

LEADER[®]

● *Fighting for performance*



MOBILE VENTILATION

FIREFIGHTING EQUIPMENT



ELECTRIC | PETROL-DRIVEN | HYDRAULIC | LARGE FLOW FAN

**PORTABLE
FANS**

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**LARGE FLOW
VENTILATORS**

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FIREFIGHTING
AND INDUSTRIAL
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OUR VENTILATION CONCEPTS

EASY POW'AIR TECHNOLOGY

A UNIQUE CONCEPT DEVELOPED BY LEADER

The speed and shape of an air jet created by a fan affects the amount of air it carries.

Developed by LEADER engineers, the Easy Pow'air concept is based on a highly concentrated jet shape which is emitted at high speed, without turbulence. This powerful jet increases the ambient air drive rate and effectiveness at a distance to ultimately increase the air flow passing through an opening.

Evolution of LEADER technology



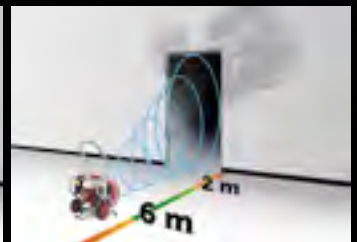
1980 - Conventional



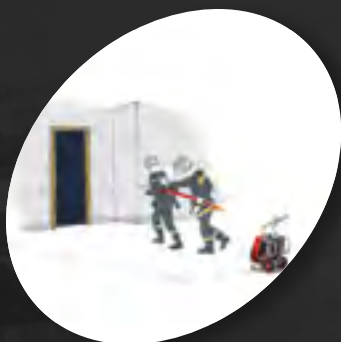
1995 - Turbo ventilation



2005 - Easy Pow'air



2015 - Neo Easy Pow'air

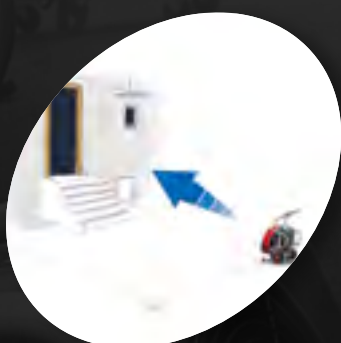
THE OPERATIONAL BENEFITS FOR FIREFIGHTERS:**■ Increased maneuvering space for firefighting teams:**

The force and stability of the jet ensures constant and optimal efficiency from 2 to 6 m between the fan and the opening. The resulting distance gives firefighting teams space to move about at the entrance. The fans can also be positioned from 0.90 metres. The noise level is reduced for firefighters due to the greater distance.

■ Easier ventilation from front steps:

The option to move the device further away plus maximum tilt allows ventilation in specific situations: Doors and windows up high, front steps, landings.

With or without the optional stand, the Easy Pow'air Technology can also be used to tilt the fan to -10° for downwards ventilation: Very practical when fighting fires underground.

**■ Simple and quick to set up:**

To reduce the time to set up a fan on site, ergonomics and ease of positioning have also been taken into account. Easy Pow'air Technology allows the fan to automatically tilt to $+10^{\circ}$. When raised, the handle automatically positions the fan at its optimum angle. Fine angle adjustment between $+10^{\circ}$ and $+20^{\circ}$ is also possible.

NEO TECHNOLOGY:
AN OVAL-SHAPED JET
FOR EVEN MORE
EFFICIENT LEADER
FANS

NEO
LEADER® Fan
EASY POW'AIR
TECHNOLOGY

NEO: The culmination of the Easy Pow'air concept:

An optimum combination of GRILL - PROPELLER - SHROUD. NEO generates a concentrated jet of air like Easy Pow'air, but it is unusual in that it has a vertical oval shape. This shape stretched lengthways minimises losses on either side of the door, and optimises the amount of air entering the door.

GRILL - PROPELLER - SHROUD: The complementarity of these three components (their technical nature and air flow design) help considerably increase the performance of 400 mm (16") diameter petrol-driven, electric or hydraulic fans in the LEADER range.

Up to 20% additional flow for unrivalled power in their category!

This new performance, accredited by external organisations, allows the use of smaller and lighter fans during operations which previously required larger fans from other categories.



PORTABLE LEADER FANS

OUR ENGINEERS HAVE
OVERCOME TECHNICAL
OBSTACLES TO KEEP YOU
WORKING

The compact portable fans can be stored easily in the cabinet of a firefighting response vehicle.

They can be Petrol-Driven, Battery-Powered, Electric or Hydraulic. In any event, they have been studied to ensure optimal power and to make a difference during your firefighting operations.

HOW TO CHOOSE YOUR PORTABLE FAN?

VARIOUS TYPES OF MOTOR FOR A WIDE RANGE OF USES.

Regardless of the model, all our fans are designed and manufactured carefully and with very high quality and performance standards. All the components and equipment were designed and chosen for their strength and reliability. LEADER fans also have an attractive design and unique ergonomics for their category.

Each fan model has its own features and unique aspects. The guide below will help you choose the fan which will meet your needs and requirements perfectly.



BATTERY-POWERED

P. 8

- ✓ Excellent running time
- ✓ Stable
- ✓ Quiet
- ✓ Clean
- ✓ Suction + Blowing



ELECTRIC

P. 12

- ✓ Performance
- ✓ Reduced noise
- ✓ No exhaust gas
- ✓ ATEX certified



PETROL-DRIVEN

P. 16

- ✓ Maximum performance
- ✓ XL running time
- ✓ Robust



HYDRAULIC

P. 20

- ✓ Maximum performance
- ✓ Reduced noise



PORTABLE BATTERY-POWERED LEADER FAN

AUTONOMOUS AND LIGHTWEIGHT

With battery-powered fans, you will no longer need to search for an electrical outlet or need an electrical generator for your ventilation operations.

Completely autonomous, lightweight, and non-polluting, LEADER battery-powered fan can be carried by a single firefighter in order to be installed very quickly as close as possible to the fire. (Our fans also work on electrical networks if necessary).

Compact, they are easily stored in the trunk of a vehicle. Two BATFANs occupy the same space as a single conventional fan.

Their design has been carefully studied to give them great stability even in the event of shocks.

Versatile, our battery-powered fans can be used for blowing, extraction, as a foam generator or as a fogger with its various accessories available (ducts, foam adapter, mister, etc.).

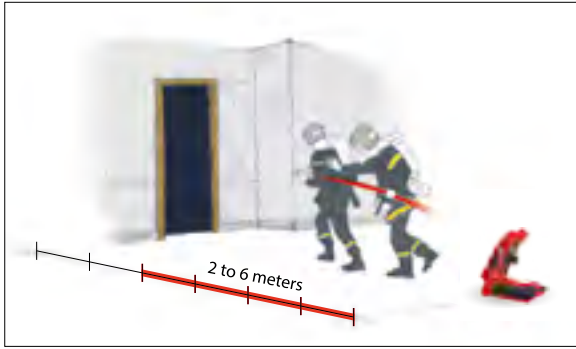
In addition, the low noise level due to the electric motor facilitates operational communication.



BATFAN,
highly stable
when operating.

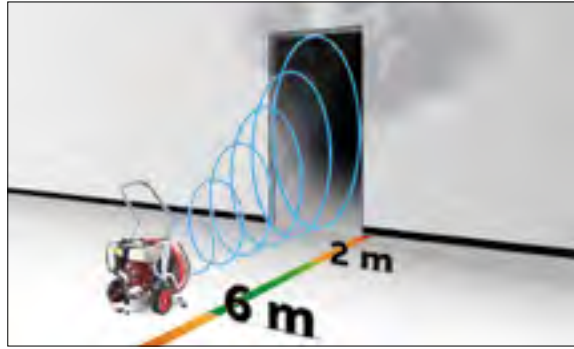


FEATURES AND BENEFITS



Constant efficiency from 2 to 6 meters:

LEADER fans offer much more space for firefighting teams to move around.



NEO concept:

An oval-shaped jet of air!
For increasingly efficient fans (see p4 and 5).



Unbreakable:

A robust design and highly resistant materials for harsh conditions. Double-walled full shroud offering maximum protection if a foreign body is picked up.



More space:

Compact and ergonomic design.
Easy to store in a vehicle cabinet..

NiMH? or Li-ion?

A wide range of batteries

BATFAN 2: NiMH batteries classified as non-hazardous.
Others: UN38.3 certified Lithium batteries to comply with transport standards



AMCA 240 certified flow rates:

By official independent laboratories:
AMCA - USA - Chicago, LOMC (Laboratoire Ondes et Milieux Complexes) FRANCE.

LEADER BATTERY-POWERED FANS



B-215-Li

E-FAN 18

REFERENCE

I63.12.201

I63.12.102EU

PERFORMANCES

Running time	35 min	70 min
Open air flow (m ³ /h)	27,930	35,050*
AMCA flow rate (m ³ /h)	17,400	18,500
Neo technology/oval jet	■	-
Easy pow'air Technology / straight jet	■	-

MOTOR SPECIFICATION

Motor	800 W	650 W
220 V mains power supply	-	■
Speed controller	-	■
Battery	Li-ion 5 Ah	Li-ion 48 V / 17.5 Ah
Recharge time	1hr 15min	4hrs 40min

FEATURES

Weight (kg) with battery	22 kg	23.6 kg
Dimensions W x H x D (mm)	530 X 495 X 555	580 X 620 X 280
Propeller diameter (mm)	420	460
IP (Dust and water protection)	IP55	IP65
Removable battery	□	□
Built-in charger	-	-
Tilt range	+20° / -10°	+25° / -12°
Sound level (at 3 metres)	75 dB	82 dB

APPLICATION

Ventilation type	PPV/Relay	PPV/Relay
Application	1	1

OPTIONS AND ACCESSORIES

LED lighting		■
Blowing duct	●	●
Spiral suction duct	-	-
Rehab mister	-	●
Foam generator	●	-
Reduction for ZAG connection	-	-
Removable battery	● = I63.12.202	● = I63.12.120
External Charger 220 V 50/60 Hz 110 V 60 Hz	● = I63.12.203 ● = I63.12.204	● = I63.12.121 EU
110 V mains power supply	-	
Extension cord in bag	-	●

WARRANTY PARTS AND LABOUR

Fan / motor	5 years / 3 years	2 years / 2 years
Battery	3 years	1 year / 300 cycles

PPV = Positive-Pressure Ventilation
 NPV = Negative-Pressure Ventilation (extraction)
 Relay = Relay fan for combined ventilation
 LFV = Large Flow Ventilator

1 - Single door ventilation - detached house, small buildings, etc.
 2 - Single/double door ventilation - tall buildings, medium-sized warehouse, etc.
 3 - Warehouse door ventilation - underground car parks, industrial sites, tunnels, etc.
 *For higher flow rates, see page 24 portable petrol-driven LFV

KEY
 ■ As standard
 □ Option (variant) to be indicated when ordering
 ● Option which can be supplied later
 - Not applicable
 On request



BATFAN 2 45

BATFAN 3 Li+

REFERENCE

I63.12.011N

I63.12.300N

PERFORMANCES

Running time	45 min	50 min
Open air flow (m3/h)	28,050	29,270
AMCA flow rate (m3/h)	17,700	18,600
Neo technology/oval jet	■	■
Easy pow'air Technology / straight jet	■	■

MOTOR SPECIFICATION

Motor	600 W	600 W
220 V mains power supply	■	■
Speed controller	■	■
Battery	NiMH	Li-ion 48 V / 12.5 Ah
Recharge time	7hr 20min	3hrs - external charger 7hrs 30min - built-in charger

FEATURES

Weight (kg) with battery	26.5 kg	24 kg
Dimensions W x H x D (mm)	540 X 530 X 270	540 X 530 X 270
Propeller diameter (mm)	420	420
IP (Dust and water protection)	IP66	IP66
Removable battery	-	□
Built-in charger	■	■
Tilt range	+65° / -90°	+65° / -90°
Sound level (at 3 metres)	76.8 dB	76.3 dB

APPLICATION

Ventilation type	PPV/NPV/Relay	PPV/NPV/Relay
Application	1	1

OPTIONS AND ACCESSORIES

LED lighting	■	■
Blowing duct	●	●
Spiral suction duct	●	●
Rehab mister	●	●
Foam generator	●	●
Reduction for ZAG connection	●	●
Removable battery	-	● = I63.12.302
External Charger 220 V 50/60 Hz 110 V 60 Hz	● = I63.12.013N	● = I63.12.301 ● = I63.12.304
110 V mains power supply	□	□ = I63.12.303N
Extension cord in bag	●	●

WARRANTY PARTS AND LABOUR

Fan / motor	5 years / 3 years	5 years / 3 years
Battery	1 year / 350 cycles	1 year / 500 cycles

PPV = Positive-Pressure Ventilation
 NPV = Negative-Pressure Ventilation (extraction)
 Relay = Relay fan for combined ventilation
 LFV = Large Flow Ventilator

1 - Single door ventilation - detached house, small buildings, etc.
 2 - Single/double door ventilation - tall buildings, medium-sized warehouse, etc.
 3 - Warehouse door ventilation - underground car parks, industrial sites, tunnels, etc.

*For higher flow rates, see page 24 portable petrol-driven LFV

KEY

■ As standard
 □ Option (variant) to be indicated when ordering
 ● Option which can be supplied later
 - Not applicable
 ☞ On request



PORTABLE ELECTRIC LEADER FAN

ECO-FRIENDLY AND
EASY TO SET-UP

These fans offer the advantage that they do not produce any toxic emissions and they are quieter than petrol-driven fans. However they do require a power supply, which must be sized in advance to be sufficient in terms of power and number.

LEADER offers a comprehensive range of electric fans, notably ATEX certified with various power options, with or without controller, and adapted to different power networks (110/220/400 V, 50/60 Hz, GFCI, gradual start-up, etc.).

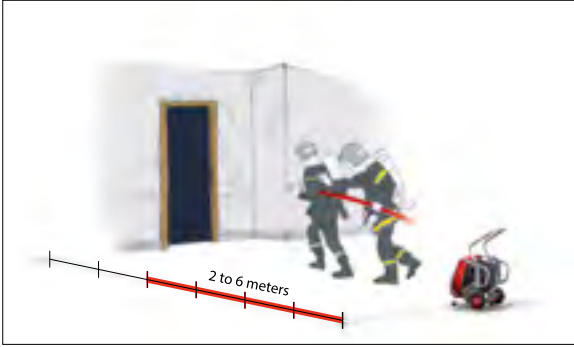


ESV230



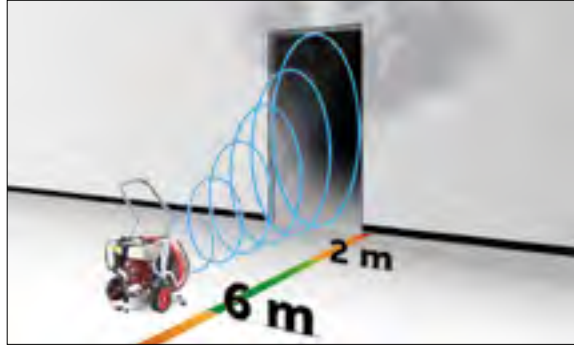
ESX230

FEATURES AND BENEFITS



Constant efficiency from 2 to 6 meters:

LEADER fans offer much more space for firefighting teams to move around.



NEO concept:

An oval-shaped jet!

For increasingly efficient fans (see p4 and 5).



ATEX fans: ESX and SAX.

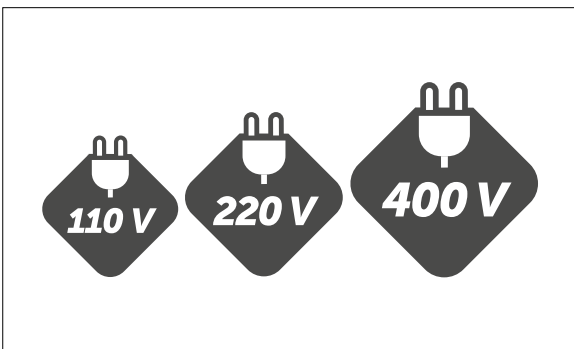
Completely ATEX certified.

NB: assembling certified components is not enough to declare a fan ATEX certified.



Fire and industry:

Ventilation equipment also designed for at-risk industries, both for extraction and air supply.



Any voltage type:

Devices designed to be used in various countries, subject to varied power supplies.



AMCA 240 certified flow rates:

By official independent laboratories:

AMCA - USA - Chicago, LOMC (Laboratoire Ondes et Milieux Complexes) FRANCE.

LEADER ELECTRIC FANS



SA315

SAX320

ESX230

ES220

REFERENCE

163.00.022

163.00.006

163.11.006

163.10.039N

PERFORMANCES

Open air flow (m³/h)

9,000

9,000

30,000

33,250

AMCA flow rate (m³/h)

-

-

19,000

21,360

Nominal flow rate (m³/h)

2,560

2,560

-

-

Neo technology/oval jet

-

-

-

■

Easy pow'air Technology / straight jet

-

-

■

■

MOTOR SPECIFICATION

Speed controller

-

-

-

-

Motor

1.1 kW

1.1 kW

1.85 kW

1.5 kW

Power supply

220 V- 50 HZ
Single-phase

220 V- 50 HZ
Single-phase

400 V - 50/60 HZ
Three-phase

220 V- 50 HZ
Single-phase

Consumption (steady-state)

6.1 A

4.5 A

3.5 A

7.2 A

FEATURES

Weight (kg)

29.8 kg

42 kg

57 kg

25.9 kg

Dimensions W x H x D (mm)

374 X 435 X 460

374 X 585 X 520

550 X 550 X 515

550 X 568 X 436

Propeller diameter (mm)

300

300

420

420

IP (Dust and water protection)

IP54

IP55

IP65

IP55

ATEX certified

-

■

■

-

Tilt range

-

-

0 / +20°

-10°/+20°

Sound level (at 3 metres)

77 dB

77 dB

83.6 dB

86.5 dB

Other models

□ Navy
□ Three-phase

APPLICATION

Ventilation type

NPV

NPV

PPV

PPV

Application

-

-

1

1

OPTIONS AND ACCESSORIES

Blowing duct

●

● ATEX certified

● ATEX certified

●

Mister

-

-

■ ATEX certified

●

Rehab mister

-

-

●

●

Foam generator

-

-

●

●

Mains plug

■

-

-

■

Extension cord in bag

●

-

-

●

Protective cover

-

-

●

-

WARRANTY PARTS AND LABOUR

Fan / motor

2 years / 2 years

2 years / 2 years

2 years / 2 years

5 years / 3 years

KEY

■ As standard

□ Option (variant) to be indicated when ordering

● Option which can be supplied later

- Not applicable

📞 On request

1 - Single door ventilation - detached house, small buildings, etc.

2 - Single/double door ventilation - tall buildings, medium-sized warehouse, etc.

3 - Warehouse door ventilation - underground car parks, industrial sites, tunnels, etc.

PPV = Positive-Pressure Ventilation

NPV = Negative-Pressure Ventilation (extraction)

Relay = Relay fan for combined ventilation

LFV = Large Flow Ventilator



ES230 NEO

ESV230 NEO

EDS230

EVG230

ESV245

REFERENCE	163.10.010N	163.10.011N	163.10.032N	163.10.042N	163.10.015
PERFORMANCES					
Open air flow (m3/h)	48,000	48,000	30,187	30,345	49,050*
AMCA flow rate (m3/h)	27,140	27,140	19,750	19,750	28,450
Nominal flow rate (m3/h)	-	-	-	-	-
Neo technology/oval jet	■	■	■	■	-
Easy pow'air Technology /straight jet	■	■	■	■	■
MOTOR SPECIFICATION					
Speed controller	-	■	-	■	■
Motor	2.2 kW	2.2 kW	1.1 kW	1.1 kW	2.2 kW
Power supply	220 V- 50 Hz Single-phase	220 V- 50 Hz Single-phase	110 V- 60 Hz Single-phase - GFCI	110 V- 50/60 Hz Single-phase - GFCI	220 V- 50 Hz Single-phase
Consumption (steady-state)	12.5 A	14 A	13.2 A	13.9 A	14 A
FEATURES					
Weight (kg)	39.3 kg	41 kg	33.1 kg	35.5 kg	53 kg
Dimensions W x H x D (mm)	550 X 560 X 515	550 X 560 X 515	550 X 560 X 515	550 X 560 X 515	710 X 720 X 617
Propeller diameter (mm)	420	420	420	420	570
IP (Dust and water protection)	IP55	IP55	IP55	IP55	IP55
ATEX certified	-	-	-	-	-
Tilt range	0 / +20°	0 / +20°	0 / +20°	0 / +20°	0 / +20°
Sound level (at 3 metres)	85.3 dB	85.3 dB	85.2 dB	85.2 dB	88.7 dB
Other models	□ ESP : progres- sive start-up	-	□ 1.5 kW - 34,020 m3/h	-	□ without con- troller
APPLICATION					
Ventilation type	PPV	PPV	PPV	PPV	PPV
Application	1	1	1	1	1 - 2
OPTIONS AND ACCESSORIES					
Blowing duct	●	●	●	●	●
V-Box extraction kit	●	●	●	●	-
Mister	●	●	●	●	●
Rehab mister	●	●	●	●	●
Foam generator	●	●	●	●	●
Mains plug	■	■	■ USA Std	■ USA Std	■
Extension cord in bag	●	●	-	-	●
Protective cover	●	●	●	●	●
WARRANTY PARTS AND LABOUR					
Fan / motor	5 years / 3 years	5 years / 3 years	5 years / 3 years	5 years / 3 years	5 years / 3 years

KEY

- As standard
- Option (variant) to be indicated when ordering
- Option which can be supplied later
- Not applicable
- 🔌 On request

- 1 - Single door ventilation - detached house, small buildings, etc.
- 2 - Single/double door ventilation - tall buildings, medium-sized warehouse, etc.
- 3 - Warehouse door ventilation - underground car parks, industrial sites, tunnels, etc.

- PPV = Positive-Pressure Ventilation
- NPV = Negative-Pressure Ventilation (extraction)
- Relay = Relay fan for combined ventilation
- LFV = Large Flow Ventilator

*For higher flow rates, see page 26 portable petrol-driven LFV



PORTABLE PETROL-DRIVEN LEADER FAN

EXTREMELY POWERFUL AND
GUARANTEED EFFICIENCY

These autonomous fans offer the advantage that they do not need a power supply. They provide excellent air supply power for smoke removal.

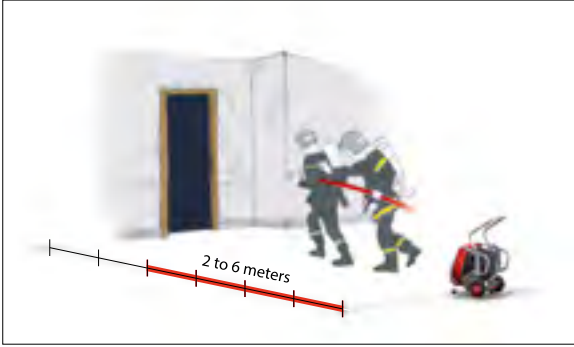
LEADER offers a comprehensive range of very powerful petrol-driven fans, equipped with motors with various capacities.



MT240

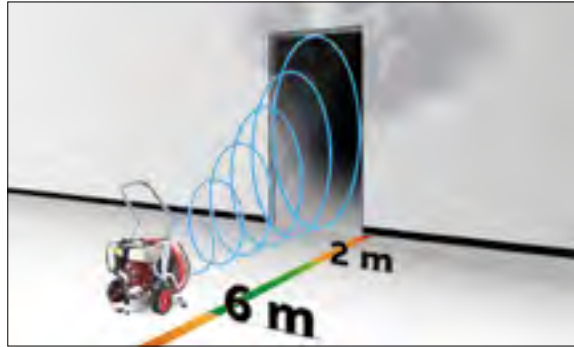


FEATURES AND BENEFITS



Constant efficiency from 2 to 6 meters:

LEADER fans offer much more space for firefighting teams to move around.



NEO concept:

An oval-shaped jet of air!
For increasingly efficient fans (see p4 and 5).



Unbreakable shroud:

A robust design and highly resistant materials for harsh conditions. Double-walled full shroud offering maximum protection if a foreign body is picked up.



A very robust frame:

Robust steel frame (30 mm diameter tube).
Large all-terrain wheels.



A sign of quality:

A partnership with recognised motor manufacturers Honda and Briggs and Stratton which have approved our fans.



AMCA 240 certified flow rates:

By official independent laboratories:
AMCA - USA - Chicago, LOMC (Laboratoire Ondes et Milieux Complexes) FRANCE.

LEADER PETROL-DRIVEN FANS



MT215L

MT225

MT236

REFERENCE

I60.10.062N

I60.10.064N

I60.10.053N

PERFORMANCES

Open air flow (m³/h)

33,900

41,950

52,550

AMCA flow rate (m³/h)

23,260

30,500

33,660

Neo technology/oval jet

■

■

■

Easy pow'air Technology / straight jet

■

■

■

MOTOR SPECIFICATION

Motor

Honda GXH50

Honda GP160

Honda GX160

Oil low level safety

-

■

■

Power

2.1 HP

4.8 HP

4.8 HP

FEATURES

Weight (kg)

20.3 kg

26.8 kg

39.6 kg

Dimensions W x H x D (mm)

530 X 495 X 555

550 X 568 X 436

550 X 560 X 515

Propeller diameter (mm)

420

420

420

Running time

1HR 40MINS

2HR 10MINS

2HR 10MINS

Automatic tilt

-

-

■

Transport wheels

-

-

■

Sound level (at 3 metres)

84.5 dB

93 dB

93 dB

APPLICATION

Ventilation type

PPV

PPV

PPV

Application

1

1

1

OPTIONS AND ACCESSORIES

Blowing duct

●

●

●

Mister

-

●

●

Rehab

-

-

●

Foam generator

●

●

●

Exhaust adapter

-

-

●

Exhaust extension pipe

-

-

●

Catalytic converter

-

-

●

Hour meter

●

-

●

Tilt -10 to +20°

■

■

■

Protective cover

-

-

●

WARRANTY PARTS AND LABOUR

Fan / motor

5 years / 3 years

5 years / 3 years

5 years / 3 years

KEY

■ As standard

□ Option (variant) to be indicated when ordering

● Option which can be supplied later

- Not applicable

🔊 On request

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Relay = Relay fan for combined ventilation

LFV = Large Flow Ventilator

*For higher flow rates, see page 24 portable petrol-driven LFV

**MT240****MT245****MT280****MT296****REFERENCE**

160.10.060N

160.10.051

160.10.048

160.10.045

PERFORMANCES**Open air flow (m3/h)**

68,300

52,320

117,100

128,950*

AMCA flow rate (m3/h)

36,280

-

-

-

Neo technology/oval jet

■

-

-

-

Easy pow'air Technology / straight jet

■

■

■

■

MOTOR SPECIFICATION**Motor**

Honda GX200

Honda GX200

Honda GX390

B & S -Vanguard

Oil low level safety

■

■

■

-

Power

5.5 HP

5.5 HP

11.7 HP

16 HP

FEATURES**Weight (kg)**

40.5 kg

52 kg

69 kg

76.7 kg

Dimensions W x H x D (mm)

550 X 560 X 515

710 X 720 X 617

710 X 780 X 617

710 X 780 X 678

Propeller diameter (mm)

420

570

570

570

Running time

2 HOURS

2 HOURS

1HR 20MINS

1HR 50MINS

Automatic tilt

■

■

■

■

Transport wheels

■

■

■

■

Sound level (at 3 metres)

93 dB

96 dB

99 dB

98.3 dB

APPLICATION**Ventilation type**

PPV

PPV

PPV

PPV - LfV

Application

1

1 - 2

1 - 2

1 - 2

OPTIONS AND ACCESSORIES**Blowing duct**

●

●

●

●

Mister

●

●

●

●

Rehab

●

●

●

●

Foam generator

●

●

●

●

Exhaust adapter

●

●

●

■

Exhaust extension pipe

●

●

●

●

Catalytic converter

●

●

-

-

Hour meter

●

●

●

●

Tilt -10 to +20°

■

●

●

●

Protective cover

●

●

●

●

WARRANTY PARTS AND LABOUR**Fan / motor**

5 years / 3 years

5 years / 3 years

5 years / 3 years

5 years / 3 years

KEY

■ As standard

□ Option (variant) to be indicated when ordering

● Option which can be supplied later

- Not applicable

🔧 On request

1 - Single door ventilation - detached house, small buildings, etc.

2 - Single/double door ventilation - tall buildings, medium-sized warehouse, etc.

3 - Warehouse door ventilation - underground car parks, industrial sites, tunnels, etc.

PPV = Positive-Pressure Ventilation

NPV = Negative-Pressure Ventilation (extraction)

Relay = Relay fan for combined ventilation

LFV = Large Flow Ventilator

*For higher flow rates, see page 24 portable petrol-driven LFV



PORTABLE WATER-DRIVEN LEADER FAN

ECO-FRIENDLY AND SIMPLE

These fans are used for specific operations or as part of specific procedures which do not allow the use of petrol-driven or electric fans.

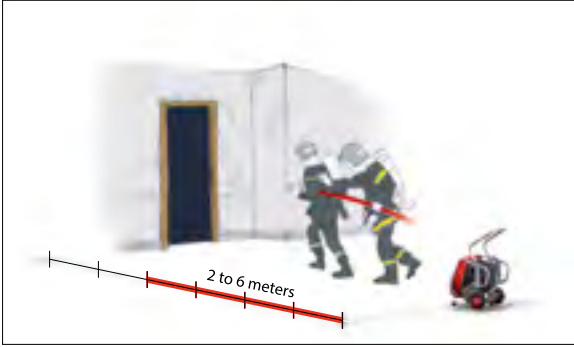
Supplied by a pump, they can operate in a closed circuit.



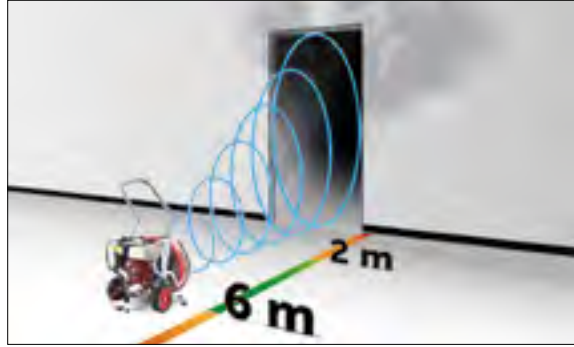
MH236



FEATURES AND BENEFITS



Constant efficiency from 2 to 6 meters:
LEADER fans offer much more space for firefighting teams to move around.



NEO concept:
An oval-shaped jet for increasingly efficient fans.



A very robust motor:
A powerful 9 HP water motor driven by pressurised water from the vehicle pump.



Convenient:
Pressure gauge and flow rate/speed adjustment valve.



No water consumption:
The water used can be redirected to the pumper to operate in a closed circuit.



Built-in mister:
Connected directly to the motor water power supply.

LEADER HYDRAULIC FANS



MH236

MH260

REFERENCE

I61.00.034N

I61.00.037

PERFORMANCES

Open air flow (m³/h)

51,100

79,900

AMCA flow rate (m³/h)

33,000

-

Neo technology/oval jet

■

-

Easy pow'air Technology / straight jet

■

■

MOTOR SPECIFICATION

Motor

9 HP

9 HP

Power supply

Pressurised water

Pressurised water

Consumption

620 l/min @ 10 bar

620 l/min @ 10 bar

Connection

2" BSP male

2" BSP male

FEATURES

Weight (kg)

32.6 kg

49 kg

Dimensions W x H x D (mm)

550 X 560 X 515

710 X 720 X 617

Propeller diameter (mm)

420

570

Automatic tilt

■

■

Tilt range

0 to +20°

0 to +20°

Sound level (at 3 metres)

92.8 dB

92.8 dB

APPLICATION

Ventilation type

PPV

PPV

Application

1

1 - 2

OPTIONS AND ACCESSORIES

Blowing duct

●

●

Protective cover

●

●

Mister

■

■

Rehab

●

●

Foam generator

●

●

Tilt -10°

●

●

WARRANTY PARTS AND LABOUR

Fan / motor

5 years / 3 years

5 years / 3 years

KEY

■ As standard

□ Option (variant) to be indicated when ordering

● Option which can be supplied later

- Not applicable

📞 On request

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LFV = Large Flow Ventilator





LARGE FLOW LEADER FANS

PORTABLE, TOWABLE OR
TRUCK-MOUNTED,
THEY OFFER A MOBILE SOLUTION
FOR VENTILATING LARGE AREAS

LEADER has designed ventilators which produce very high flow rates to effectively fight fires in very large areas: Warehouses, Tunnels, Airports, Industrial Complexes, Tall Buildings, etc. They are also used to accelerate smoke extraction operations to restart work more quickly at facilities.

WHICH LARGE FLOW VENTILATORS?

MULTIPLE CONFIGURATIONS TO MEET OPERATIONAL NEEDS

Electric, petrol-driven, hydraulic or connected to a vehicle's power take-off (PTO), portable, towable - LEADER large flow fans all have something in common: Performance and Strength.

If their features allow, they can be easily adapted by the customer to their chosen transport solution (on tracks, truck, flat-bed, etc.)

Each large flow fan model has its own features and unique aspects. The guide below will help you choose the fan which will meet your needs and requirements perfectly.



PORTABLE

P. 26

- ✓ Lightweight and easy to move about
- ✓ Reduced noise emissions



VERY LARGE FLOW

P. 30

- ✓ Optimum performance-weight ratio
- ✓ XXL running time



MVU / TEMPEST

P. 34

- ✓ Maximum performance
- ✓ Hydraulic drive
- ✓ Blowing and extraction



PORTABLE LARGE FLOW LEADER FAN

A MODULAR SOLUTION

These portable fans are easy-to-install solutions for strategies which are unsuitable for towable large flow ventilators.

With their smaller dimensions, they come into their own when ventilating medium-sized industrial buildings, underground car parks... and they are designed to be used at the same time for several entries/exits.



ESV280

FEATURES AND BENEFITS



Convenient:

Designed for rapid smoke extraction from underground car parks. The PARKFAN is placed inside the smoke-filled area to blow the smoke outside.



User-friendly:

Automatic and optimal tilting to +10° and precise adjustment from +10° to +20° for optimised orientation of an air jet when facing a set of stairs.



Remote control:

Supplied with a wireless remote control, the PARKFAN can be controlled remotely, outside the smoke-filled area.



Versatile:

Various accessories for multi-functionality: Extraction ducts, blowing ducts, mister, etc.



Easy to handle and stable:

Even on soft ground thanks to large, very wide wheels at the rear of the fan.



Approved:

Flow rates certified by an independent organisation: LOMC (Laboratoire Ondes et Milieux Complexes) FRANCE.

LEADER PORTABLE LARGE FLOW FANS



ESP280

PARKFAN 80

MT296

REFERENCE

163.10.037

163.10.045

160.10.045

PERFORMANCES

Open air flow (m3/h)

115,700*

115,700*

128,950*

Neo technology/oval jet

-

-

-

Easy pow'air Technology / straight jet

■

■

■

MOTOR SPECIFICATION

Motor

7.5 kW with gradual start-up

7.5 kW with speed controller

16 HP
B and S - Vanguard

Power supply

400 V 50/60 Hz
Three-phase

400 V 50/60 Hz
Three-phase

Petrol

Remote control

-

■

-

Power

10 HP

10 HP

16 HP

Consumption

15 A

16 A

-

FEATURES

Weight (kg)

75.5 kg

83 kg

76.7 kg

Dimensions W x H x D (mm)

710 X 720 X 678

710 X 720 X 678

710 X 780 X 678

Propeller diameter (mm)

570

570

570

Running time

-

-

1HR 50MINS

Automatic tilt

■

■

■

Transport wheels

■

■

■

Sound level (at 3 metres)

96.3 dB

96.3 dB

98.3 dB

Other models

□ with speed controller

-

-

APPLICATION

Ventilation type

PPV - LFV

PPV/LFV/NPV

PPV - LFV

Application

1 - 2

1 - 2

1 - 2

OPTIONS AND ACCESSORIES

Blowing duct

●

●

●

Mister

●

■

●

Rehab

●

●

●

Foam generator

●

●

●

Plug

■ CE - 400 V 16 A

■ CE - 400 V 16 A

-

Exhaust extension pipe

-

-

●

Tilt -10°

●

●

●

Protective cover

●

●

●

WARRANTY PARTS AND LABOUR

Fan / motor

5 years / 3 years

5 years / 3 years

5 years / 3 years

KEY

■ As standard

□ Option (variant) to be indicated when ordering

● Option which can be supplied later

- Not applicable

📞 On request

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Relay = Relay fan for combined ventilation

LFV = Large Flow Ventilator

*For higher flow rates, see page 30 LFV





PETROL-DRIVEN LARGE FLOW LEADER VENTILATOR

POWERFUL WHILE
VERY EASY TO HANDLE

These fans are a mobile solution for ventilating large areas: Warehouses, Tunnels, Airports, Industrial Complexes, Tall Buildings, etc.



FEATURES AND BENEFITS



A sign of quality:

A partnership with Honda and BMW, internationally renowned motor manufacturers who contribute to the performance of our fans.

Easy to handle:

Powerful but lightweight devices which makes them easy to handle, even by a single person. Easy 2000: 300kg / Easy 4000: 550kg

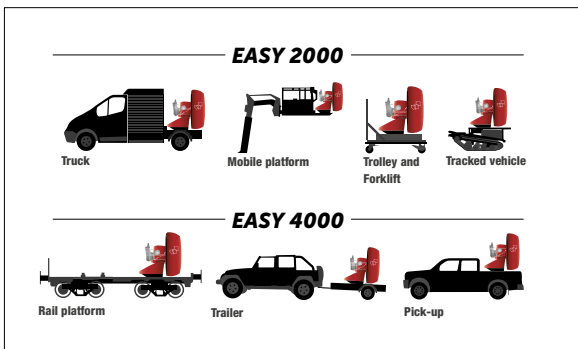


Long-reach misting:

Misting of 260 l/min as standard, which can have additives added and operate with a traditional inductor.

Versatile:

Various accessories for multi-functionality: Extraction ducts, blowing ducts, etc.



Configurable:

Designed to be installed on road trailers, firefighting vehicles or moved into place with a forklift.

Approved:

Flow rates certified by an independent organisation: LOMC (Laboratoire Ondes et Milieux Complexes) FRANCE.

LEADER PETROL-DRIVEN LARGE FLOW VENTILATORS



EASY 2000 ON SKID

EASY 2000 + ELEVATION 1200 ON SKID

EASY 2000 ON TRAILER

EASY 2000 + ELEVATION 1200 ON TRAILER

REFERENCE

160.30.121

160.30.126

160.30.124

160.30.120

PERFORMANCES

Open air flow (m³/h)

220,000

220,000

220,000

220,000

Mister

260 l/min

260 l/min

260 l/min

260 l/min

Frame/trailer

Steel with red epoxy paint

Steel with red epoxy paint

1-axle with brakes, hitch ball and sealed compartment

1-axle with brakes, hitch ball and sealed compartment

MOTOR SPECIFICATION

Motor

HONDA GX630

HONDA GX630

HONDA GX630

HONDA GX630

Power

20.8 HP

20.8 HP

20.8 HP

20.8 HP

Fuel

UNLEADED GASOLINE 95

UNLEADED GASOLINE 95

UNLEADED GASOLINE 95

UNLEADED GASOLINE 95

FEATURES

Dry weight (kg)

158 kg

344 kg

301 kg

447 kg

Height (mm)

1250

1645 to 2845

1715

2050 to 3250

Width (mm)

1060

1060

1430

1430

Length (mm)

1205

1293

2800

2800

Propeller diameter (mm)

885

885

885

885

Running time

3hr 5mins

3hr 5mins

3hr 5mins

3hr 5mins

Sound level (at 7 metres)

93.9 dB

93.9 dB

93.9 dB

93.9 dB

APPLICATION

Ventilation type

PPV/LFV/NPV

PPV/LFV/NPV

PPV/LFV/NPV

PPV/LFV/NPV

Application

2 - 3

2 - 3

2 - 3

2 - 3

OPTIONS AND ACCESSORIES

Blowing duct

●

●

●

●

Suction duct

●

●

●

●

Mister

■

■

■

■

Exhaust adapter and exhaust extension piece

●

●

●

●

Adjustable tilt -10°/+20°

■

■

■

■

360° rotation

□

□

-

-

Remote control*

■

■

■

■

LED beacon

□

□

□

□

Trolley

□

□

-

-

Articulated drawbar

-

-

□

□

Hitch ring

-

-

□

□

600 mm elevation

-

□

-

□

WARRANTY

Parts and labour

1 year

1 year

1 year

1 year

KEY

■ As standard

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PPV = Positive-Pressure Ventilation

NPV = Negative-Pressure Ventilation (extraction)

Relay = Relay fan for combined ventilation

*Remote control with 10 metres of cable to control:

- the tilt of the shroud from -10° to +20°

- the raising and lowering of the lift table

- motor shutdown

- LED spotlight on/off

**EASY 4000
ON SKID****EASY 4000
+ ELEVATION
1200 ON SKIDS****EASY 4000
ON TRAILER****EASY 4000
+ ELEVATION
1200 ON TRAILER****REFERENCE**

160.30.110

160.30.112

160.30.113

160.30.109

PERFORMANCES**Open air flow (m3/h)**

410,000

410,000

410,000

410,000

Mister

260 l/min

260 l/min

260 l/min

260 l/min

Frame/trailerSteel with black epoxy
paintSteel with black epoxy
paintAL-KO single axle in
accordance with
European standards
Hitch ball with brakesAL-KO single axle
in accordance with
European standards
Hitch ball with brakes**MOTOR SPECIFICATION****Motor**

BMW Flat Twin - 1170 cm3

BMW Flat Twin - 1170 cm3

BMW Flat Twin - 1170 cm3

BMW Flat Twin - 1170 cm3

Power

115 HP

115 HP

115 HP

115 HP

FuelUNLEADED
GASOLINE 95UNLEADED
GASOLINE 95UNLEADED
GASOLINE 95UNLEADED
GASOLINE 95**FEATURES****Dry weight (kg)**

372 kg

518 kg

546 kg

692 kg

Height (mm)

1618

1922 TO 3122

2215

2315 TO 3515

Width (mm)

1474

1474

1690

1690

Length (mm)

1809

1809

3300

3300

Propeller diameter (mm)

1200

1200

1200

1200

Running time

1hr 40min

1hr 40min

1hr 40min

1hr 40min

Sound level (at 7 metres)

96 dB

96 dB

96 dB

96 dB

APPLICATION**Ventilation type**

PPV/LFV/NPV

PPV/LFV/NPV

PPV/LFV/NPV

PPV/LFV/NPV

Application

2 - 3

2 - 3

2 - 3

2 - 3

OPTIONS AND ACCESSORIES**Blowing duct**

●

●

●

●

Suction duct

●

●

●

●

Mister

■

■

■

■

**Exhaust adapter
and exhaust extension piece**

●

●

●

●

Adjustable tilt -10°/+20°

■

■

■

■

360° rotation

□

□

-

-

Remote control*

□

□

□

□

LED beacon

-

-

-

-

Trolley

-

-

-

-

Articulated drawbar

-

-

□

□

Hitch ring

-

-

□

□

600 mm elevation

-

□

-

□

WARRANTY**Parts and labour**

1 year

1 year

1 year

1 year

KEY

■ As standard

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● Option which can be supplied later

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Relay = Relay fan for combined ventilation

*Remote control with 13 metres of cable to control:

- the tilt of the shroud from -10° to +20°.

- the flow rate by adjusting the fan speed

- the raising and lowering of the lift table

- motor shutdown

- LED spotlight on/off



LARGE FLOW VENTILATORS MVU: TEMPEST MOBILE VENTILATION UNIT

RECOGNISED EXPERTISE
WORLDWIDE



TEMPEST

N°1 in fire ventilation in the USA and a LEADER subsidiary, TEMPEST designs and manufactures custom MVU to meet specific needs linked to very large structures: tall buildings, shopping malls, metros, tunnels, etc.

MVU are provided to offer both air supply and extraction, and can also have an optional mister.

Available in 2 sizes of shroud - 48" or 60" (122 cm or 152 cm diameter), MVU are using a powerful hydraulic unit powered either with a turbocharged Caterpillar motor or a vehicle power take-off (PTO).

The hydraulic power unit is particularly well suited to very long-term use. It supplies the fan itself, but also the lift system (up to 3 metres) and the overall orientation (-30° to +30°).

Supplied with 24 V, it is possible to rotate it 360° in both directions.

This type of power supply also offers the advantage that it does not push the exhaust gas into the ventilated room.

For more information:

www.tempest.us.com/mobile-ventilation-unit-mvu





VENTILATION ACCESSORIES

ADAPTING FANS SO THEY
CAN BE USED IN EVEN MORE
SITUATIONS.

Our engineers have developed a wide range of tools or accessories which help diversify the potential uses of a fan and deal with operational constraints or developing situations.

Supply and extraction ducts, high-expansion foam adapters, mister nozzles, etc.

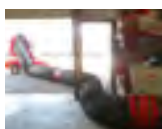
All these accessories aim to make operations quicker and more effective, whilst improving the safety of firefighters and potential victims.



BLOWING AND EXTRACTION

P. 38

- ✓ V-Box: Extraction/Blowing Kit
- ✓ Flexible spiral ducts



LFV OPTIONS

P. 39

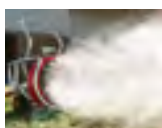
- ✓ 600 or 1200 mm elevation
- ✓ Rotation



FOAM ADAPTER

P. 40

- ✓ Expansion up to 400



MISTING

P. 40

- ✓ For attack
- ✓ For rehab



REDUCING CO LEVELS

P. 41

- ✓ Catalytic converter
- ✓ Exhaust extension pipe



ADDITIONAL EQUIPMENT

P. 42

- ✓ Extension cords in bag
- ✓ Smoke curtain
- ✓ 20,000 V insulating pole



BLOWING AND EXTRACTION

V-BOX: EXTRACTION/BLOWING CONVERSION KIT

V-box: a simple solution to convert an electric fan into a powerful extractor.

The electric fan (ES220 / ES230 / ESP230 / ESV230 / EDS230 / EVG 230) is placed inside the V-Box in the desired air flow direction (extraction or blowing).

Quick connection between ducts and the V-Box.

Can be used with several ducts both upstream and downstream.

Equipped with carry handles, V-Box can be used to transport and protect the fan. It is reinforced on its base with plastic skis, which means it can be dragged on the ground.



Reference	Features	Dimensions	Weight
163.20.017	V-Box: Red Cube in Polyester and Polypropylene with rigid built-in structure Equipped with 2 male quick connections	H 58 x W 64 x D 51 cm	3.5 kg
163.20.014	Spiral duct M1 for V-Box cube equipped with male and female quick connections	Ø 400 mm / length 5 m	11.5 kg
163.20.016	ZAG adapter: equipped with a female quick connection for positioning at the end of the duct or directly on the V-BOX cube	Ø 300 mm / thickness 70mm	1.5 kg

VENTILATION DUCTS

Flexible ducts designed with high-end textiles

Classified non combustible, difficult to ignite, anti-static or ATEX certified...

A plus for channelling air from the fan or extracting smoke during complex operations!



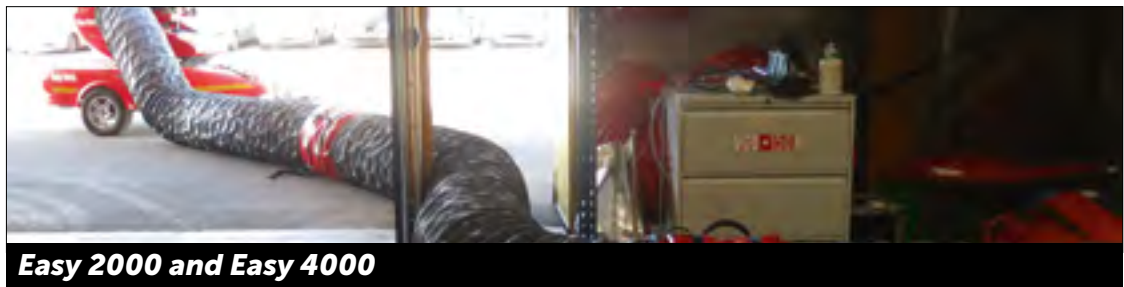
Compatible with the following fans:	Reference	Diameter	Length	Weight
Petrol-driven: MT215L / MT225 / MT236 / MT240 Electric: E-FAN 18" / ES220 / ES230 / ESP230 / ESV230 / EDS230 / EVG230 Hydraulic: MH236	160.20.152	430 mm	5 m	13 kg
BATFAN 2 and 3 Li+	163.20.025	500 mm	5 m	13.5 kg
Petrol-driven: MT245 / MT280 / MT296 Electric: ES245 / ESV245 / ESP280 / ESV280 / PARKFAN 80 Hydraulic: MH260	160.20.153	600 mm	5 m	17.5 kg
Electric: SA315	161.20.002	300 mm	5 m	12.8 kg
ATEX: SAX320	161.20.011	300 mm	5 m	13.1 kg
ATEX: ESX230	160.20.099	430 mm	5 m	12.5 kg

LFV ACCESSORIES

DUCTS FOR EASY 2000 AND EASY 4000

For air supply or extracting smoke from large areas.
No need for an oversized adapter between the duct and fan.
Ability to connect ducts together.

Compatible with:	Type	Reference	Features	Weight
Easy 2000	Blowing	160.30.122	5 m – Diam. 900 mm	25 kg
Easy 4000	Blowing	160.30.016	12 m / Diam 1700 mm	40 kg
Easy 2000 and Easy 4000	Extraction	160.30.019	6 m / Diam. 575 mm	19 kg



ELEVATION FOR EASY 2000 AND 4000

600 or 1200 mm lift table.
Option to lower it even without a power supply.
Equipped with a flexible protection.
Controlled with 2 hydraulic cylinders.

ROTATION FOR EASY 2000 AND 4000

Rotation system for Skid version only.
Allows endless 360° rotation.



Features	Reference
Adds +175 mm height and +70 kg weight	160.30.122

WIRED REMOTE CONTROL FOR EASY 4000

Can be used to control:

- ▶ the tilt of the shroud from -10° to +20°.
- ▶ the flow rate by adjusting the fan speed,
- ▶ the raising and lowering of the lift table depending on the chosen option,
- ▶ motor shutdown.



Features	Reference
13 m of cable - 5 kg	160.30.018



FOAM ADAPTER

Transforms the fan into a high-expansion foam generator.

Expansion from 200 to 300 depending on the foam concentrate used - Works with a traditional inline proportioner at 200 l/min

Supplied with 35 m of Polyane duct.

Available connections: NH, Storz, etc.



Can be fitted to 16" fans

Petrol-driven: MT215L / MT225 / MT236 / MT240
Electric: BATFAN / ES220 / ES230 / ESP230 / ESV230 / EDS230 / EVG230
Hydraulic: MH236

Reference Inlet

I60.20.105	1.5" BSP M
I60.20.103	DSP40
I60.20.106	BCN 40
I60.20.124	BS336 (BIC)

Can be fitted to 22" fans

Petrol-driven: MT245 / MT280 / MT296
Electric: ES245 / ESV245 / ESP280 / ESV280 / PARKFAN 80
Hydraulic: MH260

I60.20.116	1.5" BSP M
I60.20.117	DSP40
I60.20.121	BCN 40
I60.20.123	BS336 (BIC)

MISTERS

To help with extinguishing: Flow rate 16 l/min at 7 bar: They offer the option of rapid and more effective cooling (available connections: NH, Storz, etc).



Compatible with the following fans:

Petrol-driven: MT236 / MT240/MT245/MT280
Electric: ES230 / ESP230 / ESV230 / EDS230 / EVG230 / ES245 / ESV245 / ESP280 / ESV280

Reference Inlet

I60.20.104	1" BSP F
I60.20.107	GFR20 F
I60.20.114	BCN 20
I60.20.111	1" BSP F
I60.20.118	GFR20 F
I60.20.122	BCN 20

Petrol-driven: MT296

For firefighters rehabilitation:

Flow rate 0.6 l/min: helps with team recovery after difficult operations



Compatible with the following fans:

Petrol-driven: MT236 / MT240
Electric: BATFAN, E-FAN, ES230 / ESP230 / ESV230

Reference Inlet

I60.20.164	3/4" BSP F
------------	------------

REDUCING CARBON MONOXIDE LEVELS

SOLUTIONS TO LIMIT CO:

Carbon monoxide is a dangerous enemy. Just by fitting a catalytic converter to the exhaust or repelling gases using exhaust extension significantly reduces CO levels in ventilated buildings

LEADER-CAT: CO REDUCING CATALYTIC CONVERTER

It reduces the majority of CO emissions from Honda GX160 and GX200 motors. The stainless steel LeaderCat is compatible with exhaust extensions.



Compatible with:	Reference	Dimensions	Weight
MT236 / MT240 / MT245	I60.20.142	H 85 x W 62 x D 70 mm	400gr

EXHAUST EXTENSION PIPE

Compliant with DIN 14-572, it is used to emit exhaust gas outside the room where the fan is located, or far from the fan suction zone, in order to limit the introduction of gases such as CO. It is fastened to the motor using an exhaust adapter.



Compatible with:	Reference	Length	Diameter
MT236 / MT240 / MT245 / MT280 / MT296 LFV: EASY 2000	I60.20.012	2.5 m	50 mm
LFV: EASY 4000	I60.30.003	2.5 m	80 mm

EXHAUST ADAPTER

It is fastened directly to the motor (as standard on the MT296).



Compatible with:	Reference	Motor
MT236 / MT240 / MT245	I60.20.145	Honda GX160 and GX200
MT280	I60.20.125	Honda GX390
EASY 2000	I60.30.128	Honda GX630
EASY 4000	I60.30.017	BMW motor

ADDITIONAL EQUIPMENT

SMOKE CURTAIN

Stops smoke without blocking the passage of rescue teams.
 Reduces damage caused by smoke.
 Makes it easier to pass pipes through the main entrance.
 Covers up to a height of 185 cm.
 Resists temperatures up to 600°C.
 Silicone-coated glass fabric.



Reference	For opening of	Dimensions (in bag)	Weight
S02.10.001	70 to 115 cm	73 x 54 x 4 cm	4.8 kg
S02.10.003	90 to 150 cm	93 x 54 x 4 cm	5.8 kg

-10° STAND

Allows a negative tilt (-10°) to ventilate downwards or semi-basement levels.
 As standard for MT236 and MT240.



Compatible with the following fans:	Reference	Features	Weight
Electric: ES230 / ESP230 / ESV230 / EDS 230 / EVG 230 Hydraulic: MH236	160.20.130	Stainless steel pipe fastened to the frame	4.8 kg
Petrol-driven: MT245 / MT280 / MT296 Electric: ES245 / ESV245 / ESP280 / ESV280 / PARKFAN80 Hydraulic: MH260	160.20.108	Stainless steel pipe	5.8 kg

20,000 V TELESCOPIC INSULATING PIKE-POLE

Ideal for creating openings.
 Extendible, made of fibreglass. Can be locked at any height.
 Locking system extension resistance: 100 kg.
 Body compliant with IEC 61235 and IEC 60855.



Features	Reference
Folded length 2.20 m / Unfolded 3.75 m Ø 3.8 cm - 3 kg	O20.00.116



PROTECTIVE COVER FOR FANS:

Protects the fan when it is not in use.



Features	Reference
Petrol-driven: MT236 / MT240 Electric: ES230 / ESP230 / ESV230 Hydraulic: MH236	I60.20.017
Petrol-driven: MT245 / MT260 / MT280 / MT296 Electric: ESP280 / ESV280 Hydraulic: MH260	I60.20.097

HOUR METER

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



Compatible with:	Reference
Petrol-driven: MT215L / MT236 / MT245 / MT280 / MT296 / MT240	I60.20.135

DOOR WEDGE

Can be placed in different locations by a door to keep it open.



Reference
O20.00.116

EXTENSION CABLE BAG

Extra-flexible cable (50 or 100 m) held in a bag, can unwind without getting caught and with bolt sockets. Length and cross-section depending on the device's power.



Compatible with	Reference	Features	Weight
BATFAN	I63.00.016	l 100 m / 3 x 1.5 mm ²	12 kg
BATFAN - ES230 – ESV245	I63.00.030	l 50 m / 3 x 2.5 mm ²	9.5 kg



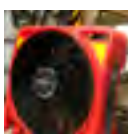
EXPERTISE

LEADER,
AN EXPERT IN VENTILATION,
SHARES ITS EXPERIENCE.

VERIFIED PERFORMANCE

LEADER has its own test centre including an equipped "test house" and a specific room which can be used to measure flow rates and pressure based on the AMCA 240-06 method.

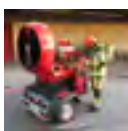
To take the field conditions into account, the test centre has various specific features to test/compare fans. This facility is vital for our R&D department to develop and validate the innovations made to LEADER fans and to improve their performance as much as possible. The test house can also be used to demonstrate the effectiveness of LEADER fans to our clients and partners and the importance of controlled ventilation when fighting fires.



VENTILATION TECHNIQUES

P. 46

- ✓ Positive-pressure
- ✓ Negative-pressure



LARGE-FLOW FANS

P. 48

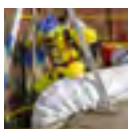
- ✓ Guide
- ✓ Different applications



ATEX

P. 50

- ✓ ATEX requirements
- ✓ Reducing risks



CONFINED SPACES

P. 52

- ✓ The main risks
- ✓ Recommendations



VENTILATION TRAINING

P. 54

- ✓ Custom training
- ✓ Interactive online courses

VENTILATION TECHNIQUES

POSITIVE-PRESSURE VENTILATION (PPV)

By supplying a significant amount of fresh air into a room on fire, the internal pressure increases, helping control the smoke.

The effects are soon obvious: Better visibility, reduced temperature, reduced toxicity, control over smoke movement and reduced calorific potential. These effects are beneficial both for the firefighters and the victims.

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 quickly reduce its intensity.



DEFENSIVE PPV TACTIC

The defensive tactic ensures that certain areas are protected. It avoids smoke and hot gases from spreading into the areas to be protected.

Only volumes not affected by fire are ventilated. This tactic employs ventilation dissociated from fireextinguishing actions. It creates a logistical route with a slightly higher air pressure through which, for example, victims can be evacuated.



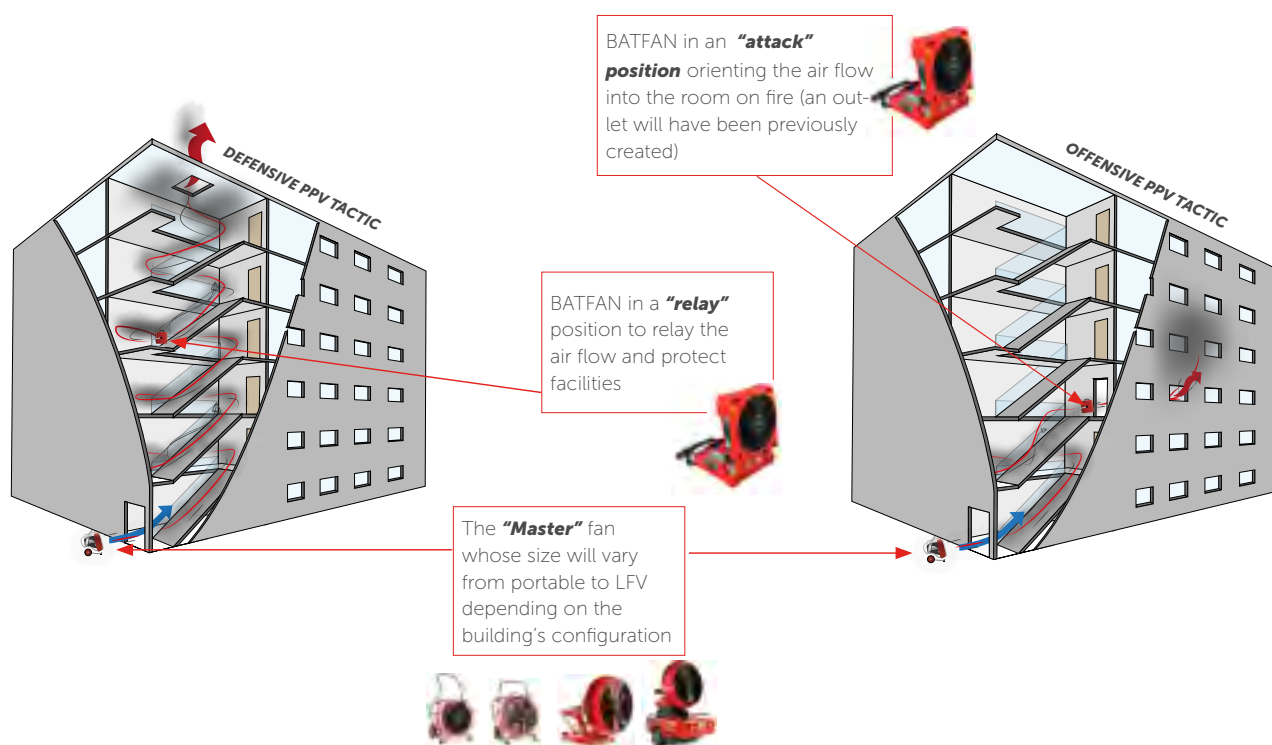
■ COMBINED VENTILATION TACTIC

Also known as operational ventilation, this combined tactic involves using the 2 previous tactics in high-rise tower blocks:

1/ Defensive ventilation is put in place by a very powerful “master” fan at the base of the building facing its entrance.

2/ As the stairway is pressurised and therefore secure, 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 an outlet is created, the offensive phase can begin: The master fan’s air flow is relayed by the secondary fan positioned on the affected floor, pushing the hot toxic smoke which contains combustible materials outside, thus avoiding it spreading. Smoke control facilitates the work of the teams, especially the fire extinguishing team.



NEGATIVE-PRESSURE VENTILATION (NPV)

This involves lowering the pressure in the volume being ventilated.

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 for enclosed car parks, metro stations/tunnels, underground or in cellars.

PARKFAN 80 was designed to provide an easy to implement and efficient solution to remove smoke from enclosed car parks.

The performance/manoeuvrability ratio of these fans remains unmatched. A single firefighter can easily position 1 or 2 PARKFANs in the area filled with smoke, and therefore orient the air flow outside and push out the smoke.

Accessories such as extraction ducts or suction/blow kits can transform fans intended for PPV into smoke extraction devices for enclosed spaces (cellars, underground, etc.) The same applies for the largest car park-type areas by using LFV Easy 2000 or 4000 and their extraction ducts.



LARGE FLOW VENTILATORS

LFV: **LARGE FLOW VENTILATORS**

There are an increasing amount of large building structures, and their size is continuing to increase. To respond to these constraints, LEADER has designed fans which offer significant flow rates to effectively fight fires in very large areas: Warehouses, Tunnels, Airports, Industrial Complexes, High-Rise Tower Blocks, etc.



■ **GUARANTEED VENTILATION**

Totally independent from the fixed fire protection systems, these large flow ventilation units are mobile and can ventilate huge areas on a large scale.

■ **EASY TO MOVE BY ONE PERSON**

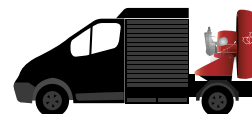
LEADER trailer-mounted LFVs are easily maneuvered and positioned by one person. Their combination of weight, power and maneuverability give these LFVs unequalled effectiveness.

■ **ADAPTABLE TO ALL TYPES OF VEHICLES**

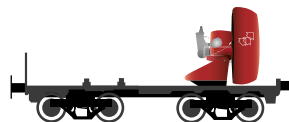
The fans are available as trailer versions or on "skids" to be mounted onto various types of firefighting vehicles.



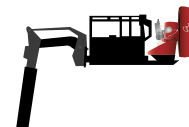
Pick-up



Truck



Rail platform



Mobile platform



Trailer



Trolley and Forklift



Tracked vehicle

WHICH LFV TO VENTILATE LARGE STRUCTURES?

To meet the various needs of firefighting or industrial applications,, LEADER has developed Large Flow Ventilators:

LFV	Easy 2000	Easy 4000
Effectiveness	Open air flow of 220,000 m ³ /h	Open air flow of 410,000 m ³ /h
Application	<p>Easy 2000 is an effective response to ventilate intermediate-sized areas such as hangars, medium/tall buildings, underground car parks, etc.</p> <p>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.</p>	<p>Easy 4000 is the response for ventilating very large areas such as tunnels, industrial buildings, very tall buildings, airport lobbies, etc.</p>

VARIED VENTILATION APPLICATIONS REQUIRING LARGE BLOWING POWER



Ventilation of road or rail tunnels

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



Ventilating airplanes and other aircraft

This is a vital tool when evacuating passengers. It quickly provides fresh air and visibility in this restricted space which quickly becomes obscure and toxic when filled with smoke.



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.



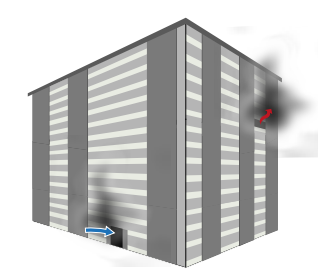
Ventilation of factories after a firefighting response

Production downtime can be very expensive. Fixed smoke extraction systems can be overwhelmed, requiring production downtime. A LFV is a mobile and independent low-cost solution for one-off use. It significantly reduces the smoke extraction time for industrial sites.



Ventilation of shopping centres

These are often made up of the main store and connected shopping arcades. Therefore they are large areas where smoke can spread quickly. It is important to be able to remove the smoke quickly, both to protect people and to safeguard merchandise.



Ventilating tall buildings

The varied configurations of buildings often require significant supply power to create a sufficient flow of air to pressurise the staircase up to the top floor. The size of buildings increases the number of openings, which can cause a loss in pressure. Pressurising the entire building is therefore easier with a LFV.



Ventilating enclosed car parks

Equipped with extraction ducts, LFV, can extract smoke from underground car parks.

ATEX MOBILE VENTILATIONS

FOR RISK-FREE USE IN AN EXPLOSIVE ATMOSPHERE.

To meet the need for mobile ventilation in at-risk industries, LEADER has designed fans which have the most requested features for use in explosive atmospheres, and meet standards set by the ATEX 2014/34/EU directive, but also the EN 14986 standard specifically dedicated to fans. The latter is mandatory and a certificate must be issued with each device sold.

This directive covers electrical and mechanical equipment intended to be used in potentially explosive atmospheres in the European Union and applies to all manufacturers worldwide.



ESX230



SAX320

■ THE ENTIRE DEVICE MUST BE ATEX CERTIFIED

A single ATEX certified component like a motor is not enough for certification. The LEADER fans are tested for the standards set out in the ATEX directive. Their certification covers the whole unit: motor, frame, shroud, grille, propeller, electronic box with its power cable, wheels, etc.

■ VARIED APPLICATIONS OF MOBILE VENTILATION IN INDUSTRY

Pressurising a room to ensure safety,
Removing toxic smoke,
Cooling an overheating machine,
Removing smoke, explosive or toxic gas, etc.

■ INTERPRETING ATEX CLASSIFICATION

The information beside explains the ATEX classification, using the ESX230 nameplate as an example.

To avoid limiting your field of action in an explosive area, choose products which are category 1 or 2 certified.

Ex II 2 GD II B T4 or T135°C IP65 LCIE12 ATEX 3043X

GROUP AND CATEGORY OF EQUIPMENT

II 2 GD

Group	Category	Permissible area of use
I mines	M1 Very high level of protection	Operation in an explosive atmosphere
	M2 High level of protection	De-energised in explosive atmosphere

Group	Category	G = gas	D = dust
II Industry	1 Very high level of protection	Zone 0 = Permanent risk > 1000 hrs/year	Zone 20
	2 High level of protection	Zone 1 = Occasional risk 10 hrs/year to 1000 hrs/year	Zone 21
	3 Low level of protection	Zone 2 = Minor risk < 10 hrs/year	Zone 22

CE TYPE INSPECTION CERTIFICATE NUMBER

LCIE 12 ATEX 3043X

Organisation responsible for the standard CE examination
 Year that certificate was issued
 ATEX certificate
 Reference number

IP PROTECTION RATING

IP 65

PROTECTION RATING AGAINST INTRUSION (IP)

1 st number: Protection against solid objects		2 nd number: Protection against liquids	
4	Against solid objects exceeding 1 mm	Against splashes, water spray	4
5	Against dust deposits	Against jets of water	5
6	Against dust penetration (sealed)	Against sheets of water, waves, powerful jets	6
7	-	Against temporary immersion	7
8	-	Against prolonged immersion	8

CERTIFICATION CODE GAS, VAPOR AND FOG

Ex II B T4

Specific mark for Explosion Protection (ATEX)

Gas group
 IIA = Propane
 IIB = Ethylene
 IIC = Hydrogen

Maximum surface temperature
 T1 = 450°C
 T2 = 300°C
 T3 = 200°C
 T4 = 135°C
 T5 = 100°C
 T6 = 85°C

RISKS IN CONFINED SPACES

PROTECTING FIREFIGHTERS AND OPERATORS AT WORK

In addition to the general risks, work in confined spaces exposes firefighters to three types of risk:

- ▶ suffocation
- ▶ poisoning
- ▶ fire and explosion

There are several reasons for reduced oxygen levels in a confined space: Oxygen consumption, use of an inert gas or gas emission from a natural source.



■ PURIFICATION VIA VENTILATION

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

- ▶ extraction when the source of contamination is located: Extracting bad air directly as close as possible to this source,
- ▶ dilution when the source of contamination has spread: Preferably extraction if a small volume, blowing if a larger volume.

By blowing directly or via blowing ducts, LEADER fans can:

- ▶ provide fresh air
- ▶ cool an area
- ▶ push toxic gas or smoke outside
- ▶ pressurise a volume to avoid the spread of smoke or gas

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.

V-BOX EXTRACTION/BLOW KIT**■ WHY IS A CONFINED SPACE DANGEROUS?**

Confined spaces are dangerous because they have an atmosphere which is not easy to refresh. Any activity or process generating toxic substances or consuming oxygen in a confined space will very quickly increase the risks linked to these substances or the reduced oxygen levels. In addition, the exposed person cannot generally evacuate quickly if they experience difficulties, as these spaces can be difficult to access, or have travel problems (topology, poor light, slippery floors, clutter, etc.)

■ MAIN RISKS

The majority of accidents which occur during operations in confined spaces, often serious or even fatal, is linked to an oxygen-deficient atmosphere, the presence of toxic smoke or gas or even an explosion or fire. These are the main risks to evaluate when preparing a working procedure.

Also, we must be aware that there is often a problem linked to the difficulty of rescuing or evacuating a victim, particularly if the access route is restricted or the site topography is difficult (low height, narrow), if there is poor lighting, if the site is cluttered... However the speed of a rescue is vital when there is neurotoxicity, acute respiratory distress syndrome, heart failure, etc.

Specific attention must therefore be paid to preparing a rescue and response plan in the event of an accident.

■ RECOMMENDATIONS:

- ▶ Operators must be placed in a fresh air current. It is often useful to introduce air by creating a supply nearby. This supply dilutes the contaminants created by the operations in the area. That is why, if the operation itself is contaminating, it can be beneficial to extract contaminants as close as possible and introduce air, either artificially through an upstream supply, or naturally through openings.
- ▶ The fan air inlet will be located in a zone outside any contamination, particularly opposite the wind and far from the contaminated air outlet from the confined space, as well as exhaust gases from petrol-driven motors used for the operation, which must be placed in the open air.
- ▶ For very large areas, it can be useful to have air mixers inside the room to help dilute and help sweep blind spots.

INTERACTIVE COURSES AND TRAINING

FIRE VENTILATION TRAINING

CUSTOM TRAINING

LEADER regularly organises fire ventilation training worldwide and on request by fire departments to teach the basics of positive-pressure ventilation (PPV) and negative-pressure ventilation (NPV).

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

The training can take place:

- ▶ At the LEADER site in Octeville sur mer (France), with the benefit of being able to use the "test house" which the R&D team uses on a daily basis.
- ▶ At the fire department's premises,
- ▶ At a dedicated training site.



FIRE VENTILATION TRAINING EDUCATIONAL SOFTWARE

LEADER has developed a collection of interactive courses which can be downloaded for free from its website.

Created in partnership with EducExpert, a recognised leader in fire training, these courses were specially designed for fire trainers to support them with their work to teach the skills to implement ventilation techniques.

■ COMPREHENSIVE AND EFFECTIVE COURSES

Downloadable in 4 languages (French, English, Spanish and Chinese), three major themes are discussed:

- ▶ Reminder of the general principles of fire and the different development stages of a fire,
- ▶ Thermal phenomena and their consequences.
- ▶ The basics of fire ventilation based on the 3 main techniques (offensive, defensive and combined ventilation),

■ BETTER ASSIMILATION OF KNOWLEDGE

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

■ OPTIMISED LEARNING TIME

Integrated into the rescue department training programme, it ensures a more effective uptake of skills.

■ USER-FRIENDLY

The quality, simplicity and user-friendliness of the system are other benefits appreciated by users.

■ CHECKING KNOWLEDGE

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





A WIDE RANGE OF HIGH-PERFORMANCE FANS



OVERVIEW OF THE LEADER FAN OFFER

	Size (Ø pro- peller mm)	Type of ventilation	Appli- cation*	NEO, Easy Pow'air	Motor specification	Power	Open air flow (m ³ /h)	Flow rate AMCA 240-06 (m ³ /h)	Weight (kg)	Page
BATTERY-POWERED FANS										
B215-Li (35 min)	420	Relay PPV	1	NEO	Lithium batt.	800 W (1 HP)	27,930	17,400	22	10
BatFan 2 (45min)	420	Relay PPV NPV	1	NEO	NiMH batt. and mains	600 W (0.8 HP)	28,050	17,700	26.5	10
BatFan 3 Li+ (50 min)	420	Relay PPV NPV	1	NEO	Lithium batt. and mains	600 W (0.8 HP)	29,270	18,600	24	11
E-Fan 18 (70 min)	460	Relay PPV	1	-	Lithium batt. and mains	650 W (0.85 HP)	35,050	18,500	23.6	11

ELECTRIC FANS

Single speed

SA315	300	extraction	1	-	220 V mains power supply	1.1 kW (1.5 HP)	9,000	-	29.8	14
ES220	420	PPV	1	NEO	220 V mains power supply	1.5 kW (2 HP)	33,250	21,360	25.9	14
ES230	420	PPV	1	NEO	220 V mains power supply	2.2 kW (3 HP)	48,000	27,140	39.3	15
EDS230 1.5HP	420	PPV	1	NEO	110 V mains power supply	1.1 kW (1.5 HP)	30,187	19,750	33.1	15
EDS230 2 HP	420	PPV	1	NEO	110 V mains power supply	1.5 kW (2 HP)	34,020	21,800	37	15
ES245	570	PPV	1 - 2	Easy Pow'air	220 V mains power supply	2.2 kW (3 HP)	49,050	28,450	50.5	15

Soft starter

ESP230	420	PPV	-	NEO	220 V mains power supply	2.2 kW (3 HP)	48,000	27,140	40	15
ESP280	570	PPV HFF	1 - 2	Easy Pow'air	400 V three-phase mains supply	7.5 kW (10 HP)	115,700	-	75.5	28

Variable speed

ESV230	420	PPV	1	NEO	220 V mains power supply	2.2 kW (3 HP)	48,000	27,140	41	15
EVG230	420	PPV	1	NEO	110 V mains power supply	1.1 kW (1.5 HP)	30,345	19,750	35.5	15
ESV245	570	PPV	1 - 2	Easy Pow'air	220 V mains power supply	2.2 kW (3 HP)	49,050	28,450	53	15
ESV280	570	PPV LfV	1 - 2	Easy Pow'air	400 V three-phase mains supply	7.5 kW (10 HP)	115,700	-	81.4	28
ParkFan 80	570	PPV LfV	1 - 2	Easy Pow'air	400 V three-phase mains supply	7.5 kW (10 HP)	115,700	-	83	28

ATEX certified

SAX	300	extraction	1	-	Single or three-phase mains supply	1.1 kW (1.5 HP)	9,000	-	42	14
ESX	420	PPV	1	Easy Pow'air	400 V three-phase mains supply	1.85 kW (2.5 HP)	30,000	19,000	57	14

PETROL-DRIVEN FANS

MT215L	420	PPV	1	NEO	Honda GXH50	2.1 HP	33,900	23,260	20.3	18
MT225	420	PPV	1	NEO	Honda GP160	4.8 HP	41,950	30,500	26.8	18
MT236	420	PPV	1	NEO	Honda GX160	4.8 HP	52,550	33,660	39.6	18
MT240	420	PPV	1	NEO	Honda GX200	5.5 HP	68,300	36,280	40.5	19
MT245	570	PPV	1 - 2	Easy Pow'air	Honda GX200	5.5 HP	52,320	-	52	19
MT280	570	PPV LfV	1 - 2	Easy Pow'air	Honda GX390	11.7 HP	117,100	-	69	19
MT296	570	PPV LfV	1 - 2	Easy Pow'air	B & S -Vanguard	16 HP	128,950	-	19	19
Easy 2000	885	PPV LfV	2 - 3	-	Honda GX630	20.8 HP	220,000	-	158	32
Easy 4000	1200	PPV LfV	3	-	BMW	115 HP	410,000	-	372	33
Tempest MVU	1520	PPV LfV	3	-	Caterpillar	124 HP	-	-	-	34

WATER-DRIVEN FANS

MH236	420	PPV	1	NEO	Water driven	9 HP	51,100	33 00	32.6	22
MH260	570	PPV	1 - 2	Easy Pow'air	Water driven	9 HP	79,900	-	49	22

APPLICATION:

- 1 - Single door ventilation - detached house, small buildings, etc.
- 2 - Single/double door ventilation - tall buildings, medium-sized warehouse, etc.
- 3 - Warehouse door ventilation - underground car parks, industrial sites, tunnels, etc.

- PPV = Positive-Pressure Ventilation
 NPV = Negative-Pressure Ventilation
 Relay = Relay fan for combined ventilation
 LfV = Large Flow Ventilator

LEADER®

● *Fighting for performance*

SINCE 1985, LEADER HAS DESIGNED AND MANUFACTURED HIGHER PERFORMING EQUIPMENT USED IN FIREFIGHTING, FIRE TRAINING AND SEARCH & RESCUE APPLICATIONS AND PROPOSES THEM TO FIRE AND RESCUE SERVICES, CIVIL DEFENSE, HAZARDOUS INDUSTRIES, NGOS, MARITIME SERVICES, ETC. ON THE 5 CONTINENTS.



A MAJOR AXIS: INNOVATION

To meet the advancing 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 available 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)
- ▶ Fire test area in fire container - Fire extinguishing equipment
- ▶ Casualty Search Equipment test area

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 its sales force, its subsidiaries (in Germany, Austria, China and the USA) and an international distribution network, LEADER is present worldwide, keeping us as close as possible to its customers.

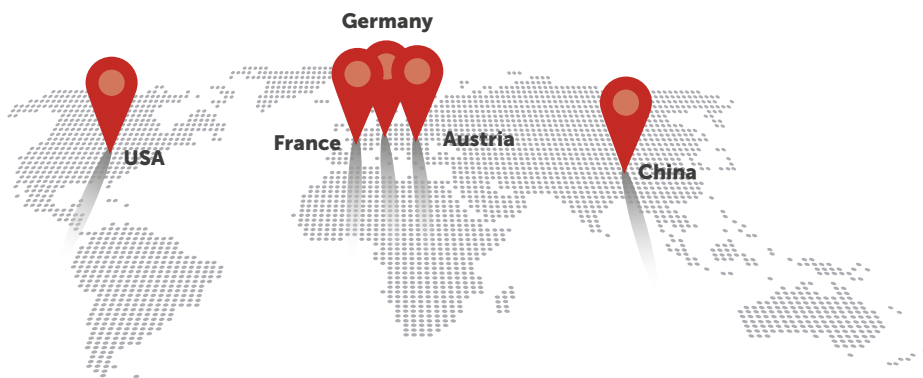


ADAPTED TRAINING

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 at your own site.

AN INTERNATIONAL PRESENCE

SUBSIDIARIES AND A STRONG RETAILER NETWORK



LEADER GROUP



MOBILE VENTILATION



LARGE-FLOW VENTILATION



THERMAL VISION



FIRE EXTINGUISHING



FIRE TRAINING DEVICES



SEARCH AND RESCUE EQUIPMENT



CHAINSAWS



FIRE FOAM CONCENTRATES

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