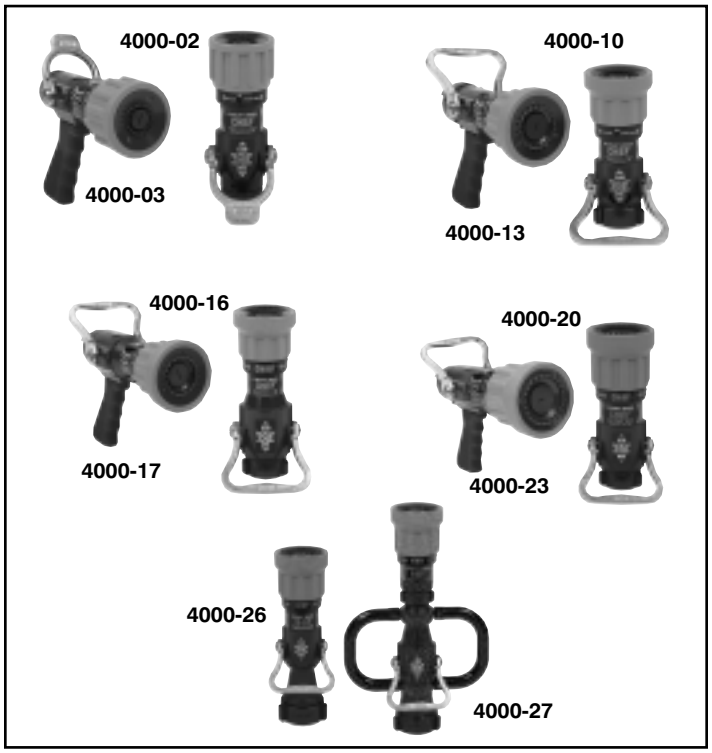
ELKHART BRASS
OPERATING & MAINTENANCE INSTRUCTIONS

CHIEF® NOZZLES
4000-02, 03 / 4000-10, 13, 14 / 4000-16, 17
4000-20, 23, 24, 26



The **Chief** series of handline nozzles is of constant (fixed) gallonage design and available in standard pressure (100 psi) flows or low pressure (50 or 75 psi) flows. The constant flow feature maintains the same flow rate throughout the stream pattern selection, i.e., straight stream through wide fog. This makes the **Chief** series ideal for use with foam eductors and for the application of AFFF or Class A foams

These nozzles are constructed of durable, lightweight Elk-O-Lite and are designed to give you many years of trouble-free service. All **Chief** nozzles comply with the requirements of NFPA 1964, Standard for Spray Nozzles (Shutoff and Tip), 1998 Edition, as applicable to constant gallonage spray nozzles.

SHUTOFF

The ball shutoff portion of all **Chief** nozzles features double handle stops and high-strength, aluminum/bronze cast handles for rugged dependability. The horseshoe handle is large enough to allow operation with a gloved hand, while the tab handle, although smaller, is less bulky yet easy to grip. Both handles are easy to operate.

The hydraulically balanced acetal ball within the shutoff allows for easy operation of open and close. By allowing water to flow over and under the ball, the cutaway ball design practically eliminates accidental shutdown. Teflon impregnated neoprene seats give the "self-healing" advantage of soft rubber plus a lubricated surface to prevent the ball from sticking shut. These seats may be adjusted without dismantling the entire shutoff. Refer to the parts drawing for adjustment and replacement of seats.

TIP

This portion of the **Chief** nozzle is protected by a heavy-duty urethane bumper and controls the stream pattern selection and the flush mechanism. To change from fog to straight stream, rotate the tip to the right. To change to fog or flush, rotate the tip to the left.

The tip features a fully machined waterway for greater flow efficiency and less turbulence for superior stream pattern. The two-piece, floating stem is designed to prevent damage to the stem head if the nozzle is dropped on the tip. The stem head is also stamped with the rated flow and pressure. For example:

GPM	125	30	185	250	325
psi	75		75	50	

If nothing appears on bottom line, flow is rated at 100 psi.

These stem heads can readily be changed in the field. Also, the acetal spinning teeth or the optional molded urethane teeth located in the tip can easily be removed and replaced.

FLUSH

Many water supplies contain rust and debris which can get trapped inside the nozzle. This will cause poor stream quality and reduced water flow capabilities. When this occurs, with water still flowing, the firefighter needs only to rotate the nozzle tip to the left (past wide fog) as far as it will go. At this point the tip is in flush position and will pass foreign material. Once the debris is flushed, the tip can be turned back to original stream selection for normal operations. If the debris is too large to flush, you may have to shut down the hose line and remove the nozzle. The debris can then be removed from the base of the nozzle or from around the stem head.

OPERATIONS

The **Chief** series is engineered to operate at optimum when supplied with 50, 75 or 100 psi at the nozzle base. Higher and lower pressures will affect the quality and reach of the stream. Engine pressure (E.P.) should be set to provide required nozzle pressure (N.P.), plus the friction loss of the hose (F.L.), plus any appliance loss (A.L.), plus any elevation loss (E.L.).

$$E.P. = N.P. + F.L. + A.L. + E.L.$$

CAUTION

Care should be taken when opening and closing any ball shutoff. Rapid closure and/or opening may cause "water hammer" or pressure surge which could cause injury or damage to equipment.

MAINTENANCE AND CARE

The **Chief** series of nozzles is designed and manufactured to give you years of trouble-free service. Since the nozzle is the firefighter's first line of defense against the fire, it should be treated with care. It is not designed as a battering ram, sledge hammer or forcible entry tool.

EB-98014

Weekly visual inspections and monthly operational checks should ensure excellent reliability. These inspections may be done daily in busy companies. All nozzles should be flow tested before entering any hazardous environment to ensure equipment is operating properly.

If the nozzle tip becomes hard to rotate (change patterns), remove tip from nozzle and clean acme threads between the tip and nozzle body. Should lubrication be needed, Elkhart recommends a silicone based lubricant (Dow-Corning #7 or equivalent). Use lubricant sparingly. Excess grease will attract dirt and grit and can cause interference between close-fitting parts.

With a minimum amount of care your **Chief** will give you years of excellent service. If you have any further questions pertaining to these nozzles, please feel free to call on us at any time. Thank you for choosing Elkhart for your fire suppression needs!

Catalog Number	G.P.M.	Stream Setting	Discharge in U.S. G.P.M. Nozzle Pressure psi 40	50	75	100	125	150	175	200	Effective Reach in Feet Nozzle Pressure psi 40	50	75	100	125	150	175	200
		SS									-	48	56	58	61	63	65	66
	15	Narrow Fog	9	11	12	15	17	18	20	22	-	20	22	34	26	28	31	32
		Wide Fog									-	11	14	15	17	19	21	22
		SS									-	65	70	61	85	90	91	92
4000-01	30	Narrow Fog	20	22	26	30	34	37	39	41	-	30	35	41	44	47	48	49
4000-02		Wide Fog									-	15	16	19	21	23	25	26
4000-03		SS									-	69	75	85	91	96	98	101
	45	Narrow Fog	32	35	40	45	49	52	56	58	-	32	37	44	46	48	50	51
		Wide Fog									-	17	18	21	23	25	26	28
		SS									-	74	85	94	100	104	109	113
	60	Narrow Fog	39	43	52	60	66	72	78	84	-	39	41	45	50	54	58	62
		Wide Fog									-	28	30	36	40	42	47	55
		SS									69	76	89	96	104	110	115	124
	60	Narrow Fog	38	43	51	60	68	76	-	-	38	41	44	49	55	61	66	71
4000-10		Wide Fog									31	33	35	41	43	47	51	58
4000-11		SS									77	86	101	111	118	126	130	138
4000-12	95	Narrow Fog	63	68	83	95	107	115	-	-	40	41	46	55	59	64	67	70
4000-13		Wide Fog									29	30	33	36	40	44	47	51
4000-14		SS									78	86	103	113	121	128	138	146
4000-15	125	Narrow Fog	82	91	110	125	140	153	-	-	44	48	55	62	67	71	77	84
		Wide Fog									32	36	39	44	49	52	56	59
		SS									80	89	108	124	138	148	156	162
	150	Narrow Fog	97	107	132	150	169	182	-	-	46	51	53	56	58	60	62	64
		Wide Fog									34	37	43	46	48	51	52	55
4000-20		SS									88	98	114	126	141	152	-	-
4000-21	175	Narrow Fog	111	124	150	175	192	210	-	-	47	51	59	69	76	81	-	-
4000-23		Wide Fog									32	34	36	39	44	48	-	-
4000-24		SS									91	102	118	136	152	164	-	-
4000-25	250	Narrow Fog	172	192	230	256	290	320	-	-	53	56	62	75	79	83	-	-
4000-26		Wide Fog									35	40	43	47	51	54	-	-
4000-27		SS									97	108	126	142	160	173	-	-
4000-28	325	Narrow Fog	220	240	289	325	362	398	-	-	57	61	67	70	86	89	-	-
4000-29		Wide Fog									39	43	47	52	55	59	-	-

LOW PRESSURE MODELS

Catalog Number	G.P.M.	Stream Setting	Discharge in U.S. G.P.M. Nozzle Pressure psi 40	50	75	100	125	150	175	200	Effective Reach in Feet Nozzle Pressure psi 40	50	75	100	125	150	175	200
4000-10	150	SS									82	91	110	126	140	150	-	-
4000-11	@	Narrow Fog	110	122	150	173	194	212	-	-	47	52	54	57	59	61	-	-
4000-12	75 psi	Wide Fog									34	37	43	46	48	51	-	-
4000-13																		
	125	SS									79	88	106	122	135	145	-	-
	@	Narrow Fog	91	102	125	144	161	176	-	-	45	50	52	55	57	59	-	-
	75 psi	Wide Fog									34	37	43	46	48	51	-	-
	150	SS									82	91	110	126	140	150	-	-
4000-14	@	Narrow Fog	110	122	150	173	194	212	-	-	47	52	54	57	59	61	-	-
4000-16	75 psi	Wide Fog									34	37	43	46	48	51	-	-
4000-17	175	SS									85	94	113	130	-	-	-	-
	@	Narrow Fog	128	143	175	202	-	-	-	-	49	54	56	59	-	-	-	-
	75 psi	Wide Fog									35	38	44	47	-	-	-	-
	150	SS									87	96	115	133	-	-	-	-
	@	Narrow Fog	134	150	184	212	-	-	-	-	50	55	57	60	-	-	-	-
	50 psi	Wide Fog									35	38	44	47	-	-	-	-
	185	SS									89	100	115	130	145	155	-	-
4000-20	@	Narrow Fog	135	151	185	214	239	262	-	-	50	53	60	72	77	82	-	-
4000-21	75 psi	Wide Fog									33	35	39	43	47	51	-	-
4000-22	200	SS									91	101	117	132	148	159	-	-
4000-23	@	Narrow Fog	146	163	200	231	258	283	-	-	51	54	61	73	78	83	-	-
4000-24	75 psi	Wide Fog									34	36	40	44	48	52	-	-
4000-25	250	SS									93	103	118	137	154	165	-	-
4000-26	@	Narrow Fog	183	204	250	289	323	353	-	-	54	57	64	75	80	84	-	-
4000-27	75 psi	Wide Fog									36	40	44	47	52	55	-	-
4000-28	300	SS									97	108	126	142	-	-	-	-
4000-29	@	Narrow Fog	219	245	300	346	-	-	-	-	57	61	67	77	-	-	-	-
4000-31	75 psi	Wide Fog									39	43	47	52	-	-	-	-
4000-35	250	SS									98	109	127	144	-	-	-	-
	@	Narrow Fog	224	250	306	353	-	-	-	-	57	61	67	77	-	-	-	-
	50 psi	Wide Fog									39	43	47	52	-	-	-	-

ELKHART BRASS MFG. CO., INC. • 1302 West Beardsley • P.O. Box 1127 • Elkhart, Indiana 46515 • Phone: (800) 346-0250
Fax: (219) 293-9914 • Website: www.elkhartbrass.com • e-mail: info@elkhartbrass.com