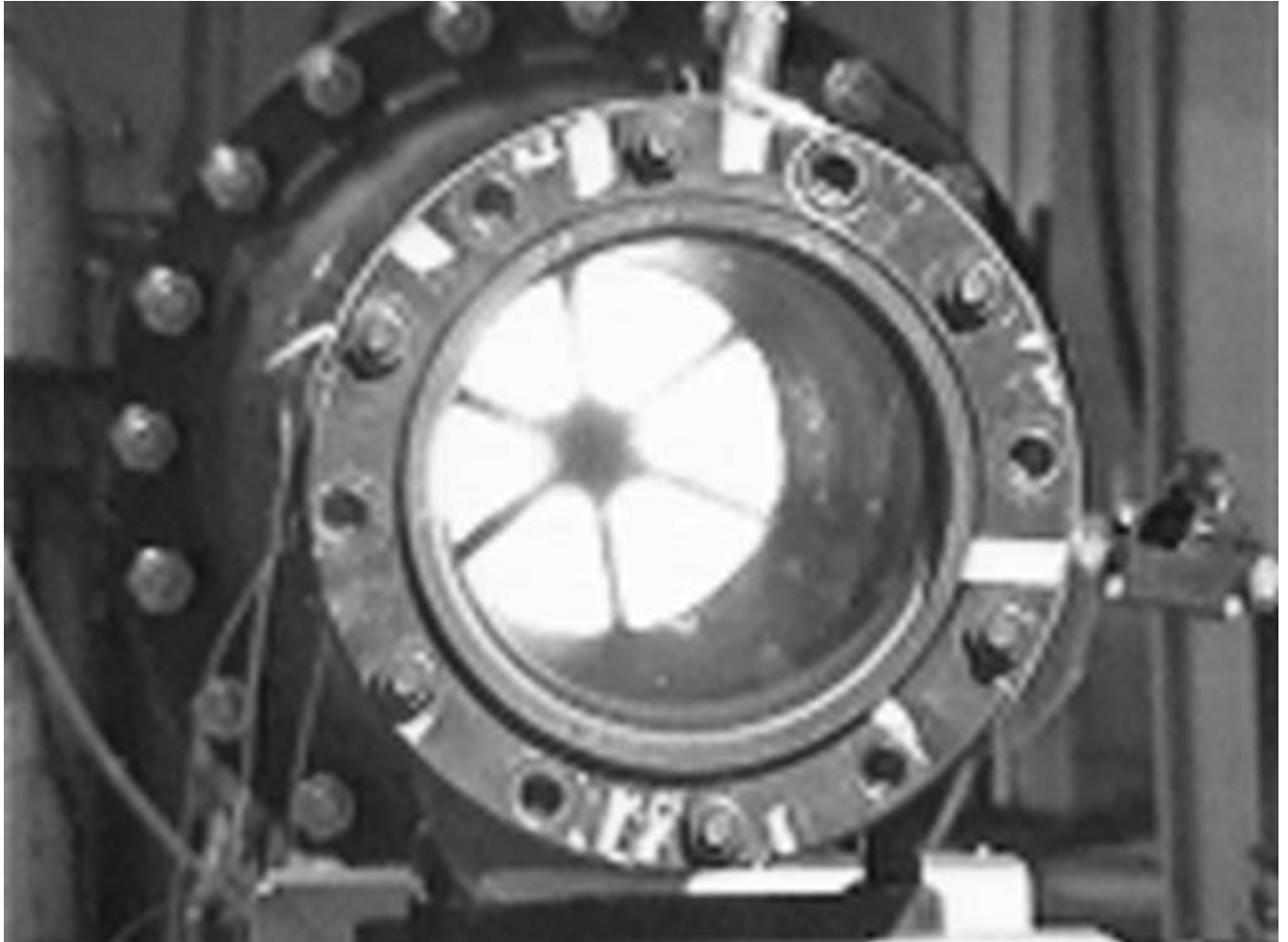


*DETONATION  
FLAME ARRESTER  
MODEL 7658A*



*Actual Video Frame*

- USCG Approved
- Successfully Tested to Procedures Approved by USCG, IMO & CSA
  - Multiple Flow Selections per Pipe Size
  - In-line Maintenance Available



**Detonation Arrester  
Test Facility**

detonation flame arresters.

To verify the function and reliability of these arresters, Groth has installed a state of the art facility, capable of performing tests under any condition of vapor

medium, system pressure and temperature, ignition and flame propagation characteristics and test specifications.

The Groth Model 7658A has been successfully tested to USCG and IMO standards for detonation flame arresters. Groth can provide additional testing under your specific operating conditions.

By utilizing multiple flame element diameters for each pipe size, an arrester can be sized to provide your required flow capacity at minimum cost.

New and innovative solutions are constantly being developed at Groth Corporation. Groth will continue to provide the best available pressure/vacuum relief and fire prevention equipment for your liquid storage and vapor handling facilities.

## **INTRODUCTION**

**GROTH CORPORATION HAS PROVIDED THE MOST RELIABLE FIRE PREVENTION EQUIPMENT SINCE 1971.**

As the industry leader in supplying fire protection equipment for liquid storage and the handling of flammable vapors, Groth Corporation has developed a complete line of deflagration and



**Actual Burn Test**

## **GROTH MODEL 7658 FEATURES & OPTIONS**

### **FEATURES**

- **Sizes 2" through 24" (2" through 12" USCG approved).**
- **Low pressure drop with multiple element sizes available for each flange size.**
- **Easy cleaning.**
- **Bi-directional flame arresting.**
- **Vertical or horizontal installation.**
- **Standard materials of construction are carbon steel or stainless steel.**

### **OPTIONS**

- **Steam ring.**
- **Large inspection and cleaning ports.**
- **Swing bolts for fast element removal.**
- **Special and exotic materials available.**
- **Testing to customer specifications available.**



*FLOW CAPACITY OF  
GROTH DETONATION FLAME ARRESTER  
MODEL 7658A*

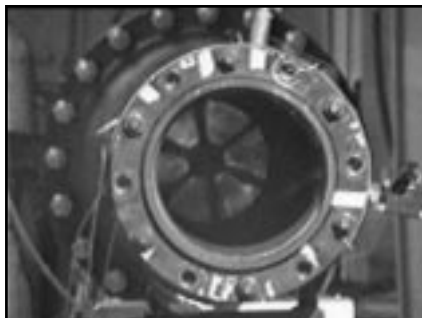
		<b>Air Flow Capacity</b> 1000 Standard Cubic Feet per Hour at 60° F														
<b>Pressure Drop [OSI] Pressure Drop [In WC]</b>		<b>0.58</b>	<b>1</b>	<b>1.16</b>	<b>1.73</b>	<b>2</b>	<b>2.31</b>	<b>3.47</b>	<b>4.62</b>	<b>5.78</b>	<b>6.93</b>	<b>9.24</b>	<b>11.6</b>	<b>13.9</b>	<b>16.0</b>	
		<b>1</b>	<b>1.73</b>	<b>2</b>	<b>3</b>	<b>3.46</b>	<b>4</b>	<b>6</b>	<b>8</b>	<b>10</b>	<b>12</b>	<b>16</b>	<b>20</b>	<b>24</b>	<b>27.7</b>	
2	5	0.63	1.08	1.24	1.82	2.08	2.39	3.46	4.48	5.45	6.37	8.11	9.72	11.2	12.6	
2	6	0.89	1.50	1.72	2.50	2.84	3.23	4.60	5.85	7.02	8.12	10.1	12.0	13.7	15.2	
2	8	1.48	2.40	2.72	3.81	4.27	4.79	6.54	8.07	9.46	10.7	13.0	15.1	17.0	18.6	
3	6	0.92	1.58	1.82	2.70	3.11	3.57	5.27	6.90	8.49	10.0	13.0	15.8	18.5	20.9	
3	8	1.61	2.73	3.14	4.60	5.25	6.00	8.66	11.1	13.5	15.7	19.9	23.7	27.3	30.4	
3	10	2.43	4.05	4.63	6.64	7.52	8.52	11.9	15.0	17.9	20.5	25.4	29.7	33.7	37.2	
3	12	3.32	5.40	6.11	8.57	9.61	10.8	14.7	18.2	21.3	24.1	29.3	33.9	38.2	41.8	
<b>NOMINAL PIPE SIZE</b>	4	8	1.63	2.81	3.23	4.81	5.52	6.35	9.36	12.3	15.1	17.8	23.1	28.1	32.9	37.2
	4	10	2.52	4.30	4.95	7.29	8.34	9.55	13.9	17.9	21.8	25.5	32.4	38.9	44.9	50.2
	4	12	3.57	6.01	6.88	9.99	11.4	12.9	18.4	23.4	28.1	32.5	40.5	47.9	54.7	60.7
	4	16	5.91	9.60	10.9	15.2	17.1	19.2	26.1	32.3	37.8	42.9	52.1	60.3	67.8	74.3
	6	12	3.67	6.31	7.3	10.8	12.4	14.3	21.1	27.6	34.0	40.2	52.0	63.3	74.1	83.7
	6	16	6.43	10.9	12.5	18.4	21.0	24.0	34.6	44.6	53.9	62.8	79.4	94.8	109	122
	6	20	9.72	16.2	18.5	26.6	30.1	34.1	47.8	60.1	71.5	82.1	101	119	135	149
	6	24	13.3	21.6	24.5	34.3	38.4	43.1	58.8	72.6	85.1	96.6	117	136	153	167
	8	16	6.53	11.2	12.9	19.2	22.1	25.4	37.4	49.1	60.4	71.4	92.5	113	132	149
	8	20	10.1	17.2	19.8	29.1	33.3	38.2	55.4	71.7	87.2	102	130	156	180	201
	8	24	14.3	24.0	27.5	40.0	45.4	51.7	73.6	93.6	112	130	162	192	219	243
	8	30	21.2	34.9	39.6	56.0	63.0	70.9	97.7	121	143	163	199	231	261	286
	10	20	10.2	17.5	20.2	30.0	34.5	39.7	58.5	76.7	94.4	112	145	176	206	233
	10	24	14.6	24.9	28.7	42.3	48.4	55.5	80.9	105	128	150	191	230	267	299
	10	30	22.3	37.5	43.0	62.4	71.0	80.8	115	146	175	203	253	299	342	379
	10	42	39.9	64.3	72.7	101	113	126	171	210	246	278	336	388	435	476
12	24	14.7	25.2	29.1	43.3	49.7	57.2	84.2	110	136	161	208	253	297	335	
12	36	32.1	54.1	61.9	89.9	102	116	166	211	253	292	365	431	493	546	
12	42	42.4	70.3	80.1	114	129	146	203	254	301	345	424	495	560	616	
12	48	53.2	86.4	97.8	137	154	172	235	291	340	386	469	543	610	668	

Note: Contact factory for flow on other sizes.

**Video Sequence of Detonation Testing**



*Pre-ignition*



*Ignition*



*Confined Deflagration*

*METRIC*

*FLOW CAPACITY OF  
GROTH DETONATION FLAME ARRESTER  
MODEL 7658A*

		Air Flow Capacity Cubic Meters per Hour at 0° C															
Pressure Drop [mm WC] Pressure Drop [mbar]		20.4 2	40.7 4	61.1 6	81.5 8	102 10	153 15	204 20	255 25	306 30	356 35	407 40	509 50	611 60	713 70		
2	5	14.8	29.2	43.1	56.6	69.8	101	131	159	186	212	237	284	328	370		
2	6	21.0	40.8	59.5	77.4	94.5	134	171	205	237	267	296	350	400	446		
2	8	35.2	65.6	92.6	117	140	191	236	276	313	348	380	440	495	546		
3	6	21.5	42.7	63.6	84.2	104	154	202	248	293	337	380	463	542	617		
3	8	37.8	74.1	109	143	175	253	326	394	459	521	580	692	797	895		
3	10	57.5	110	159	205	249	349	439	522	599	672	740	868	985	1094		
3	12	79.3	148	208	264	315	430	530	621	705	783	856	991	1114	1228		
NOMINAL PIPE SIZE	NOMINAL ELEMENT DIAMETER	4	8	38.3	76.0	113	150	186	274	359	441	522	600	676	822	963	1097
		4	10	59.3	117	172	226	279	405	524	637	745	848	947	1136	1313	1480
		4	12	84.0	163	238	310	378	537	684	820	948	1069	1184	1400	1599	1785
		4	16	141	262	370	469	560	764	943	1105	1254	1392	1522	1762	1980	2183
		6	12	86.1	171	254	337	418	616	807	993	1174	1349	1520	1851	2166	2469
		6	16	151	296	436	571	702	1012	1302	1576	1836	2083	2321	2768	3186	3579
		6	20	230	441	637	821	996	1396	1757	2089	2398	2688	2962	3472	3940	4377
		6	24	317	590	833	1055	1260	1718	2121	2486	2820	3132	3424	3964	4456	4911
		8	16	153	304	452	599	743	1095	1435	1766	2086	2399	2703	3290	3851	4390
		8	20	237	467	689	906	1116	1620	2096	2548	2979	3392	3790	4544	5251	5920
8	24	336	653	953	1238	1512	2150	2736	3282	3794	4278	4738	5599	6395	7140		
8	30	505	950	1354	1726	2072	2854	3548	4178	4760	5302	5813	6756	7619	8419		
10	20	239	475	707	935	1161	1710	2243	2759	3260	3748	4223	5141	6017	6859		
10	24	342	675	999	1314	1623	2363	3067	3738	4381	4999	5594	6728	7795	8807		
10	30	525	1020	1488	1935	2362	3359	4276	5128	5928	6684	7403	8748	9993	11157		
10	42	955	1759	2467	3107	3695	5003	6146	7176	8119	8996	9817	11331	12710	13984		
12	24	344	684	1018	1347	1671	2463	3229	3972	4695	5397	6082	7402	8665	9877		
12	36	756	1468	2143	2786	3401	4837	6157	7384	8536	9625	10660	12597	14390	16066		
12	42	1005	1914	2751	3530	4262	5931	7428	8796	10064	11252	12372	14450	16355	18125		
12	48	1268	2360	3333	4220	5039	6873	8486	9943	11282	12528	13697	15855	17824	19646		

Note: Contact factory for flow on other sizes.



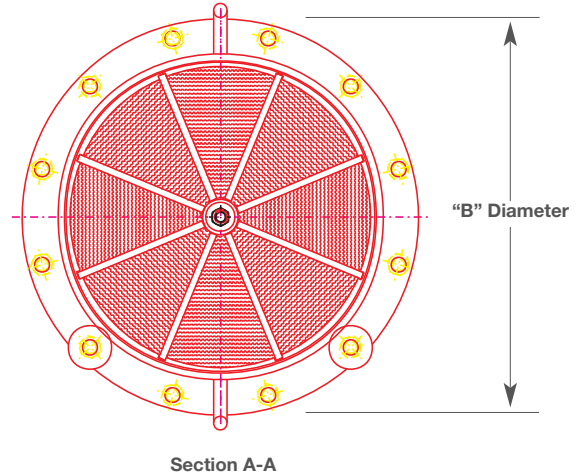
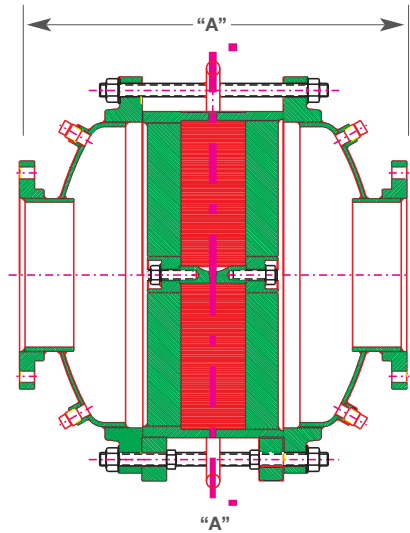
*Detonation*



*Arrested*



*Pressure Wave*



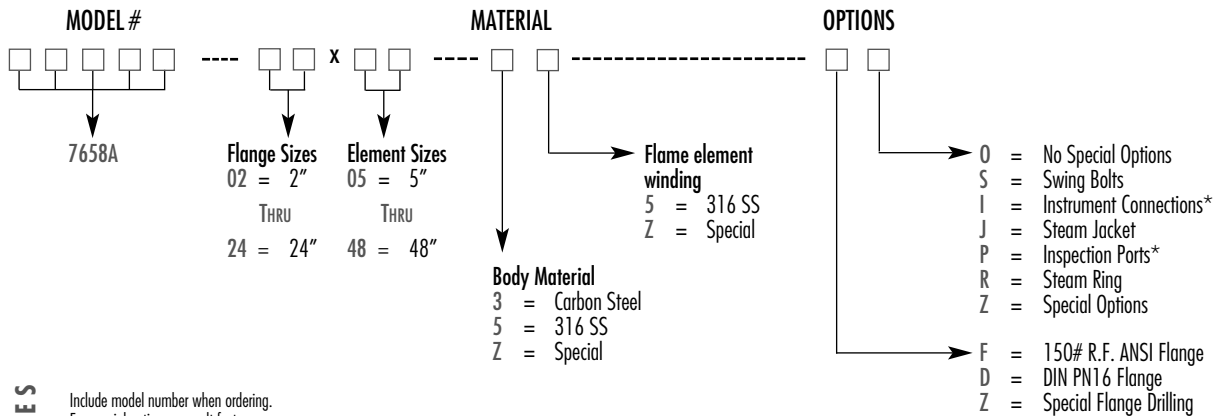
**SPECIFICATION TABLE • MODEL 7658A**

Specifications subject to change without notice. Certified dimensions available upon request.

SIZE *	2"x5"	3"x6"	4"x8"	6"x12"	8"x16"	10"x20"	12"x24"
	(50 mm)	(80 mm)	(100 mm)	(150 mm)	(200 mm)	(250 mm)	(300 mm)
"A" Length (metric)	17.19 (437)	20.31 (516)	22.43 (570)	25.75 (654)	29.63 (753)	32.43 (824)	38.19 (970)
"B" Diameter (metric)	9.00 (229)	11.00 (279)	13.50 (343)	19.00 (483)	23.50 (597)	27.50 (699)	32.00 (813)
Estimated Weight (metric)	100 (45 kg)	225 (102 kg)	350 (159 kg)	625 (284 kg)	1200 (545 kg)	1500 (682 kg)	1800 (818 kg)

\* Larger sizes available on special application. All units with ANSI 150 RF flanges standard. (other flange drillings available)

**HOW TO ORDER  
FOR EASY ORDERING, SELECT PROPER MODEL NUMBER**



**NOTES**

Include model number when ordering.  
For special options, consult factory.  
When ordering steam jacket, include steam pressure/temperature.  
See flow table for available sizes.

\* Customer specified size

**EXAMPLE**

7 6 5 8 A — 0 3 x 0 6 — 3 5 — F 0

Indicates a 3" Model 7658A with Carbon Steel body, 316 SS Flame Element, ANSI Flanged Outlet and no other options.

**GROTH IS COMMITTED TO THE TOTAL  
QUALITY IMPROVEMENT PROCESS**

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