

*Providing quality
smoke machines to the
emergency services for*

CONCEPT SMOKE SYSTEMS
50
YEARS
CELEBRATING 50 YEARS OF QUALITY SMOKE

CONCEPT
smoke systems

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Concept Smoke Systems

Fire Training Range



[The Concept ViCount](#)



[The Concept Vulcan](#)



[The Concept Spirit 900](#)



[The Concept Colt 4 Range](#)



[The Concept B1](#)



[The Concept Artem Gun](#)



[The FTS Box \(Fire Training Simulator\)](#)

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Concept Smoke Systems

Fire Training Range



About us

Concept have been leaders in the design and manufacture of high quality smoke machines for over 50 years, supplying over 90% of the UK fire brigades with safe simulant smoke to enhance training by adding extreme realism.

Why choose Concept Smoke?

- Free demonstration & trail equipment (UK Mainland)
- Manufacturing the highest quality smoke generators
- Offering a comprehensive range of training products
- Free of charge preventative maintenance courses
- Class leading warranties
- Designed, manufactured & customer support all in the UK

Quality Assurance, Warranties & Guarantees

Unlike most theatrical smoke machines, Concept's Fire Training Range was designed specifically to meet the needs of the modern day fire fighter; **cost effective, easy to operate & extremely robust!**

All the components in Concept's mains powered smoke systems come with **a minimum of a 5 year parts warranty and a lifetime guarantee on the heat exchanger block / core!**

With every smoke generator purchased Concept offer a **free of charge preventative maintenance course** allowing your trainers or technicians to learn first-hand how to **keep your machines in the best working condition, minimise downtime and eliminate servicing / repair costs!**

Over the years Concept have developed the Fire Training Range to cover all training scenarios. Whether that be hand-held smoke generators for confined spaces, water based smoke systems for training exercises, oil based for hot fire training (up to 200°C) or highly persistent smoke systems for PPV training.

Concept supply a vast range of modifications / accessories to suit specific customer requirements. For more information on accessories please contact Concept – info@conceptsmoke.com or +44 (0) 1628 825 555

- | | |
|--------------------------------------|--------------------------------|
| • IP rated enclosures / wall mounted | • Custom Control Modules |
| • Radio Remote Control | • Centrifugal Fans |
| • Waterproof Covers | • CO2 Heaters & CO2 Regulators |
| • Timer / Density Control | • PELI / Flight Cases |
| • Automatic Purge / Cleaning Systems | • Ducting / Adapters |
| • Stainless Steel Chassis | • Fixed Installations |



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Concept Smoke Systems

Fire Training Range



ViCount 180 Smoke System



- The highest temperature resistance of any artificial smoke (200°C > for hot fire training)
- Extremely persistent smoke in turbulent conditions perfect tool for (PPV training)
- Recommended for all large scale BA applications & large volume smoke logging / tunnel tests
- Splash proof switching
- IP 65 Microprocessor temperature control
- Machined heater block, guaranteed for life
- Continuous quality smoke output

General Specification (approx.)	ViCount 1300/180	ViCount 5000/180
Size (cm)	35 x 19 x 44	55 x 19 x 44
Weight (kg)	13	20
Heat Exchanger (w)	1100w or 2200w	1100w or 2200w
Power Supply	230vAC (+10%/-6%), 50-60Hz	230vAC (+10%/-6%), 50-60Hz
Optional	110vAC, (+10%/-6%), 50-60Hz	110vAC (+10%/-6%), 50-60Hz
Warm up time from cold (min)	4	4
Duration at max output before refill (minutes)	40 (1100w) 22 (2200w)	145 (1100w) 85 (2200w)
Smoke reservoir capacity (nominal ml)	1300	5000
Smoke output (m ³ /min @ 1m visibility) 1.1kW	0 - 150	0 - 150
Smoke output (m ³ /min @ 1m visibility) 2.2kW	0 - 290	0 - 290
Smoke particle dia (micron, mass median dia)	0.2	0.2
Remote operation	Included with every model	Included with every model



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Concept Smoke Systems

Fire Training Range



The ViCount is one of the world's most capable smoke systems. The unit produces a non-toxic, food quality, oil based smoke entrained in an inert carrier gas stream. The smoke is resistant to temperatures of up to 200°C before layering occurs (compared to 40-50°C for most water based smoke systems) enabling dense smoke concentrations to be achieved and maintained in hot fire simulators throughout the world (e.g. HMS Excellent—the world's largest hot fire training complex).



The smoke produced by the ViCount (although intrinsically bio-degradable) is extremely persistent, dramatically outlasting even the best water based smokes in ambient temperature conditions. This makes the ViCount the smoke system of choice for large, fixed BA complexes, with or without heat, as well as for major emergency exercises.

Typically, 2 x ViCount 5000/180/2.2 kW systems would be capable of filling **an entire road tunnel** (250,000 m³ - 3.5km long) with smoke.

As with all Concept mains powered systems, the smoke from the ViCount is controllable, from a small wisp to a large plume and it can be passed through flexible ducting and fan assisted if required.

The ViCount smoke system is virtually maintenance free. At the end of every smoke operation the heat exchangers and filters are automatically purged with a small amount of inert gas, ensuring consistent performance, day in — day out.

Testimonial – Hot Fire Training Simulator Installer Managing Director

"We are manufacturers of all types of fire training equipment i.e .fire houses, aircraft, ships etc and use the Concept range of smoke heads and smoke machines, in particular the ViCount, over the last 15 years.

We use the oil based system which produces smoke that will not dissipate when subjected to heat unlike the water based systems.

The Concept units have proved to be very reliable and robust when operated and maintained in accordance with Concept operating and maintenance instructions. We have installed around 500 units some of which have been in service since being installed 15 years ago.

We have found Concept Engineering:-

- Supply superior oil based smoke machines.
- Provide excellent pre sales service
- Provide excellent after sales service
- Provide complete technical support"

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Concept Smoke Systems

Fire Training Range



Vulcan 180 Double Helix



- Huge smoke output (double the ViCount)
- Twin helix precision machined 2.8kw heat exchanger, guaranteed for life
- Easy fill 5Ltr smoke fluid reservoir
- Extremely persistent smoke in turbulent conditions perfect tool for (PPV training) & resistant to temperatures up 200°C
- Recommended for all large scale BA applications & large volume smoke logging / tunnel tests
- Splash proof switching & IP 65 Microprocessor temperature control
- Continuous high quality smoke output

General Specification (approx.)	Vulcan 180 2.8kw
Size (cm)	52 x 24 x 42
Weight (kg)	28
Heat Exchanger (kw)	2.8kw
Power Supply	230vAC (+10%/-6%), 50-60Hz
Optional	110vAC, (+10%/-6%), 50-60Hz
Warm up time from cold (min)	4
Duration at max output before refill (minutes)	80
Smoke reservoir capacity (nominal ml)	5000
Smoke output (m ³ /min @ 1m visibility) 2.8kW	0 - 440
Smoke particle dia (micron, mass median dia)	0.2
Remote operation	Included with every model



Heat Exchanger Technology

At the heart of every ViCount & Vulcan is a precision machined heat exchanger chamber, where the smoke oil mist and inert gas is heated. This precision, with machining down to H6 tolerances, produces a smoke effect with the smallest particle size in its class. This means that in a hot fire compartment very dense concentrations can be achieved for just 3% LEL – one of the key reasons that Hot Fire / BA specialists throughout the world use Concept Smoke Systems.

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Concept Smoke Systems

Fire Training Range



The Vulcan is Concept's latest variant of our best-selling ViCount range, used throughout the world in major fire training centres, including the world's largest Hot Fire Training Complex – the Royal Navy's fire training school HMS Excellent.

The Vulcan incorporates a number of significant enhancements and features to the system, with advanced microprocessor technology giving precise control over operating temperature and smoke on / off periods. Of course, as with standard ViCount's, continuous operation is also possible at maximum output.



The Vulcan contains a horizontal high capacity oil reservoir with an easy fill, wide mouth external port and integrated sight-glass which eliminates the possibility of overfilling. The oil reservoir is also heated to make the smoke fluid less viscous and improve performance.

The smoke output from the Vulcan can be configured to discharge from the front or alternatively from the side of the unit.

With almost twice the smoke output of the ViCount, the Vulcan is the perfect tool for any large scale BA, tunnel testing exercises, as well as Hot Fire Training, & PPV work. In just 30 minutes 1 Vulcan can fill an area more than 24,000m³ to 3m visibility.

It is one of the world's most capable smoke generators!

Testimonial – UK Fire Brigade

After using the Spirit 900 Smoke Generator and attending Concept's complimentary service and maintenance course:

"Concept offer a fantastic after sales service whether it be maintenance courses or queries – fully satisfied! With my experience of dealing with Concept I find it difficult to see where improvements can be made as I feel 100% satisfied with the product, information and answers to any queries."

"I feel the smoke gives a more realistic setting for difficult exercises, which improves the experience and motivation of students / crews. The only other way would be to use obstruction masks that take the realism out of any training."

"I would like to add, having worked with Concept over the last 18 months I have found it educational and the staff are a credit to the company. I would like to thank all the staff for the patience they have shown with dealing with my queries."

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Concept Smoke Systems

Fire Training Range



- Winner "Fire Professional" magazines - (Back-to-Back Smoke Generating Machines)
- High-output, water based, non-toxic smoke
- Splash proof switching
- IP 65 Microprocessor
- Machined heater block, guaranteed for life
- Continuous smoke output
- Superior continuously rated pump
- Controllable smoke, from a small wisp to a large plume

General Specification (approx.)	Spirit 900 Smoke Generator
Size (cm)	55 x 23 x 29
Weight (kg)	13.5
Heat Exchanger (w)	2200w
Power Supply	230vAC (+10%/-6%), 50-60Hz
Optional	110vAC, (+10%/-6%), 50-60Hz
Warm up time from cold (min)	5
Duration at max output before refill (minutes)	40
Smoke Reservoir capacity (External reservoir available)	2
Smoke output (m ³ /min @ 1m visibility)	0-420
Smoke Particle dia (micron, mass median dia)	0.2 – 0.3
Hang Time	1.25 – 1.5 hours

The Spirit 900 incorporates a continuously rated high pressure pump to drive the smoke fluid stored in the internal reservoir through its precision machined, heat exchanger block. There the smoke fluid is vaporised and the vapour condenses on reaching atmosphere to form a dense, controllable and non-toxic smoke. The temperature of the heat exchanger is controlled by a microprocessor temperature controller using PID (proportional) control and the heaters within the unit are switched by a solid state relay to ensure optimum reliability.

Because Smoke Fluid A has a high boiling range, the resulting smoke is dramatically more persistent than conventional water based systems.

The smoke from the Spirit 900 is controllable, from a small wisp to a large plume.

In terms of safety, the water-based smoke produced by the Spirit 900 has been rigorously tested by independent laboratories and authorities to ensure that it is both safe and non-flammable.



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Fire Training Range



Concept's Spirit 900 was put through its paces, and won when compared to 5 other smoke machines by Fire Professional magazine.

They concluded:

"So the Concept Engineering Spirit 900 wins. Overall, across the testing criteria, it scored heavily and consistently. It's beautifully made, works well and from what we have seen here makes extremely efficient use of fluid – a consumable, that those of you who are budget conscious, will want to keep an eye on."

Testimonial - US Navy

Following the operational assessment of the Concept Colt and Spirit smoke systems on board 4 US Navy vessels, and at the Fleet Mine Warfare Training Centre, justification for their use was issued, and the USN reported that:

"Responses were highly favourable regarding the performance of these smoke generators"

Testimonial – Simulation

Following the installation of a smoke system for a UK county fire brigade, Simulation's technical director commented:

"I would have no hesitation in recommending your company to other potential users who are interested in considering smoke systems. Your assistance and advice was invaluable, and the end result has more than met expectations"



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Concept Smoke Systems

Fire Training Range



Colt 4 smoke generator range



- Compact and extremely robust
- Lightweight handheld unit
- High Output - off power capability
- Water based, non-toxic smoke
- NATO codified
- Highly persistent smoke for smoke logging large volumes
- World-wide recognition
- Controllable smoke, from a small wisp to a large plume
- Class-leading particle size 0.2 micron mass median diameter

General Specification (approx.)	Colt 4 Basic	Colt 4 Turbo	Colt 4 Twin Turbo
Size (cm)	37 x 15 x 20	37 x 15 x 20	37 x 15 x 20
Weight ((kg)	5.5	7	8
Heat Exchanger (w)	1100	2200	2200
Power Supply	230vAC, 50-450Hz*	230vAC, 50-450Hz*	230vAC, 50-450Hz*
Optional	110vAC, 50-450Hz*	110vAC, 50-450Hz*	110vAC, 50-450Hz*
Warm up time from cold (min)	5	4	5
Duration of aerosol at max. output (min)	14	8	5
Smoke output (m ³ /min @ 1.5m visibility)	0—125 fully adjustable	0—233 fully adjustable	0—450 fully adjustable
Smoke Particle diameter (micron, mmd)	0.2	0.2	0.2
Operation "Off Power"	Basic & Hybrid versions	Basic & Hybrid versions	Basic & Hybrid versions
Remote operation (*50-60Hz only)	Hybrid version	Hybrid version	Hybrid version



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Concept Smoke Systems

Fire Training Range



Easy to use, compact and portable, the Concept Colt 4 range are used worldwide by fire professionals, training centres, armed forces, and shipping lines for adding realism to fire, BA and evacuation exercises.

In its basic format, the Concept Colt 4 has the ability to produce a considerable amount of smoke “off power” using the retained energy within the high mass heat exchanger block (guaranteed for life). This allows an operator to carry the generator from one room to another, making smoke as required, without a trailing electrical lead.

The hybrid version allows for both “off power” and remote operation (the latter only applying whilst power is connected).

The Colt 4 is used to simulate the effects of a real fire but in a completely safe environment. This smoke generator provides extreme realism to fire training exercises, it quite literally gives staff the training and experience that saves lives!



Testimonial – Fire Consultant Sweden

“During nearly 20 years working with the fire brigade (Stockholm, Sweden) and as a Fire Consultant, I have never come across a better smoke machine than the Colt 4.

The machine is light, easy to handle and it creates a tremendous good and realistic smoke!

THE COLT 4 SAVES LIVES!”

STOP PRESS

The Royal Navy and Royal Fleet Auxiliary & Irish Navy, after extensive testing, have taken delivery of Colt 4 Turbo smoke systems for creating safe but highly realistic fire training scenarios on board their entire fleet!

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Concept Smoke Systems

Fire Training Range



B1 Battery Smoke Machine



- Instant, safe smoke on demand
- No warm up time
- Ideal for RTA training
- Dense, controllable smoke
- Completely portable
- Simple operation
- Low chemical consumption (10ml / min at max output)
- Can Produce smoke for up to 10 minutes at maximum output
- Optional radio remote, cable remote and battery remote

General Specification (approx.)	B1
Power	12v DC / 60A
Heat Exchanger	400w
Smoke Output	Up to 10 mins at max output
Chemical Consumption	10ml/minute
Size (cm)	22 x 10.5 x 21
Weight (kg)	5.5
Battery Capacity / Charging Time	12v / 12Ah 13 – 14hours



Concept's B1 is a robust and fully portable smoke system, operating from an on-board 12vDC battery. With a 400w capacity, the B1 is capable of producing safe, controllable smoke on demand in areas where no mains power is available and is an invaluable training aid in such conditions. Commonly used to add realism during RTA drills with radio remote control. At continuous maximum output, up to 10 minutes of smoke can be produced. A suitable 110v/230v AC charger is included with every unit and spare battery packs are available if required.



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Concept Smoke Systems

Fire Training Range



Concept Artem Smoke Gun



- Completely portable – no electricity required
- Very high, controllable smoke output
- Convenient Piezo ignition
- Non-toxic smoke
- Aluminium carry case
- Aluminium barrel guard
- Adds realism to Fire Training, Public Order training, Mounted police training, military training

General Specification (approx.)	Artem Gun
Power	None Required
Ratio smoke canister/ gas canister	3.5 : 1
Smoke Output	Up to 10 mins at max output
Warm Up time from cold	20 seconds
Size (cm)	48 x 42 x 14
Duration at full output	6 – 7 minutes



The Concept Artem gun is a unique, off-power smoke generator ideal for creating large volumes of smoke for the greatest realism in training exercises.

The machine is ideal for any external application of smoke where complete portability is required.

Using a conventional Butane/Propane mix gas cartridge (available worldwide) and a Concept smoke canister, the Artem is incredibly straightforward to use. Simply screw in the canisters, pre-heat the stainless steel coil for a few seconds and turn on the smoke - it's that easy!

With an output that puts pyrotechnic smoke bombs to shame, complete controllability and low running costs, the Artem smoke machine is a great solution for creating external smoke!



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Concept Smoke Systems

Fire Training Range



Concept FTS Box (Fire Training Simulator)



- High quality sound
- Battery operated
- 7 pre-set scenarios
- Customizable sound programming
- Integrated visual background
- Radio remote controlled
- IP 54 rated
- Comes complete with transport case

Using the Concept FTS Box is the perfect way to add further realism to your fire and evacuation training, especially in conjunction with Concept smoke!

The FTS Box can be used on 110v or 230v mains power supply and also has an inbuilt battery, lasting up to 4 hours of constant operation.

Multiple FTS Boxes can be controlled by just one radio remote control - with no trailing wires!

With 7 pre-set soundtracks, the ability to add other soundtracks over the top (screaming for help, explosions, electric arc, gas, alarm etc) and a powerful lighting effect to simulate the source of the fire, the FTS Box is an invaluable training aid. The unit is water resistant, robust, radio remote controlled and is supplied complete with a protective carry case.



General Specification (approx.)	FTS Box
Power supply	110 - 230v, 50/60hz
Battery backup	12 V / 7 Ah Pb battery
Protection Rate	IP 54
Triggering / Remote Range	Radio remote controller / 20mtrs
Battery Life	4h
Number of tracks	7 scenarios of >60 min + 7 interactive sounds
Sound programming	Customizable on demand
Material	Polycarbonate
Dimensions / Weight	L.300 x H. 300 x P. 300 mm / 5kg
Warranty	2 Years – excluding battery

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Why Concept Smoke Systems???

- *50 years experience manufacturing quality smoke generators*
- *The worlds largest range of fire training smoke generators*
- *Class leading warranties (minimum of 5 years parts / **lifetime** heater block on all CEL mains powered equipment)*
- *Equipment is designed, manufactured and supported all in the UK*
 - *ISO 9001 Quality Assurance approval since 1991*

“OUTSTANDING SMOKE, OUTSTANDING SERVICE”