley or similar
  - can be mounted on bed of vehicle, e.g. pickup truck
- ► Trailer-mounted

#### Extremely low weight for ease of deployment

- Less than 180 kg for the skid version
- Less than 325 kg for the trailer version

A motor control panel and an off-the-shelf wired remote control for tilt, elevation and lighting according to selected options

Possibility of elevation platform by 600 mm or 1200 mm as desired on lifting table controlled by wired remote control

Electric tilt of shroud from -10° to +20° controlled by wired remote control







#### Characteristics

Model		EASY 2000 on traile	er		Skid EASY 2000	
Lift system	Without	600 mm	1200 mm	Without	600 mm	1200 mm
References	160.30.124	160.30.123	160.30.120	160.30.121	160.30.125	160.30.126
Open air flow		<b>'</b>	150 00	0 m3/h		
Propeller diameter		885 mm				
Height - mm	1715	1915	2050	1250	1510	1645
Width - mm	1430	1430	1430	1060	1060	1060
Length - mm	2800	2800	2800	1205	1205	1205
Weight - kg dry	301 kg	402 kg	447 kg	158 kg	275 kg	320 kg
Weight - kg in running mode	324 kg	425 kg	470 kg	178 kg	295 kg	340 kg
Mounting	Single-axle trailer w	vith brakes, towball a	nd sealed enclosure		-painted steel chassi ıp, truck, etc. (all del	·
Engine control panel	Mounted on the engine. Allows the operator to control:  the starter  electrical start/stop  fan flow rate via the accelerator  rpm and hour-run time via the hour meter  oil level (warning light)					
Wired remote control	Control, from as far as 10m away:  ▶ the tilt of the shroud from -10° to +20°  ▶ the rise and fall of the lifting table depending on the selected option  ▶ engine stop  ▶ turn LED spotlight on/off					
Misting system	For water or water+additive(s) - 260 l/min @ 7 bar					
Engine			HONDA	GX630		
Engine power			20.8	3 HP		
Tank			181	iters		
Fuel		unleaded petrol 95				
Runtime	3h05min					
Oil	Engine oil: 5W-30 synthetic API SJ or later (CASTROL MAGNATEC)  Hydraulic oil for lifting option: CASTROL SAF XJ 75-140					
Battery	12V / 44 Ah battery to power the electrical equipment					
Noise level	93.9 dB at 7 m					
Use	PPV					
Application		Ventilating underg	round parking lots, in	dustrial sites, wareho	uses, tunnels, etc.	

Manual 360° rotation system	For Skid version only. Add +265 mm height and +70 kg	Pending
Exhaust extension	L 2.5 m / Ø 50 mm Tip: use 3 exhaust extensions end to end for more efficiency	160.30.003
Adapter for exhaust extension	For connecting the exhaust extension	160.30.128
THEIS trolley	Aluminum trolley with handle and brake system for easy movement of the Skid EASY 2000. L 1.2 x D 0.8 x H 1.1 m $$	l60.30.119
LED headlight	For illuminating the blowing area	Pending
Blowing duct	6m / Ø 900 mm	160.30.122
Blowing duct adapter	Ø 900 mm	160.30.127
Gasoline (petrol) tank for trailer	20L jerry can on galvanized steel mounting	Pending
Ring Hitch (height-adjustable drawbar)	Allows trailer to be hitched with a ring system (over 70 kg necessitating a vehicle registration certificate depending on country of registration)	Pending







### LARGE-FLOW EASY 4000 VENTILATOR

#### Mobile large-volume ventilation system

A very effective solution for smoke removal and air cooling and renewal in large spaces (parking lots, tall apartment blocks, factories, storage facilities, exhibition venues, etc.)

#### Very powerful airflows: 400 000 m<sub>3</sub>/h

Very stable and extremely light for easy deployment

Unrivalled combination of performance and maneuvrability

#### Large

1200 mm diameter shroud with -10° to +20° tilt controlled from the control panel

#### With water or water+additive(s) misting system:

- ▶ 260 L/min @ 7 bar
- ▶ Range: up to 60 m

#### Possible configurations:

- On trailer
  - one person can easily position the trailer
  - total maximum weight less than 725 kg: Can be drawn by a light vehicle (European 'B' driver's license sufficient)
- On skid for installation on bed or vehicle (pick-up, truck, tank, railroad-going platform, etc.)









SKID VERSION

#### Characteristics

Model		EASY 4000 on trai	ler		Skid EASY 400	0
Lift system	Without	600 mm	1200 mm	Without	600 mm	1200 mm
Reference	I60.30.113	160.30.114	I60.30.109	I60.30.110	I60.30.111	I60.30.112
pen air flow			400 00	00 m3/h		
lominal air flow			185 00	00 m3/h		
Propeller diameter			120	0mm		
leight – mm	2215	2185 to 2785	2315 to 3515	1618	1789 to 2389	1922 to 3122
/idth – mm	1690	1690	1690	1474	1474	1474
ength – mm	3300	3300	3300	1809	1809	1809
ry weight	546 kg	647 kg	692 kg	372 kg	473 kg	518 kg
Veight in running order	579 kg	680 kg	725 kg	405 kg	506 kg	551 kg
Support	AL-KO chassis / Toptional) / Wheel Battery charger /	ved to European stan  Tow ball (adjustable she  Chocks for positioning  86 liters storage box  be required depending	naft and/or ring g when fan is running /	Steel chassis pair (all delivered on p	nted in black epoxy allet)	
Control panel	Allows control of  engine start a  tilt of shroud  airflow by ad  raising and lo	<ul> <li>engine start and stop</li> <li>tilt of shroud from -10° to +20°</li> <li>airflow by adjusting the fan speed</li> <li>raising and lowering the lifting table depending on selected option</li> </ul>				
listing system	For water or water+additive(s) - 260 l/min @ 7 bar					
Engine	BMW Fla	BMW Flat Twin with catalytic converter - 1170 cm3 with electronic control - 115 HP - 2 cylinders - 4-stroke  Electric start - Fuel consumption: 25 L/hour at full speed - Cooling: Air/Oil				
ank			42	liters		
uel			unleaded	l petrol 95		
luntime		1h40min				
)il		Engine oil: 3.8 L (1 US gal) – API SL / Hydraulic oil for raising table option: 0.9 L – ISO32				
Battery		Rapid charge 12V / 15 Ah battery to power the electrical equipment				
loise level		96 dB at 7 m				
Jse		PPV				
Application	Ven	tilating underground c	parking lots, industrial si	ites, warehouses. tu	unnels, high rise build	inas. etc.

Wired remote control	Control from up to 13 m away:  ▶ the tilt of the shroud from -10° to +20°  ▶ airflow by adjusting the fan speed  ▶ raising and lowering the lifting table depending on selected option  ▶ engine stop	l60.30.118
Manual 360° rotation system	For Skid version only. Add +175mm height and +70kg	160.30.010
Protective cover	For trailer version only.	160.30.004
Exhaust extension	L 2.5 m / Ø 80 mm - Tip: use 3 extensions end to end for more efficiency	160.30.003
Adapter for exhaust extension	For connecting the exhaust extension	160.30.017
Blowing duct	For channeling the air stream of the EASY 4000 in a straight line $L 12m - \emptyset 1.7m - Outlet$ cross section $1.1m - 40$ kg	160.30.016
Extraction duct	Up to 6 ducts can be interconnected. 1 duct = Ø 575 mm / L 6m / 19 kg	160.30.019





# Ventilation accessories



Blowing ducts, extraction ducts, high-expansion foam adapter, misting nozzles, etc. are options that increase the number of ways a fan can be used and so circumvent the constraints of a given operation.



### VENTILATION DUCTS ACCESSORIES DUCTS

#### **V-BOX: EXTRACTOR/BLOWER CONVERSION KIT**

- ► The simple solution for:
  - converting an electric fan into a powerful cold smoke extractor
  - channel the air stream to ventilate confined spaces
- ▶ The ventilator is placed inside the V-Box cube in the desired direction of the airstream (extracting or blowing).
- ► The ducts quickly connect to the V-Box.
- ▶ Usable with multiple ducts upstream as well as downstream.
- ► Carry handles enable it to be used for transporting and protecting the fan.
- Base reinforced with plastic skids allowing it to be dragged.



**Ductless V-Box cube** 

Reference	Characteristics	Adaptable to these fans:
I63.20.017	Red polyester and polypropylene cube with integrated rigid structure – With 2 male quick closures - Dim. H 58 x L 64 x D 51 cm - 3.5 kg	
l63.20.014	M1 duct for V-Box cube with male & female quick couplings - Ø 400 mm / L 5 m / 11.5 kg	Electric: ES220 / ES230 / ESP230 / ESV230 / EDS230 / EVG 230
I63.20.016	ZAG adaptor: with female quick clasp for locating on end of duct or directly on the V_BOX Cube - 1.450 kg	



V-Box in blowing mode



V-Box in extraction mode



Complete V-Box

#### LFV BLOWING DUCT

For channeling the air stream in a straight line



#### LFV EXTRACTION DUCT

For extracting smoke from large volumes. Set of 3 ducts giving a total length of 18 m - No bulky adapter between duct and fan Ability to interconnect up to 6 ducts - Integrated carrying bag.



Reference	Characteristics	Adaptable to these fans:
160.30.019	1 duct Ø 575 mm / L 6 m / 19 kg	LFV: EASY 4000

#### **VENTILATION DUCT**

Excellent for channeling fan air or extracting smoke in complex operations! Duct supplied with integrated bag.



Reference	Characteristics	Adaptable to these fans:
160.20.147	Ø 430 mm / L 5 m / 13 kg – Requires I60.20.149 adapter	Gasoline-driven: MT215L / MT225 Electric: BATfan / ES220
160.20.101	Ø 430 mm / L 5 m / 13 kg	Petrol-driven: MT236 / MT240 Electric: ES230 / ESP230 / ESV230 / EDS230 / EVG230 Water-driven: MH236
160.20.113	Ø 600 mm / L 5 m / 17,5 kg	Petrol-driven: MT245 / MT280 / MT296 Electric: ES245 / ESV245 / ESP280 / ESV280 / ParkFan80 Water-driven: MH260
I61.20.002	Ø 300 mm / L 5 m / 12,8 kg	Electric: SA315
I61.20.011	ATEX / Ø 300 mm / L 5 m / 13,1 kg	Atex: SAX320
160.20.099	ATEX / Ø 430 mm / L 5 m / 12,5 kg	Atex: ESX230

### VENTILATION OPTIONS FOR FANS

#### **MISTER**

Offers the possibility of faster, more effective cooling Flow rate 16 L/min at 7 bar



Reference	Characteristics	Adaptable to these fans:
160.20.104	without coupling	Petrol-driven: MT236 / MT240 / MT245 / MT280
160.20.107	with GFR20 coupling	Electric: ES230 / ESP230 / ESV230 / ES245 /
160.20.114	with BCN coupling	ESV245 / ESP280 / ESV280 / ParkFan80
I60.20.111	without coupling	
160.20.118	with GFR20 coupling	Petrol-driven: MT296
160.20.122	with BCN coupling	

#### **HI-EXPANSION FOAM ADAPTER**

Converts the fan into a high-expansion foam generator Expansions from 400 to 800 - Works with an in-line proportioner at 200 L/min traditional - Delivered with 35m of polyane plastic film duct



Reference	Characteristics	Adaptable to these fans:
160.20.105	without coupling	Petrol-driven: MT215L / MT225 /MT236 / MT240
160.20.103	with DSP40 coupling	Electric: BATfan / ES220 / ES230 / ESP230 /
160.20.106	with BCN coupling	ESV230 / EDS230 / EVG230
160.20.124	with BIC coupling	Water-driven: MH236
160.20.116	without coupling	Petrol-driven: MT245 / MT280 / MT296
160.20.117	with DSP40 coupling	Electric: ES245 / ESV245 / ESP280 / ESV280 /
160.20.121	with BCN coupling	ParkFan80
160.20.123	with BIC coupling	Water-driven: MH260

#### **HOUR METER**

Shows the engine rpm and hours-run time of petrol-driven fans.



Reference	Characteristics	Adaptable to these fans:
160.20.135	-	Petrol-driven: MT215L / MT236 / MT245 / MT280 / MT296 / MT240

#### **EXHAUST EXTENSION**

For expelling exhaust gases outside of room where fan is operating or far from extraction area, in order to limit the introduction of gases such as CO. Complies with DIN 14-572.



Reference	Characteristics	Adaptable to these fans:
160.20.012	L 2,5 m / Ø 50 mm	Petrol-driven: MT236 / MT240 / MT245 / MT280 / MT296 / LFV EASY 2000
160.30.003	L 2,5 m / Ø 80 mm	LFV: EASY 4000

#### **EXHAUST ADAPTER**

For connecting the exhaust extension



Reference	Characteristics	Adaptable to these fans:
160.20.014	for Honda engines	Petrol-driven: MT236 / MT240 / MT245
160.20.125	for Honda engines	Petrol-driven: MT280
-	Integrated with the machine	Petrol-driven: MT296
160.30.017	for BMW engine	LFV: EASY 4000

#### **CO-REDUCING CATALYTIC CONVERTER**

Reduces majority of CO emissions from Honda GX160 and GX200 engines through use of the LEADER cat converter.

Compatible with exhaust extensions.



Reference	Characteristics	Adaptable to these fans:
160.20.142	Stainless steel body – 400g – Dim. L 85 x W 62 x D 70 mm	Petrol-driven: MT236 / MT240 / MT245

#### -10° PROP

Allows a negative tilt (-10°) for ventilating downwards or into a semi-basement.



Reference	Characteristics	Adaptable to these fans:
160.20.130	0.5 kg - Stainless steel tubing to be fixed on the protective frame	Petrol-driven: MT236 Electric: ES230 / ESP230 / ESV230 Water-driven : MH236
160.20.108	0.5 kg - Stainless steel tubing	Petrol-driven: MT245 / MT280 / MT296 Electric: ES245 / ESV245 / ESP280 / ESV280 / ParkFan80 Water-driven: MH260







#### **EXTENSION CABLE**

Extra-flexible cable coiled in a bag designed to unwind without tangling and with lockable plugs.



Reference	Characteristics	Adaptable to these fans:
l63.00.016	L 100 m with lockable 220V plugs / 12 kg	Electric: BATfan / SR460

### VENTILATION OTHERS ACCESSORIES

#### 20,000 VOLT INSULATING TELESCOPIC PIKE-

#### **POLE**

Ideal for making heat and smoke vents. Extendable, fiber glass. Can be locked at any length. Body complies with IEC 61235 and IEC 60855



Reference	Characteristics
020.00.116	Length: retracted 2.20m / extended 3.75 m Ø 3.8 cm - 3kg
	Elongation resistance of the pike pole lockable system: 100 kg

#### **DOOR WEDGE**

Can be placed in different positions on a door so as to keep it open.



Reference	Characteristics
160.20.112	Plastic

#### **PROTECTIVE COVER**

Can be placed in various positions on a door to keep it open



Reference	Adaptable to these fans:
I60.20.017	Petrol-driven: MT236 / MT240 Electric: ES230 /ESP230 / ESV230 Water-driven: MH236
160.20.097	Petrol-driven: MT245 / MT260 / MT280 / MT296 Electric: ESP280 / ESV280 Water-driven: MH260



### WARRANTY

LEADER guarantees the LEADER Fan range of equipment from the date of acceptance by the customer.

The respective warranty periods are as follows:

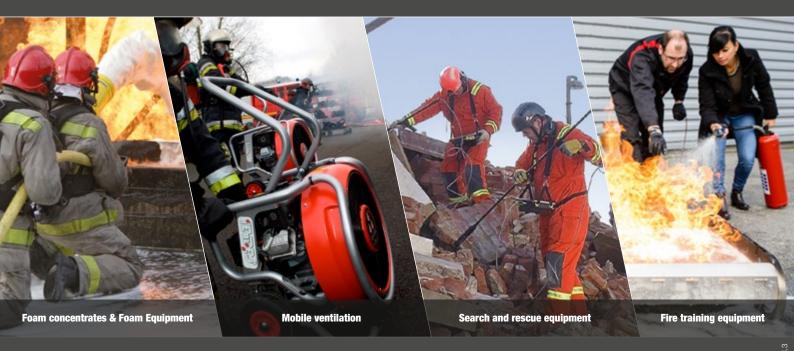
- ► Portable fans = 2 years
- ► Easy 2000 = 1 year
- ► Easy 4000 = 1 year
- Accessories (mister, hour meter, V-Box, LEADER Cat, foam adapter, etc.) = 1 year
- ▶ Batteries = 6 months

This warranty does not apply where it has been found by our services that the equipment was damaged by:

- Normal wear due to operation
- ► Improper use of the equipment
- ► Accidents arising from carelessness
- ▶ Poor maintenance
- Failure to follow the standards and instructions of the manufacturer
- Improper storage

Consumables, such as feet, cables, blowing or extraction ducts, paint and labels, filters, spark plug, oil, wheels, seals, bulbs, etc. are excluded from this warranty if defects are discovered after using the product.

# ALWAYS IN TOUCH WITH OUR CLIENTS TO DESIGN THE PRODUCTS YOU WILL NEED IN THE FUTURE



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