

■ FUNCTION

- **Increases performance which means a saving in fuel which can be considerable depending on the excess draught corrected**
- **Acts as a safety valve in case of explosion.**

The draught of a chimney depends not only on fixed factors such as its height, section, design etc. but also on variable factors : temperature of the smoke, atmospheric temperature, direction and force of the wind (...), and it follows that this draught changes during operation due to changes in the rate of heating or changes in atmospheric conditions. Ideal heating is therefore achieved by automatic control of the draught which must be kept at the right value even if rapid changes occur (gusts of wind).

Without this automatic control, a coal, oil-fired, wood-burning or even gas boiler (or cooker or stove), depending on the fuel, is subject to:

- racing,
- over-fast combustion,
- going out prematurely,
- the formation of clinker,
- early destruction of grilles or brickwork,
- the formation of unburnt matter (the source of nuisance to neighbours),
- roaring, flames, ...

can damage paintwork around chimneys carrying excessively hot gases and even cause chimney fires.



■ Advantages

Fully comprehensive tests have been carried out by a qualified laboratory on an NF.UF.ASD stamped stove and these are summarised and commented upon below:

On long duration normal operation:

Without a moderator, the smoke temperature varied between 250 and 500°C and the stove goes out after 16 hours operation, stifled by the clinker although the reserve fuel was not exhausted. Combustion was very irregular throughout the whole test.

A recording analyser showed great variations in the composition of the smoke.

The vacuum varied between 1.9 and 2.6 mm column.

With a Moderator, the smoke temperature kept between 120 and 130°C and the stove was still operating under these conditions at the end of 24 hours.

Combustion was very regular throughout the whole test and no clinker was formed.

The vacuum kept almost strictly to a 1.2 mm column.

The average hourly consumption over 15 hours was :
1.350 kg without Moderator
0.872 kg with Moderator

➔ 35% saving in fuel under test conditions

■ "MODERATOR" TYPE "B" FOR DOMESTIC USE

- Simple and immediate adjustment without any measuring instrument.
- Maximum opening of the shutter, wider than in any other known equipment.
- No knob, very wide setting, flexible and very easy, even in operation, by turning the shutter.
- Automatic centering and positioning thanks to an original and very easy fixing arrangement (patented) on the flue.
- Safety in case of explosion since the efficient anti-overpressure fixing arrangement uncovers a large dispersal area.
- Really quiet due to the mechanical shutter stops and with safety stops if there is overpressure.
- Stainless steel external shutter shafts and bearings, not in contact with smoke.
- All metal, no rubber or moulded parts.
- Individually packed with very clear and simple fitting instructions printed on a white background on the packaging.
- Flat supporting face prevents the shutter being pressed into the flue and a cleverly designed vacuum-opening curve ensures that the shutter is very stable.
- Mat black epoxy / polyester painted version better adapted to corrosion (outside, condensing boiler) (N version).

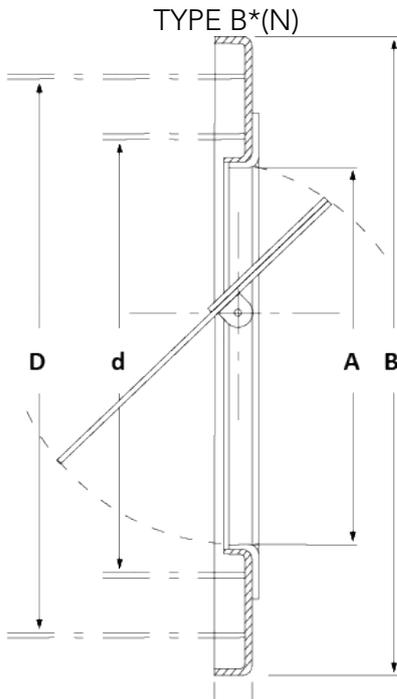


■ "MODERATOR" TYPE "M" FOR INDUSTRIAL APPLICATIONS



- Stainless steel shutter shaft.
- Stainless steel shutter shaft bearings in the form of an anti-crush cup.
- Rigid cast aluminium steady, stoved epoxy paint.
- Stainless steel fixing springs.
- Treated steel shutter, stove enamelled.
- Adjustment knob in insulating material.

■ DIMENSION (MM)



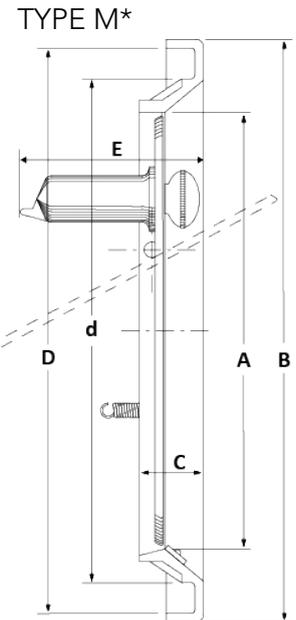
	A	B	C	d**	D**	E	Net weight (g)
Type B1(N)* Ø 100 to 140 mm	90	154	9	100	140	-	160
Type B2(N)* Ø 140 to 200 mm	128	218	12	140	200	-	425
Type B3(N)* Ø 200 to 280 mm	182	308	17	200	280	-	1250
Type M4 Ø 300 to 350 mm	260	360	52	300	350	137	2800
Type M5 Ø 400 to 456 mm	340	470	60	400	456	171	5900

* (N): Black version

** Pipe diameter

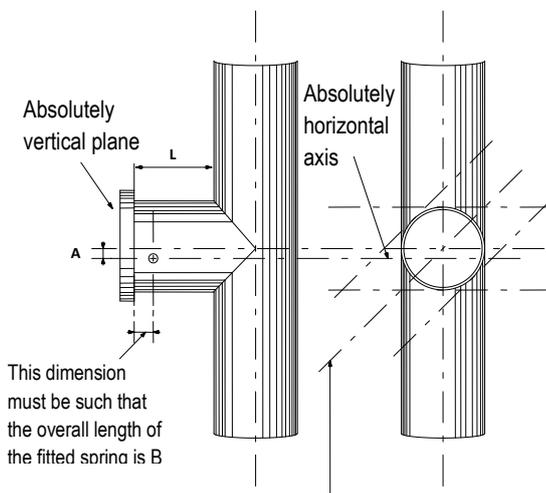
d = minimum inside Ø

D = maximum outside Ø



■ MOUNTING

- Place the Tee that will receive the Moderator on the flue gas installation, relatively close to the heating output base.
- The moderator attachment face must be placed on a vertical plan.
- The smoke duct centreline can be inclined at any angle but the Moderator centreline must always be absolutely horizontal.
- Drill 2 holes of 4mm (types B*(N) et M4) or of 5 mm (type M5) diameter on the horizontal diameter of the flue which is to take the Moderator, at a distance of 25mm from the edge. Countersink the holes if the sheet is thick.
- Engage one end of the spring in one hole.
- Engage the other end in the second hole.
- Move sightly to facilitate centering.



	B1(N)	B2(N)	B3(N)	M4	M5
L min. allowed*	110	140	180	300	400
L recommended*	200	250	300	480	600
A*	17	18	23	36	46
B*	48	50	52	68	90
Diameter of holes for hooking*	4	4	4	4	5

*Dimension: mm

■ SETTING

■ Type B*(N)

- The setting of the Moderator is made with the triangular index on the bottom of the central shutter function to the draught adapted to heating device (consult the manufacturer or the fitter).
- When commissioning, the index must be put on right stop position.
- When the draught is clearly established (after 1 or 2 hours in operation), slowly move the shutter clockwise direction until the shutter slightly open and be balanced.

■ Type M

- Untighten the knob.
- Pull the cap to reduce the vacuum (more sensitive shutter).
- Push in the cap to increase the vacuum (less sensitive shutter).
- Retighten the knob.

■ Draught found mm column

	B1 (N)	B2 (N)	B3 (N)	M4	M5
Left stop (0%)	0.6	0.8	1.4	0.4	1
Setting at 20%	1	2	-	-	-
Setting at 30%	-	-	3	-	-
Setting at 50%	2	3	-	-	-
Setting at 60%	-	-	5	-	-
Right stop (100%)	2.8	4	5.6	5.6	8