



FLAT JET SPRAY NOZZLE type L / LB

Flat jet spray nozzles produce a horizontal or vertical jet like a fire barrier. They are used also with cooling function.

They draw on the surface covered by the jet the approximate shape of a rectangle with the shorter sides rounded. This jet can be defined as fluid FAN cutting through the air.

Jet dimensions on the surface depend on pressure of delivered liquid, on distance between spray nozzle and surface to be protected and on jet spray angle.

SPRAY ANGLE

Usually spray angle is 140°.

Surface covered by the jet depends on spray nozzle distance, viscosity of the liquid and air turbulence.

Angle values have been measured while spray nozzles were delivering water at 20°C.

SPRAY NOZZLE MATERIAL

Caccialanza spray nozzles are in steel and brass.

Installation Instructions:

In order to avoid interference of close jets, we recommend to rotate spray nozzles by at least 5° with respect to the pipe axis. Caccialanza nozzles can be rotated on their axis to reach the best inclinations in order to avoid the above interferences and to carry out special spray patterns. This angle is called deflection angle.

Furthermore, because of operating requirements, to get an ousting jet, the pipe can be rotated on its axis by an angle of 15°. This angle is called incidence angle.

PIPE FLOWRATE

It is known that pressure drops increase with pumped liquid speed.

In order to reduce pressure drops, pipe sizes have to be defined considering a liquid speed between 2 and 3 m/sec.

CACCIALANZA SPRAY NOZZLE FLOWRATE

Flowrate of all types of spray nozzles depends exclusively on the diameter of the nozzle pipe independently of the model.

This means that size does not affect flowrate.

Flowrates are calculated with water at 20°C and can change depending on conditions of the jet and of the lines the spray nozzles are mounted on.

Dimensioning a dry powder system pressure upstream the spray nozzle has to be considered.



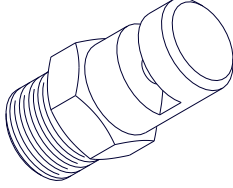
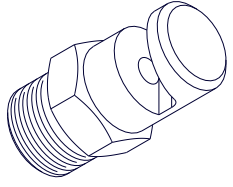
SIZE OF THE DELIVERED LIQUID DROPS

Size of the drops of the liquid delivered by the spray nozzles depends on nozzle orifice diameter, delivery pressure and angle configuration.

Caccialanza spray nozzles are designed to get a drop scattering on a rather small surface, in the middle of the surface spray is thicker. Pressure upstream the spray nozzle affects jet distribution.



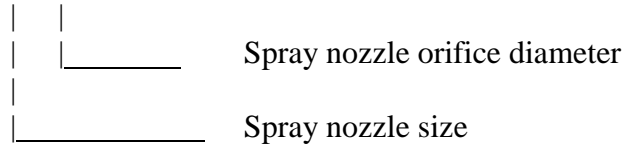
FEATURES OF FLAT JET SPRAY NOZZLES

Type	Description	
<p>L</p>	<p>Spray nozzle manufactured from a hexagonal full bar, drilled inside with an orifice through which the fluid can flow out. Flat jet perpendicular to spray nozzle axis. Spray angle: 140°. Spray nozzle threading: male.</p>	
<p>LB</p>	<p>Features similar to the above ones, fan jet is obtained thanks to “deflection”. In fact water is conveyed to a specially designed surface to draw a wide, well defined fan jet with an inclination of 75° with respect to the spray nozzle vertical. Spray nozzle threading: male.</p>	



DESIGNATION EXAMPLE

Spray nozzle type: **L / LBx x**



Size: **2** - 1/2"
 3 - 3/4"

Spray nozzle orifice diameter: defined by manufacturer

Spray angle: **140° (standard)**

Designation examples:

- Flat jet spray nozzle, required flowrate 28.0 l/min. at 6 bar, threading 3/4" NPT male

Model: **L 3 4.5 NPT**

- Flat jet spray nozzle with deflection angle, required flowrate 72.0 l/min. at 7 bar, threading 1/2" male.

Model: **LB 2 6.5**



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Technical data

Spray nozzle		Flowrate (l/min.) at the pressure of (bar)								
Orifice (mm)	Size	1	1.5	2	3	4	5	6	7	10
2	2 – 3	2.3	2.8	3.2	3.9	4.5	5.0	5.5	6.0	7.1
2.5	2 – 3	3.5	4.2	5.0	6.0	7.0	7.8	8.5	9.2	11.0
3.0	2 – 3	4.8	5.8	6.7	8.1	9.3	10.3	11.3	12.2	14.5
3.5	2 – 3	6.7	8.2	9.5	11.5	13.3	14.9	16.4	17.6	20.5
4.0	2 – 3	9.0	11.1	12.8	15.6	18.1	20.0	22.0	24.0	29.0
4.5	2 – 3	11.5	14.0	16.2	19.8	23.0	25.0	28.0	30.0	36.0
5.0	2 – 3	15.8	19.3	22.0	27.0	32.0	35.0	39.0	42.0	50.0
5.5	2 – 3	18.0	22.0	25.0	30.0	36.0	40.0	44.0	48.0	57.0
6.0	2 – 3	23.0	28.0	32.0	39.0	45.0	50.0	55.0	60.0	71.0
6.5	2 – 3	27.0	33.0	38.0	47.0	54.0	61.0	66.0	72.0	86.0
7.0	2 – 3	31.0	38.0	44.0	55.0	63.0	72.0	77.0	84.0	91.0
8.0	2 – 3	41.0	50.0	57.0	70.0	81.0	92.0	103.0	112.0	130.0
9.0	2 – 3	52.0	64.0	74.0	91.0	105.0	117.0	129.0	140.0	165.0
10.0	2 - 3	64.0	78.0	88.0	110.0	126.0	139.0	152.0	165.0	200.0
12.0	2 – 3	95.0	116.0	134.0	164.0	190.0	214.0	236.0	255.0	290.0