

# Turbex

## Water Turbine High Expansion Generator



Angus HI-COMBAT Turbex High Expansion Foam generators are designed to produce large capacities of high expansion foam, up to 200 cubic metres (7,000 cu.ft) per minute for fast and effective flooding of large and inaccessible spaces with minimal water consumption and subsequently minimal water damage.

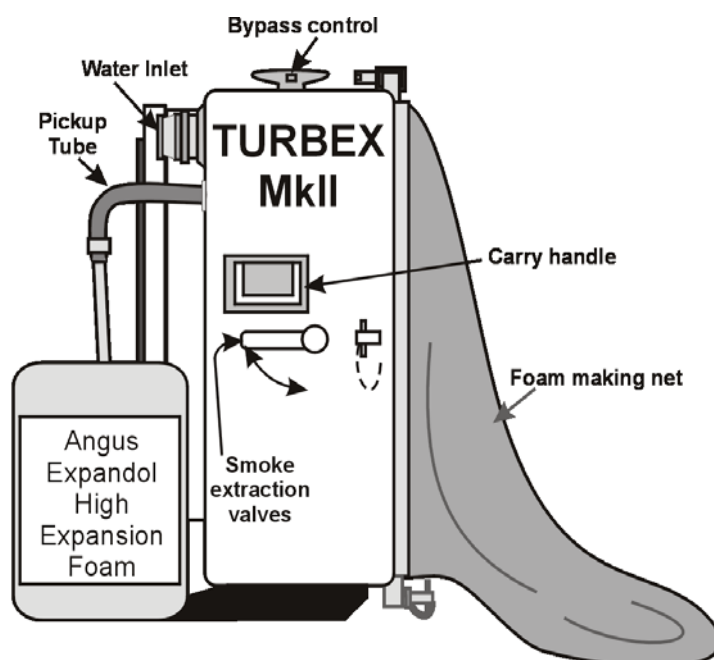
The unit is also capable of rapid smoke extraction (SX), positive pressure ventilation and removal of foam once the fire is extinguished.

HI-COMBAT Turbex generators are ideally suited to a wide range of applications. These typically include filling enclosed areas with foam where carbonaceous materials and flammable liquids may be stored, such as basements, cellars, tunnels, roof voids, cable ducts, warehouses and mines. Large quantities of smoke can be extracted at the rate of 285 cubic metres (10,000 cu.ft) per minute by the Turbex at 7 bar g. inlet pressure with the special smoke extraction ducting. This facility can also be used for the removal of foam bubbles once the incident is over.

Each HI-COMBAT Turbex utilises forced air technology and is powered by an enclosed maintenance free water turbine driving an aerofoil fan, so that only a pressurised water supply is required for operation with Angus Expandol High Expansion Foam concentrate, consumed at typically 4.5litres/min. A special in-built filter system protects the turbine and inductor from blockage due to solid particles in the water supply.

A unique by-pass system allows performance to be maintained when working against high back pressures. Under suitable conditions foam can be produced to heights of around 8-10m (26-33 ft). with the by pass open.

By control of both inlet pressure and by-pass valve, the type of foam produced can be varied in the range of 500-1100:1 expansion ratio. 500:1 is recommended for any fires involving flammable liquids and general purpose applications, whilst 1000-1100:1 is suggested only for back pressure and Class A material applications like packaging plants where minimal wetting is required.



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Foam Performance Data (Typical)							
	Inlet Pressure bar g.	Total water flow litres/min	By-pass Flow litres/min	Water for Foam Production † litres/min	Expanded Foam produced # m3/min	Expanded Foam produced # cu.ft./min	Expansion ratio*
By-pass Closed	4	180	Nil	180	85	3000	500 to 700
By-pass Closed	6	225	Nil	225	115	4050	500 to 700
By-pass Closed	7	245	Nil	245	135	4750	500 to 700
By-pass Closed	8	270	Nil	270	150	5300	500 to 700
By-pass Closed	10	290	Nil	290	190	6700	500 to 700
By-pass Fully Open	4	195	70	125	95	3350	800 to 1100
By-pass Fully Open	6	245	90	155	135	4750	800 to 1100
By-pass Fully Open	7	270	100	170	155	5450	800 to 1100
By-pass Fully Open	8	290	105	185	175	6150	800 to 1100
By-pass Fully Open	10	315	115	200	200	7050	800 to 1100
Smoke Extraction Mode	4	145					
Smoke Extraction Mode	7	186					
Smoke Extraction Mode	10	227					

Operating pressure range 4-10 bar g. Std. in/outlet couplings are 2 1/2" BS Instantaneous, but other connections are available.

† Conversion factor to US Galls/min = l/min x 0.264; to IMP Galls/min = l/min x 0.22.

# Conversion factor to cu ft/min = m3/min x 35.64 Performances may vary with ambient temperature.

\* Expansion ratio is dependent on operating conditions.

General Material Specification	
Bodywork	Yellow chemically resistant UV stabilised GRP resin
Aerofoil fan and net retainer	Black thermoplastic coated aluminium alloy
Water turbine and inductor	Natural gunmetal
Pipework	Black thermoplastic coated copper
Ball valves and nozzles	Black thermoplastic coated brass
Handles and fan guard	Black thermoplastic coated mild steel
Foam making net	Woven nylon and polyester ribbon
<b>Optional Extras:</b>	
Expendable foam ducting (AE00767)	Polythene in 30m(100ft) length
Smoke extraction ducting (AE01003)	Nylon re-inforced polythene in 7.6m (25ft) length
Wheeled Turbex version available	

Dimensions			
Approx. dimensions (mm)	902Wx927Hx495D	Nett wt.55kg	
Typical shipping specification (mm)	991x1016x610	1 case	Gross wt.73kg

### INTERNATIONAL SALES

#### Angus Fire Ltd

Angus House, Haddenham Business Park,  
Pegasus Way, Haddenham, Aylesbury, HP17 8LB, UK  
Tel: +44 (0)1844 293600 • Fax: +44 (0)1844 293664

### UK SALES

#### Angus Fire Ltd

Station Road, Bentham, Lancaster, LA2 7NA, UK  
Tel: +44 (0)1524 264000 • Fax: +44 (0)1524 264180

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