

BYPASS

INDUSTRIAL SPRAY NOZZLES - SPECIAL PURPOSE

Delavan's Bypass nozzle has won an Honours Award in the Vaaler Awards competition held by Chemical Processing magazine. The product was judged as a major contribution toward more efficient and effective operation of plants in chemical processing industries.

APPLICATION

- *Evaporative cooling, chemical processing.*

FEATURES

- *Flow rate is changed by means of a bypass valve without varying the supply pressure of using atomizing air or gas. (See flow diagram).*
- *Reduces the number of nozzles needed when gas inlet temperatures vary.*
- *In a bypass system, a portion of the input liquid may be diverted through a return line by means of a bypass valve. As the valve is opened, the total input flow increases. Delavan's Bypass nozzle's patented design minimizes this flow growth to avoid excessive pumping requirements and hydraulic power consumption. The input flow increase (when bypass valve is opened) can be as low as 15%.*
- *Nozzle can be located in high temperature zone and connected by concentric piping to adaptor in cool area.*

SPRAY CHARACTERISTICS

- *Hollow cone spray pattern.*
- *"Turndown" refers to the ratio of the maximum discharge (bypass valve closed) to the minimum flow (bypass valve open) while maintaining satisfactory quality. Between these flow limits, there are no large fluctuations in spray angle or droplet size.*
- *The quality of atomization depends on nozzle capacity, turndown rating, and specific operating conditions. For example, a nozzle will produce finer droplets when the inlet pressure is higher than 42 Bar.G., and vice versa.*

CONSTRUCTION AND MATERIALS

- *Large passages, to minimize restriction and to avoid clogging.*
- *Nozzle cap and body easily removed from adaptor.*
- *Available in 316 L Stainless Steel only.*

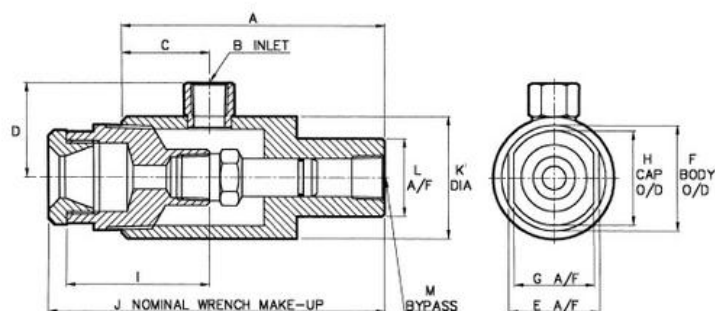
ORDER EXAMPLE



CAPACITY CHARTS

DIMENSIONS

Dimensions (mm)	Nozzle and Adaptor	
	35051/35054	38635/38640
A	120.6	90.1
B (Thds)	1/2" -14 NPTF	1/4" -18 NPTF
C	58.4	38.1
D	39.6	32.6
E (Flats)	22.2	19.1
F	26.7	21.3
G	19.1	15.9
H	21.9	18.8
I	54	38.1
J	142.7	105.8
K	41.3	28.6
L	31.7	19.1
M	1/2" -14 NPTF	1/4" -18 NPTF



WEIGHT

Part	Part Number	Weight (g)
Nozzle	35051-	150
	38635-	79
Adaptor	35054	992
	38640	360

CAPACITY CHART

NOZZLE ASSEMBLY PART NUMBER	ADAPTOR PART NUMBER	FLOW RATE IN LITRES/MIN AT 42 Bar.G.		TURN DOWN RATIO	SPRAY ANGLE (°)	NOZZLE BODY PART NUMBER	NOZZLE CAP PART NUMBER
		MAXIMUM	MINIMUM				
35051-2	35054	26.5	2.19	12:1	80	35052-2	25053-2
35051-9	35054	26.5	2.65	10:1	85	35052-6	25053-7
35051-7	35054	18.9	1.21	15:1	80	37701-2	37702-2
35051-8	35054	18.9	1.89	10:1	85	37701-3	35053-6
38635-1	38640	11.3	.76	15:1	80	38636-1	38637-1
38635-3	38640	11.3	1.13	10:1	75	38636-3	38637-3