

# Nozzle Flow Chart (Theoretical) for NLB 0° Sapphire Orifice Nozzle Inserts - GPM (LPM)

## BN3539-XX, BN-10095-XX and BM27289-XX

Nozzle No.	Pressure PSI (BAR)							
	20,000 (1,400)	22,000 (1,520)	24,000 (1,680)	25,000 (1,725)	26,000 (1,800)	28,000 (1,930)	30,000 (2,070)	32,000 (2,210)
-6	0.11 (0.42)	0.11 (0.42)	0.12 (0.45)	0.12 (0.45)	0.12 (0.45)	0.13 (0.49)	0.13 (0.49)	0.14 (0.53)
-7	0.15 (0.57)	0.15 (0.57)	0.16 (0.61)	0.17 (0.64)	0.17 (0.64)	0.17 (0.64)	0.18 (0.68)	0.19 (0.72)
-8	0.19 (0.72)	0.20 (0.76)	0.21 (0.79)	0.22 (0.83)	0.22 (0.83)	0.23 (0.87)	0.24 (0.91)	0.24 (0.91)
-9	0.24 (0.91)	0.26 (0.98)	0.27 (1.02)	0.27 (1.02)	0.28 (1.06)	0.29 (1.10)	0.30 (1.14)	0.31 (1.17)
-10	0.30 (1.14)	0.32 (1.20)	0.33 (1.25)	0.34 (1.28)	0.34 (1.30)	0.36 (1.35)	0.37 (1.40)	0.38 (1.45)
-11	0.37 (1.38)	0.38 (1.45)	0.40 (1.51)	0.41 (1.54)	0.42 (1.58)	0.43 (1.64)	0.45 (1.70)	0.46 (1.75)
-12	0.43 (1.64)	0.46 (1.73)	0.48 (1.80)	0.49 (1.84)	0.50 (1.87)	0.51 (1.95)	0.53 (2.01)	0.55 (2.08)
-13	0.51 (1.93)	0.54 (2.03)	0.56 (2.11)	0.57 (2.16)	0.58 (2.20)	0.60 (2.28)	0.62 (2.36)	0.65 (2.44)
-14	0.59 (2.24)	0.62 (2.35)	0.65 (2.45)	0.66 (2.50)	0.67 (2.55)	0.70 (2.65)	0.72 (2.74)	0.75 (2.83)
-15	0.68 (2.60)	0.71 (2.70)	0.74 (2.82)	0.76 (2.87)	0.77 (2.93)	0.80 (3.04)	0.83 (3.15)	0.86 (3.25)
-16	0.77 (2.92)	0.81 (3.07)	0.85 (3.20)	0.86 (3.27)	0.88 (3.34)	0.91 (3.46)	0.95 (3.58)	0.98 (3.70)
-17	0.87 (3.30)	0.92 (3.46)	0.96 (3.62)	0.98 (3.69)	0.99 (3.76)	1.03 (3.91)	1.07 (4.04)	1.10 (4.18)
-18	0.98 (3.70)	1.03 (3.88)	1.07 (4.05)	1.09 (4.14)	1.12 (4.22)	1.16 (4.38)	1.20 (4.53)	1.24 (4.68)
-19	1.09 (4.12)	1.14 (4.33)	1.19 (4.52)	1.22 (4.61)	1.24 (4.70)	1.29 (4.88)	1.33 (5.05)	1.38 (5.22)
-20	1.21 (4.57)	1.27 (4.79)	1.32 (5.01)	1.35 (5.11)	1.38 (5.21)	1.43 (5.41)	1.48 (5.60)	1.53 (5.78)
-21	1.33 (5.04)	1.40 (5.28)	1.46 (5.52)	1.49 (5.63)	1.52 (5.75)	1.58 (5.96)	1.63 (6.17)	1.68 (6.37)
-22	1.46 (5.53)	1.53 (5.80)	1.60 (6.06)	1.63 (6.19)	1.67 (6.31)	1.73 (6.54)	1.79 (6.77)	1.85 (7.00)
-23	1.60 (6.05)	1.68 (6.34)	1.75 (6.62)	1.79 (6.76)	1.82 (6.89)	1.89 (7.15)	1.96 (7.40)	2.02 (7.65)
-24	1.74 (6.58)	1.82 (6.90)	1.91 (7.21)	1.94 (7.36)	1.98 (7.50)	2.06 (7.79)	2.13 (8.06)	2.20 (8.32)
-25	1.88 (7.10)	1.98 (7.49)	2.07 (7.82)	2.11 (7.98)	2.15 (8.14)	2.23 (8.45)	2.31 (8.75)	2.39 (9.04)
-26	2.04 (7.73)	2.14 (8.10)	2.24 (8.46)	2.28 (8.63)	2.33 (8.81)	2.42 (9.14)	2.50 (9.46)	2.58 (9.77)
-27	2.20 (8.33)	2.60 (9.86)	2.41 (9.13)	2.46 (9.31)	2.51 (9.50)	2.60 (9.86)	2.70 (10.20)	2.78 (10.54)
-28	2.37 (8.96)	2.48 (9.39)	2.59 (9.81)	2.65 (10.02)	2.70 (10.21)	2.80 (10.60)	2.90 (10.97)	2.99 (11.33)
-29	2.54 (9.61)	2.66 (10.08)	2.78 (10.53)	2.84 (10.74)	2.90 (10.96)	3.00 (11.37)	3.11 (11.77)	3.21 (12.15)
-30	2.72 (10.28)	2.85 (10.79)	2.98 (11.26)	3.04 (11.50)	3.10 (11.73)	3.22 (12.17)	3.33 (12.60)	3.44 (13.01)
-31	2.90 (11.00)	3.04 (11.52)	3.18 (12.03)	3.24 (12.28)	3.31 (12.52)	3.43 (12.99)	3.55 (13.45)	3.67 (13.89)
-32	3.09 (11.70)	3.24 (12.27)	3.39 (12.82)	3.46 (13.08)	3.53 (13.34)	3.66 (13.85)	3.79 (14.33)	3.91 (14.80)
-33	3.29 (12.45)	3.45 (13.05)	3.60 (13.63)	3.68 (13.91)	3.75 (14.19)	3.89 (14.72)	4.03 (15.24)	4.16 (15.74)
-34	3.49 (13.21)	3.66 (13.85)	3.82 (14.47)	3.90 (14.77)	3.98 (15.06)	4.13 (15.63)	4.27 (16.18)	4.41 (16.71)
-35	3.70 (14.00)	3.88 (14.68)	4.05 (15.33)	4.14 (15.65)	4.22 (15.96)	4.38 (16.56)	4.53 (17.14)	4.68 (17.71)
-36	3.91 (14.81)	4.10 (15.53)	4.29 (16.22)	4.37 (16.56)	4.46 (16.89)	4.63 (17.53)	4.79 (18.14)	4.95 (18.73)
-37	4.13 (15.64)	4.34 (16.41)	4.53 (17.14)	4.62 (17.49)	4.71 (17.84)	4.89 (18.51)	5.06 (19.16)	5.23 (19.79)
-38	4.36 (16.50)	4.57 (17.31)	4.78 (18.08)	4.87 (18.45)	4.97 (18.82)	5.16 (19.52)	5.34 (20.21)	5.51 (20.87)
-39	4.59 (17.38)	4.82 (18.23)	5.04 (19.07)	5.13 (19.43)	5.24 (19.82)	5.43 (20.56)	5.62 (21.29)	5.81 (21.99)
-40	4.83 (18.28)	5.07 (19.18)	5.29 (20.03)	5.40 (20.44)	5.51 (20.85)	5.72 (21.64)	5.92 (22.39)	6.11 (23.13)

Nozzle No.	Pressure PSI (BAR)							
	33,000 (2,280)	34,000 (2,350)	35,000 (2,420)	36,000 (2,500)	37,000 (2,550)	38,000 (2,620)	39,000 (2,690)	40,000 (2,800)
-6	0.14 (0.53)	0.14 (0.53)	0.14 (0.53)	0.15 (0.57)	0.15 (0.57)	0.15 (0.57)	0.15 (0.57)	0.15 (0.57)
-7	0.19 (0.72)	0.19 (0.72)	0.20 (0.76)	0.20 (0.76)	0.20 (0.76)	0.20 (0.76)	0.21 (0.79)	0.21 (0.79)
-8	0.25 (0.95)	0.25 (0.95)	0.26 (0.98)	0.26 (0.98)	0.26 (0.98)	0.27 (1.02)	0.27 (1.02)	0.27 (1.02)
-9	0.31 (1.17)	0.32 (1.21)	0.32 (1.21)	0.33 (1.25)	0.33 (1.25)	0.34 (1.29)	0.34 (1.29)	0.35 (1.32)
-10	0.39 (1.47)	0.39 (1.49)	0.40 (1.51)	0.40 (1.54)	0.41 (1.55)	0.42 (1.57)	0.42 (1.59)	0.43 (1.61)
-11	0.47 (1.78)	0.48 (1.80)	0.48 (1.83)	0.49 (1.86)	0.50 (1.88)	0.50 (1.90)	0.51 (1.93)	0.52 (1.95)
-12	0.56 (2.11)	0.57 (2.14)	0.58 (2.18)	0.58 (2.21)	0.59 (2.24)	0.60 (2.27)	0.61 (2.30)	0.61 (2.33)
-13	0.66 (2.48)	0.67 (2.52)	0.68 (2.56)	0.68 (2.59)	0.69 (2.62)	0.70 (2.66)	0.71 (2.69)	0.72 (2.73)
-14	0.76 (2.88)	0.77 (2.92)	0.78 (2.96)	0.79 (3.00)	0.80 (3.04)	0.81 (3.08)	0.83 (3.12)	0.84 (3.17)
-15	0.87 (3.30)	0.89 (3.35)	0.90 (3.40)	0.91 (3.45)	0.92 (3.49)	0.94 (3.54)	0.95 (3.59)	0.96 (3.63)
-16	0.99 (3.76)	1.01 (3.81)	1.02 (3.87)	1.04 (3.93)	1.05 (3.97)	1.06 (4.03)	1.08 (4.08)	1.09 (4.13)
-17	1.12 (4.24)	1.14 (4.30)	1.15 (4.37)	1.17 (4.43)	1.19 (4.49)	1.20 (4.55)	1.22 (4.61)	1.23 (4.67)
-18	1.26 (4.75)	1.28 (4.83)	1.29 (4.90)	1.31 (4.97)	1.33 (5.03)	1.35 (5.10)	1.36 (5.17)	1.38 (5.23)
-19	1.40 (5.30)	1.42 (5.38)	1.44 (5.45)	1.46 (5.53)	1.48 (5.60)	1.50 (5.68)	1.52 (5.76)	1.54 (5.83)
-20	1.55 (5.87)	1.57 (5.96)	1.60 (6.05)	1.62 (6.13)	1.64 (6.21)	1.66 (6.29)	1.68 (6.38)	1.71 (6.46)
-21	1.71 (6.47)	1.74 (6.57)	1.76 (6.67)	1.79 (6.76)	1.81 (6.85)	1.83 (6.94)	1.86 (7.03)	1.88 (7.12)
-22	1.88 (7.10)	1.91 (7.21)	1.93 (7.32)	1.96 (7.42)	1.99 (7.51)	2.01 (7.62)	2.04 (7.72)	2.06 (7.82)
-23	2.05 (7.76)	2.08 (7.88)	2.11 (7.99)	2.14 (8.11)	2.17 (8.21)	2.20 (8.32)	2.23 (8.43)	2.26 (8.54)
-24	2.23 (8.45)	2.27 (8.58)	2.30 (8.71)	2.33 (8.83)	2.36 (8.94)	2.39 (9.06)	2.43 (9.18)	2.46 (9.30)
-25	2.42 (9.18)	2.46 (9.31)	2.50 (9.45)	2.53 (9.58)	2.56 (9.70)	2.60 (9.83)	2.63 (9.96)	2.67 (10.09)
-26	2.62 (9.92)	2.66 (10.07)	2.70 (10.22)	2.74 (10.36)	2.77 (10.49)	2.81 (10.64)	2.85 (10.78)	2.88 (10.92)
-27	2.83 (10.70)	2.87 (10.86)	2.91 (11.02)	2.95 (11.18)	2.99 (11.32)	3.03 (11.47)	3.07 (11.62)	3.11 (11.77)
-28	3.04 (11.51)	3.09 (11.68)	3.13 (11.85)	3.18 (12.02)	3.22 (12.17)	3.26 (12.34)	3.30 (12.50)	3.34 (12.66)
-29	3.26 (12.34)	3.31 (12.53)	3.36 (12.71)	3.41 (12.89)	3.45 (13.05)	3.50 (13.23)	3.54 (13.41)	3.59 (13.58)
-30	3.49 (13.21)	3.54 (13.41)	3.59 (13.60)	3.65 (13.80)	3.69 (13.97)	3.74 (14.16)	3.79 (14.35)	3.84 (14.53)
-31	3.73 (14.11)	3.78 (14.32)	3.84 (14.53)	3.89 (14.73)	3.94 (14.92)	3.99 (15.12)	4.05 (15.32)	4.10 (15.52)
-32	3.97 (15.03)	4.03 (15.26)	4.09 (15.48)	4.15 (15.70)	4.20 (15.89)	4.26 (16.11)	4.31 (16.33)	4.37 (16.54)
-33	4.22 (15.98)	4.29 (16.23)	4.35 (16.46)	4.41 (16.70)	4.47 (16.90)	4.53 (17.13)	4.59 (17.36)	4.64 (17.59)
-34	4.48 (16.97)	4.55 (17.22)	4.62 (17.48)	4.68 (17.72)	4.74 (17.94)	4.80 (18.19)	4.87 (18.43)	4.93 (18.67)
-35	4.75 (17.98)	4.82 (18.25)	4.89 (18.52)	4.96 (18.78)	5.02 (19.01)	5.09 (19.27)	5.16 (19.53)	5.22 (19.78)
-36	5.03 (19.02)	5.10 (19.31)	5.18 (19.59)	5.25 (19.87)	5.32 (20.12)	5.39 (20.39)	5.46 (20.66)	5.53 (20.93)
-37	5.31 (20.10)	5.39 (20.40)	5.47 (20.70)	5.55 (21.00)	5.61 (21.25)	5.69 (21.54)	5.76 (21.83)	5.84 (22.11)
-38	5.60 (21.20)	5.68 (21.51)	5.77 (21.83)	5.85 (22.14)	5.92 (22.41)	6.00 (22.72)	6.08 (23.02)	6.16 (23.32)
-39	5.90 (22.33)	5.99 (22.66)	6.08 (22.99)	6.16 (23.32)	6.24 (23.61)	6.32 (23.93)	6.40 (24.25)	6.49 (24.56)
-40	6.21 (23.49)	6.30 (23.84)	6.39 (24.19)	6.48 (24.53)	6.56 (24.84)	6.65 (25.17)	6.74 (25.51)	6.82 (25.84)