

OIL BURNER NOZZLES

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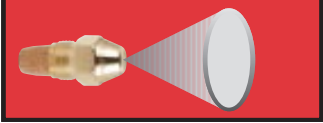
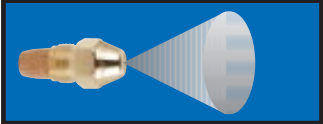
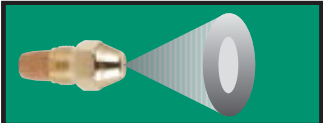
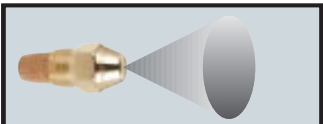
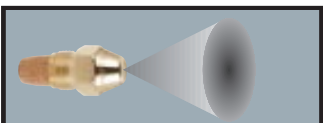

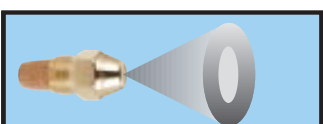
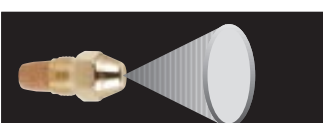

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OIL BURNER NOZZLES

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DELAVAN OIL BURNER NOZZLES

A VARIETY OF NOZZLES THAT SUITS EVERY APPLICATION

	A Red Vial	HOLLOW-CONE Type A-nozzles are mainly used on burners with a hollow cone air pattern and for through puts up to 2.00 GPH. The droplet distribution is concentrated on the outside of the cone and results in good ignition and low-noise combustion.
	B Blue Vial	SOLID-CONE Type B-nozzles produce a spray that distributes droplets fairly uniformly throughout the complete pattern. The spray pattern becomes progressively more hollow at higher flow rates, particularly above 8.00 GPH. Provides smooth ignition and efficient combustion, particularly in larger burners.
	W Green Vial	Type W "ALL PURPOSE" -nozzles are neither truly hollow nor solid. These nozzles frequently can be used in place of either solid or hollow cone nozzles between 0.40 and 8.00 GPH, regardless of the burner's air pattern. The lower flow rates tend to be more solid.
	AR-D Light Grey Vial	Type AR-D Nozzles are of a "solid cone" type similar to Type B but with a slightly lower concentration of the droplets in the center of the cone. They are high performance in burners of low up to medium capacity (up to flows of 2.00 GPH).
	R-D Dark Grey Vial	Type R-D Nozzles have a high concentration of droplets in the center of the spray cone. They are particularly recommended for burners with a highly concentrated solid air pattern. The average droplet size is slightly coarser than on the Standard Solid Cone Type B.
	MH Orange Vial	Type .579 MH Mobile Home Nozzles are low-capacity nozzles designed for mobile home use. This design will minimize the usual plugging problems associated with low flow rates.
	SS Powder Blue Vial	Semi-Solid nozzle (.50-2.00) 60°, 70°, and 80° spray angles; interchanges with other SS nozzles.
	A Black Vial	Del-O-Flo™ nozzles are low-capacity nozzles designed to minimize the plugging problems associated with very low flow rates. The special interior design of the Del-O-Flo™ flushes contaminants through, limiting build-up. These nozzles will satisfactorily interchange with other hollow and solid cone nozzles. The Del-O-Flo™ is available in 0.40 GPH up to 0.85 GPH.
	B Yellow Vial	

OIL BURNER NOZZLES

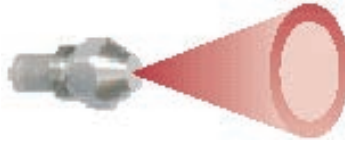
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HAGO OIL BURNER NOZZLES

H – HOLLOW CONE – RED CAPS

This series distributes the atomized oil particles evenly toward the outside of the spray cone. These nozzles are particularly well suited for low firing rates and burners with hollow air pattern. Normally used in wider spray angles.

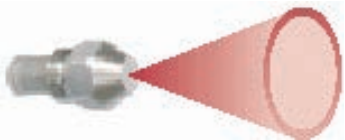
SPRAY ANGLES	FLOW RATE RANGE
30°	.65 - 9.00 GPH
45°	.40 - 9.00 GPH
60°	.40 - 9.00 GPH
70°	.40 - 9.00 GPH
80°	.40 - 9.00 GPH
90°	.50 - 9.00 GPH



EH – EXTRA HOLLOW CONE – RED CAPS

This type "EH" is an extension of our hollow cone series. Available from 4.00 GPH through 30.00 GPH. It is specified in many commercial applications.

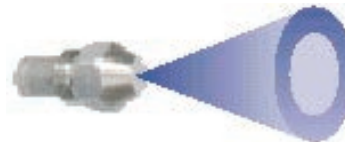
SPRAY ANGLES	FLOW RATE RANGE
45°	4.00 - 30.00 GPH
70°	4.00 - 30.00 GPH



S-S – SEMI SOLID CONE – BLUE CAPS

Most suitable for general applications where exact air pattern or spray pattern requirements can't be established. Droplet distribution is relatively even across spray cone in smaller flow rates, but becomes more hollow as flow rates increase.

SPRAY ANGLES	FLOW RATE RANGE
30°	.65 - 20.00 GPH
45°	.40 - 35.00 GPH
60°	.40 - 35.00 GPH
70°	.40 - 35.00 GPH
80°	.40 - 35.00 GPH
90°	.50 - 20.00 GPH



B – SOLID CONE – BLACK CAPS

Designed to give optimum combustion efficiency on high static pressure flame retention burners which specify a "B" pattern. As compared to the "ES" pattern, somewhat more fuel is concentrated towards the center of the spray.

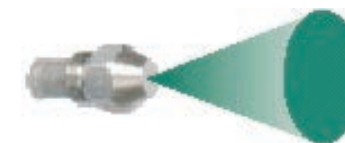
SPRAY ANGLES	FLOW RATE RANGE
30°	.40 - 2.00 GPH
45°	.40 - 2.00 GPH
60°	.40 - 2.00 GPH
70°	.40 - 2.00 GPH
80°	.40 - 2.00 GPH
90°	.40 - 2.00 GPH



ES – SOLID CONE – GREEN CAPS

Our original solid cone series for low flow rates. Available for applications specifying a solid "ES" pattern.

SPRAY ANGLES	FLOW RATE RANGE
30°	.40 - 1.75 GPH
45°	.40 - 1.75 GPH
60°	.40 - 1.75 GPH
70°	.40 - 1.75 GPH
80°	.40 - 1.75 GPH



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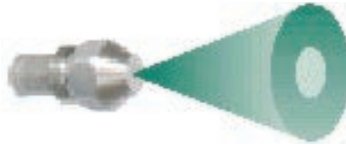
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HAGO OIL BURNER NOZZLES (cont'd)

P – SOLID CONE – GREEN CAPS

The "P" type is an extension of our "B" and "ES" series for firing rates of 2.00 GPH and above. It produces a solid cone pattern in the low rates and becomes more hollow as the flow rate increases. Specially designed with a pocketed disc to reduce combustion noises and pulsation.

SPRAY ANGLES	FLOW RATE RANGE
30°	2 - 15.00 GPH
45°	2 - 15.00 GPH
60°	2 - 15.00 GPH
70°	2 - 15.00 GPH
80°	2 - 15.00 GPH



LC – LARGE CAPACITY – BLUE CAPS

These nozzles are uniquely designed for outstanding combustion in large commercial burners. They have large internal passageways to accommodate high flow rates. They produce a semi-solid "universal" pattern.

SPRAY ANGLES	FLOW RATE RANGE
45°	35 - 120.00 GPH
60°	35 - 120.00 GPH
80°	35 - 120.00 GPH



W – UNIVERSAL NOZZLE – ORANGE CAPS

For installations where the use of a defined hollow or solid nozzle does not provide the combustion result desired.

SPRAY ANGLES	FLOW RATE RANGE
30°	.65 - 8.00 GPH
45°	.40 - 8.00 GPH
60°	.40 - 8.00 GPH
70°	.40 - 8.00 GPH
80°	.40 - 8.00 GPH
90°	.50 - 8.00 GPH



DFN – DUAL FILTRATION – WHITE CAPS

Available in hollow (DFN-H) and solid cone (DFN-B) patterns, the DFN nozzles give enhanced protection against clogging in the very low rates.

SPRAY ANGLES	FLOW RATE RANGE
45°	.30 - 1.00 GPH
60°	.30 - 1.00 GPH
70°	.30 - 1.00 GPH
80°	.30 - 1.00 GPH



SIPHON NOZZLE – GREY CAPS

Air atomizing nozzle for the combustion of waste oil and other variable waste oil products.

SPRAY ANGLES	FLOW RATE RANGE
3PSIG-Air	.20 - 1.00 GPH
4PSIG-Air	.20 - 1.00 GPH
5PSIG-Air	.30 - 1.00 GPH



OIL BURNER NOZZLES

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DELANVAN AVAILABLE NOZZLE SIZES

OIL BURNER NOZZLES FOR RESIDENTIAL APPLICATIONS

Types A and B						
GPH	30°	45°	60°	70°	80°	90°
.40	N/A					
.50	S/O					
.55	S/O					
.60	S/O					
.65	S/O					
.70	S/O					
.75	S/O					
.80	S/O					
.85	S/O					
.90	S/O					
1.00	S/O					
1.10	S/O					
1.20	S/O					
1.25	S/O					
1.35	S/O					
1.50	S/O					
1.65	S/O					
1.75	S/O					
2.00	S/O					
2.25	S/O					
2.50	S/O					
2.75	S/O					
3.00	S/O					
3.25	S/O					
3.50	S/O					
4.00	S/O					
4.50	S/O					
5.00	S/O					
5.50	S/O					
6.00	S/O					
6.50	S/O					
7.00	S/O					
7.50	S/O					
8.00	S/O					
8.50	S/O					
9.00	S/O					
10.00	S/O					
11.00	S/O					
12.00	S/O					
13.00	S/O					
14.00	S/O					
15.00	S/O					
16.00	N/A					
17.00	N/A					
18.00	N/A					
19.00	N/A					
20.00	N/A					
22.00	N/A	S/O	S/O	S/O	S/O	S/O
24.00	N/A	S/O	S/O	S/O	S/O	S/O
26.00	N/A	S/O	S/O	S/O	S/O	S/O
28.00	N/A	S/O	S/O	S/O	S/O	S/O
30.00	N/A	S/O	S/O	S/O	S/O	S/O
32.00	N/A	S/O	S/O	S/O	S/O	S/O
35.00	N/A	S/O	S/O	S/O	S/O	S/O
40.00	N/A	S/O	S/O	S/O	S/O	S/O
45.00	N/A	S/O	S/O	S/O	S/O	S/O
50.00	N/A	S/O	S/O	S/O	S/O	S/O

.579 MH Mobile Home Nozzle	
	Normally Stocked
	Limited Inventory
S/O	Special Order
N/A	Not Available

Types AR-D and RD					
GPH	45°	60°	70°	80°	90°
.50	N/A				N/A
.60	N/A				N/A
.65	N/A				N/A
.75	N/A				N/A
.85	N/A				N/A
1.00	N/A				N/A
1.10	N/A				N/A
1.20	N/A				N/A
1.25	N/A				N/A
1.35	N/A				N/A
1.50	N/A				N/A
1.65	N/A				N/A
1.75	N/A				N/A
1.75	N/A				N/A
2.00	N/A				N/A

Type SS					
GPH	45°	60°	70°	80°	90°
.50	N/A				N/A
.60	N/A				N/A
.65	N/A				N/A
.75	N/A				N/A
.85	N/A				N/A
1.00	N/A				N/A
1.10	N/A				N/A
1.20	N/A				N/A
1.25	N/A				N/A
1.35	N/A				N/A
1.50	N/A				N/A
1.65	N/A				N/A
1.75	N/A				N/A
1.75	N/A				N/A
2.00	N/A				N/A

Del-O-Flo Type A and B					
GPH	45°	60°	70°	80°	90°
.40					N/A
.50					
.55					
.60					
.65					
.75					
.80					
.85					

Type W						
GPH	30°	45°	60°	70°	80°	90°
.40	N/A					
.50	S/O					
.55	S/O					
.60	S/O					
.65	S/O					
.70	S/O					
.75	S/O					
.80	S/O					
.85	S/O					
.90	S/O					
1.00	S/O					
1.10	S/O					
1.20	S/O					
1.25	S/O					
1.35	S/O					
1.50	S/O					
1.65	S/O					
1.75	S/O					
2.00	S/O					
2.50	S/O					
2.75	S/O					
3.00	S/O					
3.25	S/O					
3.50	S/O					
4.00	S/O					
4.50	S/O					
5.00	S/O					
5.50	S/O					
6.00	S/O					
6.50	S/O					
7.00	S/O					
7.50	S/O					
8.00	S/O					

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OIL BURNER NOZZLES

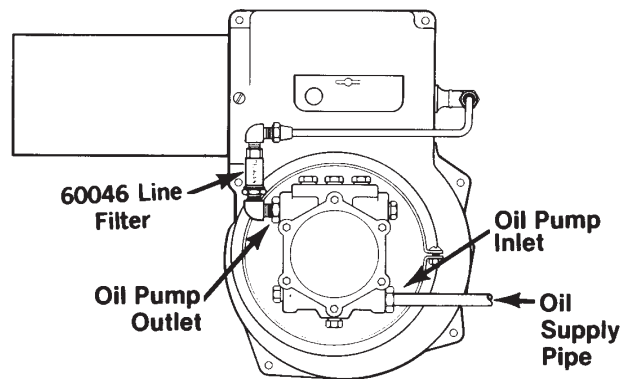
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ACCESSORIES



LINE FILTER

Use Delavan's line filter for extra filtration in burner applications of 2.00 GPH or less. These offer four times the filtering area of a standard nozzle strainer and twice the protection. A plugged line filter can cause a pressure drop. Check the pressure on the outlet side of the filter while the unit is flowing to see that it is the same as the pump pressure. If less, replace filter.



- 1/8" NPT inlet and outlet threads

Easy installation (see drawing)

NOTE: Replace the line filter during the annual service check for an economical way to maintain clear lines.



SINTERED FILTERS & STRAINERS

Nozzles up to 2.00 GPH have as standard a sintered filter. From 2.25 up to 15.00, monel filters are provided. Nozzles with through-put of 16.00 GPH and higher have no filter attached.

Type	Media/Mesh size
Sintered Filter	25 Micron
Sintered Filter	40 Micron
Mesh Strainer	74 micron/200M
Mesh Strainer	125 Micron/120M

It is recommended to use sintered filters on nozzles with low throughput.



NOZZLE ADAPTERS

All nozzle adapters are made of brass, with precision machined mating surfaces for proper sealing.

IMPORTANT specify 1/8" or 1/4" pipe thread size

All nozzle adapters 9/16-24 UNEF internal thread

Thread Size

Long (Female)	1/8" 1/4"
Standard (Female)	1/8" 1/4"
Male	3/8"

OIL BURNER NOZZLES

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ACCESSORIES (cont'd)



DISPLAY STORAGE RACKS

An attractive black plastic display and storage rack is available and will hold up 120 nozzles (12 vials in 10 slots). It is inexpensive, lightweight, and easy to mount on the wall. Holes are drilled in the rack for easy mounting. This rack is packaged two to a carton; order in multiples of two.

Also available is a metal nozzle rack that will hold more than 500 nozzles. It can be mounted flush or at an angle on a wall. Mounting brackets are furnished.



NOZZLE CHANGER: TWO IN ONE

Delavan's versatile nozzle changer passes through the small openings of the flame retention-disc. Just snap off outer socket and use the inner socket alone to remove the nozzle.

For wider openings, snap on outer socket and use like a standard nozzle changer. The nozzle changer fits the hex of the adapter (3/4"), and the nozzle hex (9/16").



TELESCOPING MIRRORS

Three types of flame inspection mirrors are available... the round (3-3/4" dia.), the rectangular (1-15/16x3-3/4") or mini (1-1/8x3"). They are furnished with handles, which telescope down to fit into a service technician's kit. A cloth bag is provided to protect the mirror finish.

Mirror Parts:

Rectangular Mirror Head Assembly
 Round Mirror Head Assembly
 Mini Mirror Head Assembly
 Swivel Bracket Assembly

Complete Mirror Assemblies:

Mini Mirror w/handle
 Round mirror w/handle
 Rectangular mirror w/handle



ADAPTRAP

A nozzle adapter designed to reduce the volume of oil in the adapter and minimize oil after drip. Specify 1/8" or 1/4" NPT pipe thread size and length.

Available in brass only.

Thread Size	Length
1/4" and 1/8"	1-5/8" and 1-3/8"

(cont'd on next page)

OIL BURNER NOZZLES

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ACCESSORIES (cont'd)



SERVICE TECHNICIAN'S KIT

This kit is designed to hold 41 nozzles and is constructed of heavy-gauge steel with carrying handle, snap latch, and removable steel tray. It is also designed to hold the following accessories:

- 1/4" test gauge (0 to 300 psi)
- Plastic containers for filters and strainers
- Nozzle changer
- Female coupling (1/4" FPTx1/4" flare)
- Half union (1/8"x1/4" flare)
- Half union (1/4"x1/4" flare)
- Tubing section and flare nuts

Kit with tray only
Kit with accessories



PRESSURE & VACUUM GAUGES

Accessories available include pressure and vacuum gauges, nozzle boxes, a display and storage rack, and telescoping mirrors.

- 1/4" Pressure Gauge
- 1/4" NPT Vacuum Gauge



NOZZLE BOXES

Delavan nozzle boxes handle all brands of nozzle vials. Our 110-nozzle and 55-nozzle boxes are made up of heavy-gauge steel with rugged hinges and snap-latch construction... finished in baked-on jet black enamel.

110 Nozzle Box -- (5" x 3-5/8" x 11-15/16")



55 Nozzle Box
(5" x 1-3/4" x 11-15/16")

OIL BURNER NOZZLES

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NOZZLES

TYPE A

ITEM #	DESCRIPTION
800160	.50 – 45°
800184	.65 – 60°
800151	.75 – 60°
800157	.85 – 60°
800154	1.25 – 60°
800159	.75 – 70°
800158	.85 – 70°
800152	.50 – 80°
800174	.60 – 80°
800163	.65 – 80°
800166	.70 – 80°
800167	.75 – 80°
800169	.80 – 80°
800153	.85 – 80°
800171	1.00 – 80°
800155	1.25 – 80°

TYPE AH

ITEM #	DESCRIPTION
800194	.65 – 80°
800195	.75 – 80°
800196	.85 – 80°
800197	1.00 – 80°

TYPE B

ITEM #	DESCRIPTION
800164	.50 – 45°
800165	.60 – 45°
800198	.85 – 45°
800149	.50 – 70°
800150	.60 – 70°
800156	.75 – 70°
800227	.85 – 70°
800161	.60 – 80°
800179	.65 – 80°
800177	.75 – 80°
800162	.85 – 80°
800206	1.00 – 80°

TYPE ES

ITEM #	DESCRIPTION
800200	.65 – 80°
800202	.70 – 80°
800204	.85 – 80°
800208	1.25 – 80°



Oil Burner Nozzle

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NOZZLES (cont'd)

TYPE H

ITEM #	DESCRIPTION
800188	.85 – 60°
800187	.75 – 70°
800190	.85 – 70°
800192	1.00 – 70°
800178	.85 – 80°
800182	1.25 – 80°

TYPE SS

ITEM #	DESCRIPTION
800220	.40 – 60°
800222	.50 – 60°
800201	.65 – 60°
800223	.50 – 80°
800225	.60 – 80°
800199	.65 – 80°
800203	.75 – 80°

TYPE W

ITEM #	DESCRIPTION
800224	.60 – 60°
800209	.65 – 60°
800210	.75 – 60°
800211	.65 – 70°
800212	.75 – 70°
800213	.85 – 70°
800214	1.00 – 70°
800215	.60 – 80°
800216	.65 – 80°
800217	.70 – 80°
800218	.75 – 80°
800207	.85 – 80°
800219	1.00 – 80°
800221	1.75 – 80°
800205	.55 – 90°



Oil Burner Nozzle

ACCESSORIES

ITEM #	MODEL	DESCRIPTION
800172	.579MH	Mobile Home Nozzle
800229	#44	Nozzle Box
707247	12275	Rectangular Mirror with Handle

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