

15K NOZZLES

15K AP Standard Nozzles The economical APS stainless steel AP Standard style nozzles come in pressure ratings to match your flex or rigid lances. The 15K-AP features FNPT threads to go with lances with MNPT threads, a slimline design that makes it easy to move through almost any size of tubing, and a wide range of options for precision drilled orifices.



Part #	15K-AP FNPT	Diameter	Length
15-001-001	1/16" NPT	0.375" (9.53mm)	0.875" (22.23mm)
15-001-011	1/8" NPT	0.468" (11.91mm)	0.937" (23.81mm)
15-001-016	1/8" NPT	0.500" (13.88mm)	1.250" (31.75mm)
15-001-021	1/4" NPT	0.625" (15.88mm)	1.250" (31.75mm)
15-001-031	3/8" NPT	0.875" (22.23mm)	1.437" (36.50mm)
15-001-041	1/2" NPT	1.000" (25.40mm)	1.625" (41.28mm)
15-001-051	3/4" NPT	1.250" (31.75mm)	2.000" (50.80mm)
15-001-061	1" NPT	1.625" (41.28mm)	2.250" (57.15mm)

15K FNPT Nozzles The FNPT nozzles are to be used in rotary applications for the removal of hardened plugs in heat exchanger tubes. This 15K nozzle NPT threads to go with lances with MNPT threads, a slimline design that makes it easy to move through almost any size of tubing, and a wide range of options for precision drilled orifices.



Part #	15K-FNPT	Diameter	Length
15-002-001	1/16" FNPT	0.375" (9.53mm)	0.875" (22.23mm)
15-002-011	1/8" FNPT	0.468" (11.91mm)	0.937" (23.81mm)
15-002-021	1/4" FNPT	0.625" (15.88mm)	1.250" (31.75mm)
15-002-031	3/8" FNPT	0.875" (22.23mm)	1.437" (36.50mm)
15-002-041	1/2" FNPT	1.000" (25.40mm)	1.625" (41.28mm)

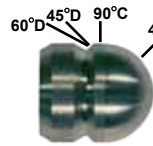
15K Multi-Groove Nozzles The APS high production stainless steel Multi-Groove nozzles come in pressure ratings to match your flex or rigid lances. The 15K-MG features FNPT threads to go with lances with MNPT threads. The Multi-Grooves have wrench flats for easy installation on the lance, and offer many options for up to 4 rows of precision drilled orifices. Please specify drilling pattern, pressure and flow when ordering.

Part #	15K-MG FNPT	Diameter	Length
15-003-001	1/16" NPT	0.375" (9.53mm)	1.281" (32.54mm)
15-003-011	1/8" NPT	0.468" (11.91mm)	1.625" (41.28mm)
15-003-021	1/4" NPT	0.625" (15.88mm)	1.625" (41.28mm)
15-003-031	3/8" NPT	0.875" (22.23mm)	1.875" (47.62mm)
15-003-041	1/2" NPT	1.000" (25.40mm)	2.043" (51.89mm)



15K Button Tip Flex Lance Nozzles The APS Button-Tip compact stainless steel nozzles come in pressure ratings to match your flex lances. They are ideal for cleaning small diameter tubes with small radius bends. The 15K-BT features FNPT threads to go with lances with MNPT threads. All offer many options for precision drilled orifices.

Part #	15K-BT FNPT	Diameter	Length
15-004-001	1/16" NPT	0.375" (9.53mm)	0.500" (12.70mm)
15-004-011	1/8" NPT	0.468" (11.91mm)	0.590" (14.98mm)
15-004-021	1/4" NPT	0.625" (15.88mm)	0.825" (20.96mm)
15-004-031	3/8" NPT	0.875" (22.23mm)	1.000" (25.40mm)
15-004-041	1/2" NPT	1.000" (25.40mm)	1.125" (28.58mm)
15-004-051	3/4" NPT	?	?



15K Penetrator Nozzles The APS Penetrator stainless steel nozzles are used with rigid or flex lances with MNPT threads. The rounded nose shape permits a range of forward and side drilling patterns while the backwards facing ridge allows a large number of pulling orifices to more efficiently clean fouled tubing. Wrench flats allow for easy installation.

Part #	15K-PT FNPT	Diameter	Length
15-005-001	1/16" NPT	0.375" (9.53mm)	1.312" (33.32mm)
15-005-011	1/8" NPT	0.468" (11.91mm)	1.500" (38.10mm)
15-005-021	1/4" NPT	0.625" (15.88mm)	1.750" (44.45mm)
15-005-031	3/8" NPT	0.875" (22.23mm)	1.812" (46.02mm)
15-005-041	1/2" NPT	1.000" (25.40mm)	2.062" (52.37mm)



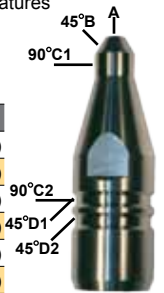
15K Evaporator Nozzles The APS Evaporator stainless steel nozzles are used with rigid or flex lances with MNPT threads. The design permits a range of forward and side drilling patterns while the backwards facing ridge allows a large number of pulling orifices to more efficiently clean fouled tubing. Wrench flats allow for easy installation.



Part #	15K-EVNPT	Diameter	Length
15-006-001	1/16" NPT	0.375" (9.53mm)	1.343" (34.11mm)
15-006-011	1/8" NPT	0.468" (11.91mm)	1.437" (36.50mm)
15-006-021	1/4" NPT	0.625" (15.88mm)	1.687" (42.85mm)
15-006-031	3/8" NPT	0.875" (22.23mm)	1.812" (46.02mm)
15-006-041	1/2" NPT	1.000" (25.40mm)	2.060" (52.32mm)

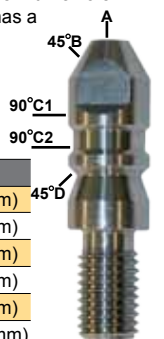
15K TLX Nozzles The APS stainless steel TLX nozzles come in pressure ratings to match your flex or rigid lances. The 15K-TLX features FNPT threads to go with lances with MNPT threads. All have wrench flats for easy installation on the lance. All offer many options for 3 or 4 rows of precision drilled orifices.

Part #	15K-TLX NPT	Diameter	Length
15-007-001	1/16" NPT	0.375" (9.53mm)	1.468" (37.29mm)
15-007-011	1/8" NPT	0.468" (11.91mm)	1.625" (41.27mm)
15-007-021	1/4" NPT	0.625" (15.88mm)	1.875" (47.63mm)
15-007-031	3/8" NPT	0.875" (22.23mm)	2.813" (71.45mm)
15-007-041	1/2" NPT	1.000" (25.40mm)	3.000" (76.20mm)
15-007-051	3/4" NPT	1.000" (25.40mm)	3.000" (76.20mm)



15K MMS Nozzles The APS stainless steel Male Machine Screw nozzles come in pressure ratings to match your flex or rigid lances with female machine screw threads (UNF or UNC). The compact 15K-MMS has a special slimline design that assures that the outside diameter matches the OD of the lance, and have wrench flats for easy installation. All offer many options for 3 or 4 rows of precision drilled orifices.

Part #	15K-MMS NPT	Diameter	Length
15-008-000	10-24 UNF	0.250" (6.35mm)	1.062" (26.97mm)
15-008-001	12-28 UNF	0.250" (6.35mm)	1.062" (26.97mm)
15-008-002	1/4"-28 UNF	0.312" (7.92mm)	1.250" (31.75mm)
15-008-003	5/16"-24 UNF	0.406" (10.32mm)	1.437" (36.50mm)
15-008-005	3/8"-24 UNF	0.562" (14.27mm)	1.750" (44.45mm)
15-008-006	1/2"-20 UNF	0.687" (17.45mm)	1.875" (47.625mm)



15K Thruster Nozzles The APS Thruster stainless steel nozzles are used with flex lances in conjunction with another tube cleaning nozzle. It allows one to "stack" the nozzles so that additional jets can be used for a more thorough cleaning.

Part #	15K-Thruster	Diameter	Length
15-101-001	1/16" NPT	0.375" (9.53mm)	1.250" (31.75mm)
15-101-011	1/8" NPT	0.468" (11.89mm)	1.437" (36.50mm)
15-101-021	1/4" NPT	0.625" (15.88mm)	1.500" (38.10mm)
15-101-031	3/8" NPT	0.875" (22.23mm)	1.843" (46.81mm)
15-101-041	1/2" NPT	1.0" (25.40mm)	2.0" (50.80mm)
15-101-051	3/4" NPT	1.25" (31.75mm)	2.250" (57.15mm)
15-101-061	1" NPT	1.625" (41.28mm)	2.437" (61.90mm)



15K Standard Nozzles with Carbide Blade The APS tungsten carbide tipped tube nozzles are to be used in rotary applications for the removal of hardened plugs in heat exchanger tubes.

Part #	15K-SCBN	Diameter	Length
15-029-101	1/16" NPT	0.375" (9.53mm)	0.875" (22.23mm)
15-029-111	1/8" NPT	0.468" (11.89mm)	0.937" (23.80mm)
15-029-121	1/4" NPT	0.625" (15.88mm)	1.250" (31.75mm)
15-029-131	3/8" NPT	0.875" (22.23mm)	1.437" (36.50mm)
15-029-141	1/2" NPT	1.0" (25.40mm)	1.625" (41.28mm)



15K Tube Spinner Cleaning Nozzles The APS Tube Spinner Nozzles provide the most thorough cleaning of tube walls with maximum impact without streaking. This nozzle also integrates, backward-facing orifices that propel them through hard deposits on the I.D. of pipes and tubes. At the same time, part of the nozzle rotates and polishes the pipe's I.D. We offer custom flow rates for your special applications. Tube nozzle or blanks are used to cap the end of the nozzle (sold separately). Parts that are worn can be replaced in the field within five minutes with a simple rebuild kit to minimizing downtime.



Part #15-064-001
Turbo Nozzle Assembly 1/2" NPT
#1 Flow Rate Body & Sleeve.



Part #15-063-001
Turbo Nozzle Assembly 3/8" NPT
#1 Flow Rate Body & Sleeve.



Part #15-062-001
Turbo Nozzle Assembly 1/4" NPT
#1 Flow Rate Body & Sleeve.



Part #15-061-001
Turbo Nozzle Assembly 1/8" NPT
#1 Flow Rate Body & Sleeve.



Part #15-060-001
Turbo Nozzle Assembly 1/16" NPT
#1 Flow Rate Body & Sleeve.



Part #15-059-001
Turbo Nozzle Assembly 5/16"-24 MMS
#1 Flow Rate Body & Sleeve.

Part ID	Spinner Nozzle Description	Nozzle Blank	Diameter	Length
15-059-001	TURBO NOZZLE ASSY, 5/16"-24 MMS #1 FLOW RATE BODY & SLEEVE	15-065-001	.406	2.560
15-059-002	TURBO NOZZLE ASSY, 5/16"-24 MMS #2 FLOW RATE BODY & SLEEVE	15-065-001	.406	2.560
15-059-003	BODY, 5/16"-24 MMS 15K TURBO NOZZLE			
15-059-004	SLEEVE, 5/16"-24 MMS #1 TURBO NOZZLE			
15-060-001	TURBO NOZZLE ASSY, 1/16" NPT #1 FLOW RATE BODY & SLEEVE	15-065-001	.375	2.470
15-060-002	TURBO NOZZLE ASSY, 1/16" NPT #2 FLOW RATE BODY & SLEEVE	15-065-001	.375	2.470
15-060-003	BODY, 1/16" NPT TURBO NOZZLE			
15-060-004	SLEEVE, 1/16" NPT #1 TURBO NOZZLE			
15-060-005	SLEEVE, 1/16" NPT #2 TURBO NOZZLE			
15-061-001	TURBO NOZZLE ASSY, 1/8" NPT #1 FLOW RATE BODY & SLEEVE	15-065-002	.500	2.535
15-061-002	TURBO NOZZLE ASSY, 1/8" NPT #2 FLOW RATE BODY & SLEEVE	15-065-002	.500	2.535
15-061-003	BODY, 1/8" NPT TURBO NOZZLE			
15-061-004	SLEEVE, 1/8" NPT #1 TURBO NOZZLE			
15-061-005	SLEEVE, 1/8" NPT #2 TURBO NOZZLE			
15-062-001	TURBO NOZZLE ASSY, 1/4" NPT #1 FLOW RATE BODY & SLEEVE	15-065-004	.687	3.000
15-062-002	TURBO NOZZLE ASSY, 1/4" NPT #2 FLOW RATE BODY & SLEEVE	15-065-004	.687	3.000
15-062-003	BODY, 1/4" NPT TURBO NOZZLE			
15-062-004	SLEEVE, 1/4" NPT #1 TURBO NOZZLE			
15-062-005	SLEEVE, 1/4" NPT #2 TURBO NOZZLE			
15-063-001	TURBO NOZZLE ASSY, 3/8" NPT #1 FLOW RATE BODY & SLEEVE	15-065-005	.875	3.200
15-063-002	TURBO NOZZLE ASSY, 3/8" NPT #2 FLOW RATE BODY & SLEEVE	15-065-005	.875	3.200
15-063-003	BODY, 3/8" NPT TURBO NOZZLE 15K SS			
15-063-004	SLEEVE, 3/8" NPT #1 TURBO NOZZLE (J/S TYPE: 51926)			
15-063-005	SLEEVE, 3/8" NPT #2 TURBO NOZZLE (J/S TYPE: 51927)			
15-064-001	TURBO NOZZLE ASSY, 1/2" NPT #1 FLOW RATE BODY & SLEEVE	15-065-006	1.040	3.670
15-064-002	TURBO NOZZLE ASSY, 1/2" NPT #2 FLOW RATE BODY & SLEEVE	15-065-006	1.040	3.670
15-064-003	BODY, 1/2" NPT TURBO NOZZLE 15K SS			
15-064-004	SLEEVE, 1/2" NPT #1 TURBO NOZZLE (J/S TYPE: 51941)			
15-064-005	SLEEVE, 1/2" NPT #2 TURBO NOZZLE (J/S TYPE: 51942)			

Part ID	Nozzle Blank Description	Turbo Assy	Diameter	Length
15-065-001	BLANK, 1/4" MP RH (J/S HPF1 TYPE) NOZZLE (F/ 1/16" NPT & 1/4" 20K TURBO ASSY.)	15-059-001, 15-059-002, 15-060-001, 15-060-002	.375	.875
15-065-002	BLANK, 3/8" MP RH (J/S HPF2 TYPE) NOZZLE (F/ 1/8" NPT & 3/8" 20K TURBO ASSY.)	15-061-001, 15-061-002	.500	1.053
15-065-003	BLANK, 9/16" MP RH (J/S HPF3 TYPE) NOZZLE (F/ 9/16" 20K TURBO ASSY.) Only		.750	1.320
15-065-004	BLANK, 1/2"-20 MP RH (J/S TYPE) NOZZLE (15K/20K) ((FOR 1/4" NPT TURBO NOZZLE)	15-062-001, 15-062-002	.665	1.312
15-065-005	BLANK, 5/8"-18 MP RH (J/S TYPE) NOZZLE (15K/20K) (FOR 3/8" NPT TURBO NOZZLE)	15-063-001, 15-063-002	.875	1.437
15-065-006	BLANK, 3/4"-16 MP RH (J/S TYPE) NOZZLE (15K/20K) (FOR 1/2" NPT TURBO NOZZLE)	15-064-001, 15-064-002	1.040	1.562

Size (NPT)	Flow Rate	Flow (gpm) at specified pressures (psi)													Flow (lpm) at specified pressures (bar)								
		3K	4K	5K	6K	7K	8K	9K	10K	11K	12K	13K	14K	15K	200	300	400	500	600	700	800	900	1000
1/16"	1	1.9	2.3	2.6	2.9	3.2	3.5	3.7	4.0	4.2	4.5	4.7	4.9	5.1	7.1	9.1	10.8	12.3	13.8	15.2	16.5	17.8	19.0
	2	3.0	3.5	4.0	4.4	4.8	5.2	5.6	5.9	6.2	6.6	6.9	7.2	7.5	11.1	13.9	16.3	18.6	20.6	22.6	24.4	26.2	27.9
1/8"	1	2.6	3.1	3.5	3.9	4.3	4.7	5.0	5.4	5.7	6.0	6.4	6.7	7.0	9.5	12.1	14.5	16.6	18.6	20.5	22.4	24.2	25.9
	2	5.0	5.9	6.7	7.4	8.0	8.7	9.3	9.9	10.4	11.0	11.5	12.0	12.5	18.7	23.4	27.4	31.1	34.5	37.7	40.7	43.6	46.4
1/4"	1	2.4	2.9	3.4	3.8	4.2	4.6	5.0	5.4	5.8	6.1	6.5	6.8	7.2	8.9	11.6	14.0	16.3	18.5	20.6	22.6	24.6	26.6
	2	5.2	6.2	7.0	7.8	8.5	9.2	9.9	10.6	11.2	11.8	12.4	13.0	13.5	19.5	24.5	28.9	33.0	36.8	40.3	43.8	47.0	50.2
3/8"	1	3.6	4.3	4.9	5.5	6.1	6.6	7.2	7.7	8.2	8.7	9.2	9.6	10.1	13.3	17.1	20.4	23.6	26.5	29.4	32.1	34.8	37.3
	2	7.0	8.2	9.3	10.4	11.3	12.2	13.1	14.0	14.8	15.5	16.3	17.1	17.8	26.1	32.7	38.5	43.8	48.7	53.3	57.7	61.9	65.9
1/2"	1	3.0	3.7	4.3	4.9	5.5	6.1	6.6	7.1	7.7	8.2	8.7	9.2	9.7	11.3	14.8	18.2	21.3	24.4	27.3	30.2	33.0	35.8
	2	6.7	7.9	9.0	10.0	11.0	12.0	12.9	13.7	14.6	15.4	16.2	17.0	17.8	24.7	31.3	37.2	42.6	47.7	52.5	57.1	61.6	65.9

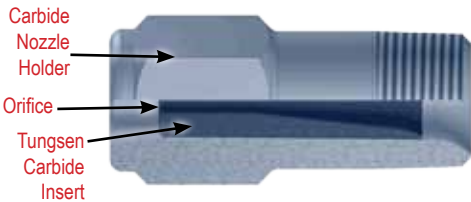
Please specify drilling pattern, pressure and flow when ordering.

15K NOZZLES

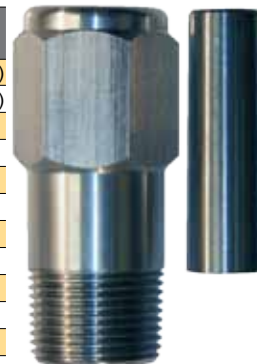
15K Large Tungsten Carbide Nozzle Assembly APS

offers these special large tungsten carbide hard-hitter nozzles for use in high flow applications where a solid stream of water is required for big cleaning jobs such as in paper mills, power plants, tube bundle cleaning, tank cleaning and reactor vessels.

These 3/4" threaded NPT nozzle holders come in a standard 2-3/4" long assembly, and also available in a shorter 2-1/8" long holder. The carbide insert comes in 11 different orifice sizes to suit your applications.



Complete Standard 2-3/4" Long Assembly	Carbide Insert Only:	Orifice Size:
15-028-109	15-027-109	0.109" (0.109mm)
15-028-125	15-027-125	0.125" (0.125mm)
15-028-140	15-027-140	0.140" (3.56mm)
15-028-156	15-027-156	0.156" (3.96mm)
15-028-165	15-027-165	0.165" (4.19mm)
15-028-172	15-027-172	0.172" (4.37mm)
15-028-187	15-027-187	0.187" (4.75mm)
15-028-203	15-027-203	0.203" (5.16mm)
15-028-218	15-027-218	0.218" (5.54mm)
15-028-250	15-027-250	0.250" (6.35mm)
15-028-312	15-027-312	0.312" (7.92mm)



15K 1/2" NPT Large Ultra-Polished Nozzles APS

offers these special ultra-polished nozzles for use in high flow applications where a straight jet of water is required for large cleaning applications. These are often used with shellside cleaners, but have many other uses.

These 1/2" NPT threaded nozzle holders come in a female assembly or a male assembly. The carbide insert comes in 12 different orifice sizes to suit your flow and pressure requirements.

Part #	Description
15-035-001	Female Holder
15-035-004	Male Holder
30-009-016	O-Ring



Carbide Insert Only:	Orifice Size:
15-035-062	0.062" (1.58mm)
15-035-071	0.071" (1.80mm)
15-035-078	0.078" (1.98mm)
15-035-083	0.083" (2.11mm)
15-035-089	0.089" (2.26mm)
15-035-093	0.093" (2.36mm)
15-035-109	0.109" (0.11mm)
15-035-125	0.125" (0.13mm)
15-035-140	0.140" (3.56mm)
15-035-156	0.156" (3.96mm)
15-035-165	0.165" (4.19mm)
15-035-172	0.172" (4.37mm)

15K Tungsten Carbide Hard Hitter Nozzles

The APS Tungsten Carbide Hard Hitter nozzles are designed especially for use with hand-held control guns for superior surface cleaning. All are made of stainless steel with tungsten carbide orifice inserts, flow straightening vanes, and wrench flats for easy installation. Replaceable carbide inserts are also available.



Part #	TCHH-15K Jet Size	Part #	TCHH-15K Jet Size
15-021-021	#021 0.021" (0.53mm)	15-021-075	#10 0.075" (1.90mm)
15-021-024	#024 0.024" (0.61mm)	15-021-077	#10.5 0.077" (1.95mm)
15-021-026	#1 0.026" (0.66mm)	15-021-078	#11 0.078" (1.98mm)
15-021-031	#1.5 0.031" (0.79mm)	15-021-080	#11.5 0.080" (2.03mm)
15-021-036	#2 0.036" (0.91mm)	15-021-082	#12 0.082" (2.08mm)
15-021-039	#2.5 0.039" (0.99mm)	15-021-085	#13 0.085" (2.16mm)
15-021-043	#3 0.043" (1.09mm)	15-021-089	#14 0.089" (2.26mm)
15-021-047	#4 0.047" (1.19mm)	15-021-093	#15 0.093" (2.36mm)
15-021-050	#4.5 0.050" (1.27mm)	15-021-095	#16 0.095" (2.41mm)
15-021-052	#5 0.052" (1.32mm)	15-021-100	#18 0.100" (2.54mm)
15-021-055	#5.5 0.055" (1.40mm)	15-021-106	#20 0.106" (2.69mm)
15-021-059	#6 0.059" (1.50mm)	15-021-109	#21 0.109" (2.77mm)
15-021-060	#6.5 0.060" (1.52mm)	15-021-118	#25 0.118" (2.99mm)
15-021-062	#7 0.062" (1.57mm)	15-021-125	#27 0.125" (3.17mm)
15-021-065	#7.5 0.065" (1.65mm)	15-021-130	#30 0.130" (3.30mm)
15-021-067	#8 0.067" (1.70mm)	15-021-140	#35 0.140" (3.56mm)
15-021-069	#8.5 0.069" (1.75mm)	15-021-156	#40 0.156" (3.96mm)
15-021-071	#9 0.071" (1.80mm)	15-021-165	#50 0.165" (4.19mm)
15-021-073	#9.5 0.073" (1.85mm)		

15K 1/4" Meg. MNPT Hard Hitter Nozzles

APS makes its 15K 1/4 Meg Hard Hitter Nozzles to bring exceptional power to control gun surface cleaning and cutting applications. The internal guide vane focuses flow for maximum performance. They are made from hardened stainless steel, and feature male NPT threads and wrench flats for easy installation.



Part #	15K-1/4 Meg	Jet Size
15-013-001	#2	0.036" (0.91mm)
15-013-002	#3	0.043" (1.09mm)
15-013-003	#4	0.047" (1.19mm)
15-013-004	#4.5	0.050" (1.27mm)
15-013-005	#5	0.052" (1.32mm)
15-013-006	#5.5	0.055" (1.40mm)
15-013-007	#6	0.059" (1.50mm)
15-013-008	#6.5	0.060" (1.52mm)
15-013-009	#7	0.062" (1.57mm)
15-013-010	#8	0.067" (1.70mm)
15-013-011	#8.5	0.069" (1.75mm)
15-013-012	#9	0.071" (1.80mm)
15-013-013	#10	0.075" (1.91mm)
15-013-014	#11	0.078" (1.98mm)

Part #	15K-1/4 Meg	Jet Size
15-013-015	#12	0.082" (2.08mm)
15-013-016	#13	0.085" (2.16mm)
15-013-017	#15	0.093" (2.36mm)
15-013-018	#16	0.095" (2.41mm)
15-013-019	#18	0.100" (2.54mm)
15-013-020	#20	0.106" (2.69mm)
15-013-021	#25	0.118" (2.99mm)
15-013-022	#30	0.130" (3.30mm)
15-013-023	#35	0.140" (3.57mm)

15K 1/4" NPT Tungsten Carbide Hard Hitter Nozzles

The APS Hydro-Style Tungsten Carbide Hard Hitter nozzles are designed especially for use with hand-held control guns for superior surface cleaning. All are made of stainless steel with tungsten carbide orifice inserts and wrench flats for easy installation. Replaceable carbide inserts are also available.

Part #	1/4TCHH	Jet Size
15-030-032	#1.6	0.032" (0.81mm)
15-030-047	#4	0.047" (1.19mm)
15-030-054	#5.5	0.054" (1.37mm)
15-030-062	#7	0.062" (1.57mm)
15-030-067	#8	0.067" (1.70mm)
15-030-078	#11	0.078" (1.98mm)
15-030-094	#15	0.094" (2.39mm)
15-030-125	#27	0.125" (3.17mm)
15-030-140	#35	0.140" (3.55mm)
15-030-156	#40	0.156" (3.96mm)



15K NPT VALVE, NOZZLE SHUT-OFF 1/2"

Part # 61-010-050



10-15K Standard 15° & 25° Fan Tip MNPT Nozzles APS makes its 10-15K Standard Fan Tip Nozzles to bring exceptional power to control gun surface cleaning applications. They are available in 15°, 25° and 40°, made from hardened stainless steel, and feature male NPT threads and wrench flats for easy installation.

Part #	15°-FT-15K Jet Size	Part #	15°-FT-15K Jet Size	Part #	25°-FT-15K Jet Size	Part #	25°-FT-15K Jet Size
15-014-000 #1	0.026" (0.66mm)	15-014-018 #11.5	0.080" (2.03mm)	15-015-001 #2	0.036" (0.91mm)	15-015-019 #12	0.082" (2.08mm)
15-014-001 #2	0.036" (0.91mm)	15-014-019 #12	0.082" (2.08mm)	15-015-002 #3	0.043" (1.09mm)	15-015-020 #12.5	0.084" (2.13mm)
15-014-002 #3	0.043" (1.09mm)	15-014-020 #12.5	0.084" (2.13mm)	15-015-003 #4	0.047" (1.19mm)	15-015-021 #13	0.085" (2.16mm)
15-014-003 #4	0.046" (1.19mm)	15-014-021 #13	0.085" (2.16mm)	15-015-004 #4.5	0.050" (1.27mm)	15-015-022 #14	0.089" (2.26mm)
15-014-004 #4.5	0.050" (1.27mm)	15-014-022 #14	0.089" (2.26mm)	15-015-005 #5	0.052" (1.32mm)	15-015-023 #15	0.093" (2.36mm)
15-014-005 #5	0.052" (1.32mm)	15-014-023 #15	0.093" (2.36mm)	15-015-006 #5.5	0.055" (1.39mm)	15-015-024 #16	0.095" (2.41mm)
15-014-006 #5.5	0.055" (1.39mm)	15-014-024 #16	0.095" (2.41mm)	15-015-007 #6	0.059" (1.49mm)	15-015-025 #18	0.100" (2.54mm)
15-014-007 #6	0.059" (1.49mm)	15-014-025 #18	0.100" (2.54mm)	15-015-008 #6.5	0.060" (1.52mm)	15-015-026 #20	0.106" (2.69mm)
15-014-008 #6.5	0.060" (1.52mm)	15-014-026 #20	0.106" (2.69mm)	15-015-009 #7	0.062" (1.57mm)	15-015-027 #25	0.118" (2.99mm)
15-014-009 #7	0.062" (1.57mm)	15-014-027 #25	0.118" (2.99mm)	15-015-010 #7.5	0.065" (1.65mm)	15-015-028 #30	0.130" (3.30mm)
15-014-010 #7.5	0.065" (1.65mm)	15-014-028 #30	0.130" (3.30mm)	15-015-011 #8	0.067" (1.70mm)	15-015-029 #35	0.140" (3.55mm)
15-014-011 #8	0.067" (1.70mm)	15-014-029 #35	0.140" (3.55mm)	15-015-012 #8.5	0.069" (1.75mm)		
15-014-012 #8.5	0.069" (1.75mm)			15-015-013 #9	0.071" (1.80mm)		
15-014-013 #9	0.071" (1.80mm)			15-015-014 #9.5	0.073" (1.85mm)		
15-014-014 #9.5	0.073" (1.85mm)			15-015-015 #10	0.075" (1.90mm)		
15-014-015 #10	0.075" (1.90mm)			15-015-016 #10.5	0.077" (1.95mm)		
15-014-016 #10.5	0.077" (1.95mm)			15-015-017 #11	0.078" (1.98mm)		
15-014-017 #11	0.078" (1.98mm)			15-015-018 #11.5	0.080" (2.03mm)		



15K Tungsten Carbide 15° & 25° Fan Tip MNPT Nozzles

APS makes its 15K TC Fan Tip Nozzles to bring exceptional power to control gun surface cleaning applications. They are available in 15° and 25°, made from hardened stainless steel inserted with a tungsten carbide orifice, and feature male NPT threads and wrench flats for easy installation.



Part #	15°-TCFT-15K Jet Size	Part #	25°-TCFT-15K Jet Size
15-016-001 #2	0.036" (0.91mm)	15-017-001 #2	0.036" (0.91mm)
15-016-002 #3	0.043" (1.09mm)	15-017-002 #3	0.043" (1.09mm)
15-016-003 #4	0.046" (1.19mm)	15-017-003 #4	0.046" (1.19mm)
15-016-005 #5	0.052" (1.32mm)	15-017-005 #5	0.052" (1.32mm)
15-016-007 #6	0.059" (1.50mm)	15-017-007 #6	0.059" (1.50mm)
15-016-009 #7	0.062" (1.57mm)	15-017-009 #7	0.062" (1.57mm)
15-016-011 #8	0.067" (1.70mm)	15-017-011 #8	0.067" (1.70mm)
15-016-013 #9	0.071" (1.80mm)	15-017-013 #9	0.071" (1.80mm)
15-016-015 #10	0.075" (1.91mm)	15-017-015 #10	0.075" (1.90mm)
15-016-017 #11	0.078" (1.98mm)	15-017-017 #11	0.078" (1.98mm)
15-016-019 #12	0.082" (2.08mm)	15-017-019 #12	0.082" (2.08mm)
15-016-023 #15	0.093" (2.36mm)	15-017-023 #15	0.093" (2.36mm)

15K 1/2" NPT Long Hard Hitter Nozzles The 1/2" NPT Long Hard Hitter nozzles offer an elongated orifice that holds a pattern longer than some of the shorter nozzles on the market. Great for hand-held shotgunning as well as mechanical cleaning tools such as shellside machines and tower cleaners.

Part #	3" Long HH Jet Size	Part #	6" Long HH Jet Size
15-036-109 #21	0.109"	15-038-109 #21	0.109"
15-036-125 #27	0.125"	15-038-125 #27	0.125"
15-036-140 #35	0.140"	15-038-140 #35	0.140"
15-036-156 #40	0.156"	15-038-156 #40	0.156"
15-036-172 #52	0.172"	15-038-172 #52	0.172"
15-036-187 #60	0.187"	15-038-187 #60	0.187"
15-036-203 #70	0.203"	15-038-203 #70	0.203"
15-036-219 #90	0.219"	15-038-219 #90	0.219"
15-036-234 #95	0.234"	15-038-234 #95	0.234"
15-036-250 #100	0.250"	15-038-250 #100	0.250"



15K Gun Barrel Style Hard Hitter MNPT Nozzles

APS makes its 15K Gun Barrel Hard Hitter Nozzles to bring exceptional power to control guns. Each is made from heat treated stainless steel, and features male NPT threads and wrench flats for easy installation. Please specify pressure and flow when ordering.



Part #	GBHH-15K Jet Size	Part #	GBHH-15K Jet Size
15-010-026 #026	0.026" (0.66mm)	15-010-080 #11.5	0.080" (2.03mm)
15-010-028 #028	0.031" (0.79mm)	15-010-082 #12	0.082" (2.08mm)
15-010-031 #031	0.031" (0.79mm)	15-010-084 #12.5	0.084" (2.13mm)
15-010-036 #2	0.036" (0.91mm)	15-010-085 #13	0.085" (2.16mm)
15-010-043 #3	0.043" (1.09mm)	15-010-089 #14	0.089" (2.26mm)
15-010-047 #4	0.047" (1.19mm)	15-010-093 #15	0.093" (2.36mm)
15-010-050 #4.5	0.050" (1.27mm)	15-010-094 #15	0.093" (2.36mm)
15-010-052 #5	0.052" (1.32mm)	15-010-095 #16	0.095" (2.41mm)
15-010-055 #5.5	0.055" (1.39mm)	15-010-100 #18	0.100" (2.54mm)
15-010-059 #6	0.059" (1.50mm)	15-010-106 #20	0.106" (2.69mm)
15-010-060 #6.5	0.060" (1.52mm)	15-010-111 #21	0.111" (2.69mm)
15-010-062 #7	0.062" (1.57mm)	15-010-118 #25	0.118" (3.00mm)
15-010-065 #7.5	0.065" (1.65mm)	15-010-125 #27	0.125" (3.18mm)
15-010-067 #8	0.067" (1.70mm)	15-010-130 #30	0.130" (3.30mm)
15-010-069 #8.5	0.069" (1.75mm)	15-010-140 #35	0.140" (3.56mm)
15-010-071 #9	0.071" (1.80mm)	15-010-156 #40	0.156" (3.96mm)
15-010-073 #9.5	0.073" (1.85mm)	15-010-167 #50	0.167" (4.24mm)
15-010-075 #10	0.075" (1.90mm)	15-010-187 #60	0.187" (3.56mm)
15-010-077 #10.5	0.077" (1.95mm)		
15-010-078 #11	0.078" (1.98mm)		

10-15K Monroe-Jet Orbital Nozzles APS proudly offers the Monroe-Jet orbital nozzles in a wide variety of flows and pressure ratings to suit your application. 3/8" NPT inlet threads are available upon request. Please specify orifice size and flow when ordering.

Part #	PSI / Flow	Orifice	Connection
15-200-028	10K @ 2.0 GPM	.029" / .70 mm	1/2" NPT (F)
15-200-030	15K @ 2.3 GPM	.030" / .75 mm	1/2" NPT (F)
15-200-031	15K @ 2.6 GPM	.031" / .80 mm	1/2" NPT (F)
15-200-033	15K @ 3.0 GPM	.033" / .85 mm	1/2" NPT (F)
15-200-035	15K @ 3.3 GPM	.033" / .90 mm	1/2" NPT (F)
15-200-037	15K @ 3.7 GPM	.037" / .95 mm	1/2" NPT (F)
15-200-039	15K @ 4.1 GPM	.039" / 1.0 mm	1/2" NPT (F)
15-200-041	15K @ 4.5 GPM	.041" / 1.05 mm	1/2" NPT (F)
15-200-043	15K @ 5.0 GPM	.043" / 1.10 mm	1/2" NPT (F)
15-200-045	15K @ 5.4 GPM	.045" / 1.15 mm	1/2" NPT (F)
15-200-047	15K @ 5.9 GPM	.047" / 1.20 mm	1/2" NPT (F)
15-200-049	15K @ 6.4 GPM	.049" / 1.25 mm	1/2" NPT (F)
15-200-051	15K @ 7.0 GPM	.051" / 1.30 mm	1/2" NPT (F)
15-200-053	15K @ 7.5 GPM	.053" / 1.35 mm	1/2" NPT (F)
15-200-055	15K @ 8.1 GPM	.055" / 1.40 mm	1/2" NPT (F)



If you don't see what you are looking for or just have a question, call toll free in North America 1 (877) 290-4277 or (281) 290-9950.

15K NOZZLES

15K APLM Pineapple Line Mole Nozzles The **APS** APLM pineapple-type line mole nozzles are made from stainless steel with a special copper coating to prevent galling during installation. APLM nozzles have 1" NPT inlets with 1/4" NPT (F) ports, and a choice of port locations. These are used with line mole inserts listed on the next page. Wrench flats allow for easy installation.



Part #	15K-APLM Dimensions	Patterns
15-018-200	Standard 3-3/4" L x 3" Dia.	1 front, 3 forward (45°), 8 side-back (15°), 8 back (45°)
15-018-201	Radial 3-3/4" L x 3" Dia.	1 front, 3 forward (45°), 8 side-radial (90°), 8 back (45°)

15K BPLM Pineapple Line Mole Nozzles The **APS** APLM pineapple-type line mole nozzles are made from stainless steel with a special copper coating to help prevent galling during installation. APLM nozzles have 1/2" NPT or 3/4" NPT inlets with 1/4" NPT (F) ports, and a choice of port locations. These are used with line mole inserts listed on the next page. Wrench flats allow for easy installation.



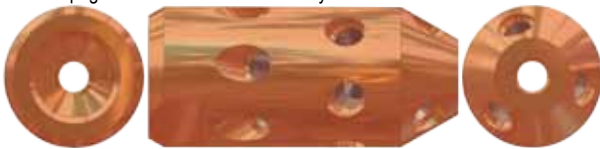
Part #	15K-BPLM Dimensions	Patterns
15-018-202	1/2" Standard 3-1/2" L x 2-1/4" Dia.	1 front, 3 forward (45°), 6 side-back (15°), 6 back (45°)
15-018-203	1/2" Radial 3-1/2" L x 2-1/4" Dia.	1 front, 3 forward (45°), 6 side-radial (90°), 6 back (45°)
15-018-204	3/4" Standard 3-1/2" L x 2-1/4" Dia.	1 front, 3 forward (45°), 6 side-back (15°), 6 back (45°)
15-018-205	3/4" Radial 3-1/2" L x 2-1/4" Dia.	1 front, 3 forward (45°), 6 side-radial (90°), 6 back (45°)

15K CPLM Pineapple Line Mole Nozzles The **APS** CPLM pineapple-type line mole nozzles are made from stainless steel with a special copper coating to prevent galling during installation. CPLM nozzles have 1/2" NPT inlets with 1/4" NPT (F) ports, and a choice of port locations. These are used with line mole inserts listed on the next page. Wrench flats allow for easy installation.



Part #	15K-CPLM Dimensions	Patterns
15-018-206	Standard 2-1/2" L x 1-5/8" Dia.	1 front, 3 back (45°)

15K DPLM Pineapple Line Mole Nozzles The **APS** DPLM pineapple-type line mole nozzles are made from stainless steel with a special copper coating to prevent galling during installation. DPLM nozzles have 3/4" NPT inlets with 1/8" NPTF ports, and a choice of port locations. These are used with line mole inserts listed on the next page. Wrench flats allow for easy installation.



Part #	15K-DPLM Dimensions	Patterns
15-018-207	Standard 3-3/4" L x 1-5/8" Dia.	1 front, 3 forward (45°), 6 back (15°), 6 back (45°)

15K EPLM Pineapple Line Mole Nozzles The **APS** EPLM pineapple-type line mole nozzles are made from stainless steel with a special copper coating to prevent galling during installation. EPLM nozzles have 1/2" NPT inlets with 1/16" NPT (F) ports, and a choice of port locations. These are used with line mole inserts listed on the next page. Wrench flats allow for easy installation.



Part #	15K-EPLM Dimensions	Patterns
15-018-208	Standard 2-3/4" L x 1-1/8" Dia.	1 front, 3 forward (45°), 6 back (45°)

10-15K Stainless Line Mole Nozzle Inserts



Part #	1/4" NPT Jet
15-018-016	0.016" (0.41mm)
15-018-018	0.018" (0.46mm)
15-018-020	0.020" (0.51mm)
15-018-021	0.021" (0.53mm)
15-018-022	0.022" (0.56mm)
15-018-024	0.024" (0.61mm)
15-018-026	0.026" (0.66mm)
15-018-028	0.028" (0.71mm)
15-018-029	0.029" (0.74mm)
15-018-031	0.031" (0.79mm)
15-018-036	0.036" (0.91mm)
15-018-043	0.043" (1.09mm)
15-018-047	0.047" (1.19mm)
15-018-050	0.050" (1.27mm)
15-018-052	0.052" (1.32mm)
15-018-055	0.055" (1.39mm)
15-018-059	0.059" (1.50mm)
15-018-062	0.062" (1.57mm)
15-018-067	0.067" (1.70mm)
15-018-070	0.070" (1.78mm)
15-018-076	0.076" (1.93mm)
15-018-082	0.082" (2.08mm)
15-018-085	0.085" (2.16mm)
15-018-093	0.093" (2.36mm)
15-018-100	0.100" (2.54mm)
15-018-118	0.118" (3.00mm)
15-018-125	0.125" (3.18mm)

Part #	1/8" NPT Jet
15-118-016	0.016" (0.41mm)
15-118-021	0.021" (0.53mm)
15-118-024	0.024" (0.61mm)
15-118-026	0.026" (0.66mm)
15-118-028	0.028" (0.71mm)
15-118-031	0.031" (0.79mm)
15-118-036	0.036" (0.91mm)
15-118-043	0.043" (1.09mm)
15-118-047	0.047" (1.19mm)
15-118-050	0.050" (1.27mm)
15-118-052	0.052" (1.32mm)
15-118-055	0.055" (1.40mm)
15-118-059	0.059" (1.50mm)
15-118-062	0.062" (1.57mm)
15-118-067	0.067" (1.70mm)
15-118-070	0.070" (1.78mm)
15-118-076	0.076" (1.93mm)
15-118-082	0.082" (2.08mm)
15-118-085	0.085" (2.16mm)
15-118-093	0.093" (2.36mm)
15-118-100	0.100" (2.54mm)
15-118-118	0.118" (3.00mm)
15-118-125	0.125" (3.18mm)

Part #	1/16" NPT Jet
15-218-016	0.016" (0.41mm)
15-218-021	0.021" (0.53mm)
15-218-024	0.024" (0.61mm)
15-218-026	0.026" (0.66mm)
15-218-028	0.028" (0.71mm)
15-218-031	0.031" (0.79mm)
15-218-036	0.036" (0.91mm)
15-218-043	0.043" (1.09mm)
15-218-047	0.047" (1.19mm)
15-218-050	0.050" (1.27mm)
15-218-052	0.052" (1.32mm)
15-218-055	0.055" (1.39mm)
15-218-059	0.059" (1.50mm)
15-218-062	0.062" (1.57mm)
15-218-067	0.067" (1.70mm)
15-218-070	0.070" (1.78mm)
15-218-076	0.076" (1.93mm)
15-218-082	0.082" (2.08mm)
15-218-085	0.085" (2.16mm)
15-218-093	0.093" (2.36mm)
15-218-100	0.100" (2.54mm)
15-218-118	0.118" (3.00mm)
15-218-125	0.125" (3.18mm)

10-15K Tungsten Line Mole Nozzle Inserts



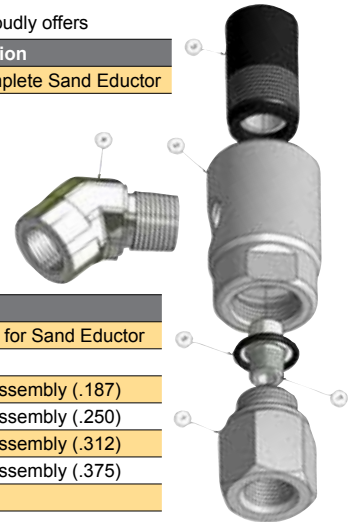
Part #	1/4" NPT	Jet Size
15-019-021	#021	0.021" (0.53mm)
15-019-024	#024	0.024" (0.61mm)
15-019-026	#1	0.026" (0.66mm)
15-019-031	#1.5	0.031" (0.79mm)
15-019-036	#2	0.036" (0.91mm)
15-019-039	#2.5	0.039" (0.99mm)
15-019-043	#3	0.043" (1.09mm)
15-019-047	#4	0.047" (1.19mm)
15-019-050	#4.5	0.050" (1.27mm)
15-019-052	#5	0.052" (1.32mm)
15-019-055	#5.5	0.055" (1.40mm)
15-019-059	#6	0.059" (1.50mm)
15-019-060	#6.5	0.060" (1.52mm)
15-019-062	#7	0.062" (1.57mm)
15-019-065	#7.5	0.065" (1.65mm)
15-019-067	#8	0.067" (1.70mm)
15-019-069	#8.5	0.069" (1.75mm)
15-019-071	#9	0.071" (1.80mm)
15-019-073	#9.5	0.073" (1.85mm)
15-019-075	#10	0.075" (1.90mm)

Part #	1/4" NPT	Jet Size
15-019-077	#10.5	0.077" (1.95mm)
15-019-078	#11	0.078" (1.98mm)
15-019-080	#11.5	0.080" (2.03mm)
15-019-082	#12	0.082" (2.08mm)
15-019-085	#13	0.085" (2.16mm)
15-019-089	#14	0.089" (2.26mm)
15-019-093	#15	0.093" (2.36mm)
15-019-095	#16	0.095" (2.41mm)
15-019-100	#18	0.100" (2.54mm)
15-019-106	#20	0.106" (2.69mm)
15-019-109	#21	0.109" (2.77mm)
15-019-118	#25	0.118" (2.99mm)
15-019-125	#27	0.125" (3.17mm)
15-019-130	#30	0.130" (3.30mm)
15-019-140	#35	0.140" (3.55mm)
15-019-156	#40	0.156" (3.96mm)
15-019-165	#50	0.165" (4.19mm)

15K Sand Eductor Nozzles **APS** proudly offers a Sand Eductor nozzles.



Part #	Description
15-012-000	15K Complete Sand Eductor



ITEM	PART #	DESCRIPTION
1	15-012-001	Inlet Adapter/Nozzle Holder for Sand Eductor
2	15-012-002	Housing for Sand Eductor
3	15-012-003	Tungsten Carbide Nozzle Assembly (.187)
3	15-012-004	Tungsten Carbide Nozzle Assembly (.250)
3	15-012-005	Tungsten Carbide Nozzle Assembly (.312)
3	15-012-006	Tungsten Carbide Nozzle Assembly (.375)
4	20-200-001	1/2" Street Elbow 45 Plated
5	30-001-910	O-Ring
7	15-013-000	1/4" NPT Meg Nozzle (Size to suit flow)

Nozzle Number	Orifice Diam./In.	2,000 PSI	4,000 PSI	5,000 PSI	6,000 PSI	7,000 PSI	8,000 PSI	9,000 PSI
0.12	0.012	0.154	0.218	0.244	0.267	0.288	0.308	0.327
0.13	0.013	0.181	0.256	0.286	0.313	0.338	0.362	0.384
0.14	0.014	0.210	0.297	0.332	0.363	0.392	0.419	0.445
0.15	0.015	0.241	0.340	0.381	0.417	0.450	0.481	0.511
0.16	0.016	0.274	0.387	0.433	0.474	0.512	0.548	0.581
0.18	0.018	0.347	0.490	0.548	0.600	0.649	0.693	0.735
0.2	0.020	0.428	0.605	0.677	0.741	0.801	0.856	0.908
0.21	0.021	0.472	0.667	0.746	0.817	0.883	0.944	1.001
0.22	0.022	0.518	0.732	0.819	0.897	0.969	1.036	1.099
0.24	0.024	0.616	0.872	0.974	1.067	1.153	1.233	1.307
0.25	0.025	0.669	0.946	1.057	1.158	1.251	1.337	1.419
0.26	0.026	0.723	1.023	1.144	1.253	1.353	1.447	1.534
0.28	0.028	0.839	1.186	1.326	1.453	1.569	1.678	1.780
0.31	0.031	1.028	1.454	1.626	1.781	1.924	2.057	2.181
0.32	0.032	1.096	1.550	1.732	1.898	2.050	2.191	2.324
2	0.036	1.387	1.961	2.193	2.402	2.594	2.773	2.942
3	0.043	1.978	2.798	3.128	3.427	3.701	3.957	4.197
4	0.047	2.364	3.343	3.737	4.094	4.422	4.727	5.014
4.5	0.050	2.675	3.783	4.229	4.633	5.004	5.350	5.674
5	0.052	2.893	4.092	4.575	5.011	5.413	5.786	6.137
5.5	0.055	3.237	4.577	5.118	5.606	6.055	6.473	6.866
6	0.059	3.725	5.267	5.889	6.451	6.968	7.449	7.901
6.5	0.060	3.852	5.447	6.090	6.672	7.206	7.704	8.171
7	0.062	4.113	5.817	6.503	7.124	7.695	8.226	8.725
7.5	0.065	4.521	6.393	7.148	7.830	8.457	9.041	9.590
8	0.067	4.803	6.793	7.594	8.319	8.986	9.606	10.189
8.5	0.069	5.094	7.204	8.055	8.823	9.530	10.188	10.806
9	0.071	5.394	7.628	8.528	9.342	10.091	10.788	11.442
9.5	0.073	5.702	8.064	9.016	9.876	10.667	11.404	12.096
10	0.075	6.019	8.512	9.516	10.425	11.260	12.037	12.768
10.5	0.077	6.344	8.972	10.031	10.988	11.868	12.688	13.458
11	0.078	6.510	9.206	10.293	11.275	12.179	13.020	13.809
11.5	0.080	6.848	9.684	10.828	11.861	12.811	13.696	14.527
12	0.082	7.195	10.175	11.376	12.461	13.460	14.389	15.262
12.5	0.084	7.550	10.677	11.937	13.077	14.124	15.100	16.016
13	0.085	7.731	10.933	12.223	13.390	14.463	15.461	16.399
14	0.089	8.475	11.986	13.401	14.680	15.856	16.951	17.979
15	0.093	9.254	13.088	14.632	16.029	17.313	18.509	19.631
16	0.095	9.657	13.657	15.268	16.726	18.066	19.313	20.485
18	0.100	10.700	15.132	16.918	18.533	20.018	21.400	22.698
20	0.106	12.022	17.002	19.009	20.823	22.492	24.045	25.503
21	0.109	12.713	17.978	20.100	22.019	23.783	25.425	26.967
25	0.118	14.898	21.070	23.557	25.805	27.873	29.797	31.604
27	0.125	16.719	23.644	26.434	28.957	31.278	33.437	35.465
30	0.130	18.083	25.573	28.591	31.320	33.830	36.166	38.359
35	0.140	20.972	29.659	33.159	36.324	39.235	41.943	44.488
40	0.156	26.039	36.825	41.172	45.101	48.715	52.078	55.237
50	0.167	29.841	42.201	47.183	51.686	55.827	59.682	63.302
60	0.187	37.416	52.915	59.160	64.807	70.000	74.833	79.372
70	0.203	44.093	62.357	69.717	76.371	82.491	88.186	93.536
80	0.210	47.186	66.732	74.608	81.729	88.278	94.373	100.098
90	0.219	51.318	72.574	81.140	88.885	96.007	102.635	108.861
100	0.250	66.874	94.574	105.737	115.829	125.110	133.748	141.862

15K - DRILLED NOZZLE FLOWS

Nozzle Number	Orifice Diam./In.	10,000 PSI	15,000 PSI	20,000 PSI	25,000 PSI	30,000 PSI	36,000 PSI	40,000 PSI
0.12	0.012	0.345	0.422	0.487	0.545	0.597	0.654	0.689
0.13	0.013	0.404	0.495	0.572	0.639	0.700	0.767	0.809
0.14	0.014	0.469	0.574	0.663	0.741	0.812	0.890	0.938
0.15	0.015	0.538	0.659	0.761	0.851	0.932	1.021	1.077
0.16	0.016	0.612	0.750	0.866	0.968	1.061	1.162	1.225
0.18	0.018	0.775	0.949	1.096	1.226	1.343	1.471	1.550
0.2	0.020	0.957	1.172	1.353	1.513	1.658	1.816	1.914
0.21	0.021	1.055	1.292	1.492	1.668	1.828	2.002	2.110
0.22	0.022	1.158	1.418	1.638	1.831	2.006	2.197	2.316
0.24	0.024	1.378	1.688	1.949	2.179	2.387	2.615	2.756
0.25	0.025	1.495	1.831	2.115	2.364	2.590	2.837	2.991
0.26	0.026	1.617	1.981	2.287	2.557	2.801	3.069	3.235
0.28	0.028	1.876	2.297	2.653	2.966	3.249	3.559	3.752
0.31	0.031	2.299	2.816	3.252	3.635	3.982	4.363	4.599
0.32	0.032	2.450	3.001	3.465	3.874	4.243	4.649	4.900
2	0.036	3.101	3.798	4.385	4.903	5.371	5.883	6.202
3	0.043	4.424	5.418	6.256	6.995	7.662	8.394	8.848
4	0.047	5.285	6.473	7.474	8.357	9.154	10.028	10.570
4.5	0.050	5.981	7.326	8.459	9.457	10.360	11.349	11.963
5	0.052	6.469	7.923	9.149	10.229	11.205	12.275	12.939
5.5	0.055	7.238	8.864	10.235	11.443	12.536	13.732	14.475
6	0.059	8.329	10.200	11.778	13.169	14.425	15.802	16.657
6.5	0.060	8.613	10.549	12.181	13.619	14.919	16.342	17.226
7	0.062	9.197	11.264	13.007	14.542	15.930	17.450	18.394
7.5	0.065	10.109	12.380	14.296	15.983	17.509	19.180	20.217
8	0.067	10.740	13.154	15.189	16.982	18.603	20.378	21.480
8.5	0.069	11.391	13.951	16.109	18.011	19.730	21.613	22.782
9	0.071	12.061	14.772	17.057	19.070	20.890	22.884	24.122
9.5	0.073	12.750	15.615	18.031	20.159	22.084	24.191	25.500
10	0.075	13.458	16.483	19.033	21.279	23.310	25.535	26.916
10.5	0.077	14.186	17.374	20.061	22.429	24.570	26.915	28.371
11	0.078	14.556	17.828	20.586	23.016	25.212	27.619	29.113
11.5	0.080	15.312	18.754	21.655	24.211	26.522	29.053	30.625
12	0.082	16.088	19.703	22.751	25.437	27.865	30.524	32.175
12.5	0.084	16.882	20.676	23.875	26.693	29.240	32.031	33.764
13	0.085	17.286	21.171	24.446	27.332	29.941	32.798	34.573
14	0.089	18.951	23.211	26.801	29.965	32.825	35.958	37.903
15	0.093	20.693	25.344	29.265	32.719	35.842	39.263	41.387
16	0.095	21.593	26.446	30.537	34.141	37.400	40.970	43.186
18	0.100	23.926	29.303	33.836	37.830	41.440	45.396	47.851
20	0.106	26.883	32.925	38.018	42.506	46.562	51.007	53.766
21	0.109	28.426	34.815	40.200	44.946	49.235	53.935	56.852
25	0.118	33.314	40.801	47.113	52.674	57.702	63.209	66.628
27	0.125	37.384	45.786	52.869	59.109	64.751	70.931	74.768
30	0.130	40.434	49.522	57.183	63.932	70.034	76.719	80.869
35	0.140	46.894	57.433	66.318	74.146	81.223	88.976	93.788
40	0.156	58.225	71.311	82.343	92.062	100.849	110.475	116.451
50	0.167	66.726	81.723	94.365	105.503	115.573	126.604	133.452
60	0.187	83.666	102.469	118.321	132.287	144.913	158.744	167.331
70	0.203	98.595	120.754	139.435	155.893	170.772	187.071	197.190
80	0.210	105.512	129.225	149.217	166.829	182.752	200.195	211.024
90	0.219	114.750	140.539	162.281	181.435	198.752	217.722	229.499
100	0.250	149.535	183.142	211.475	236.436	259.003	283.723	299.070

Nozzle Number	Orifice Diam./In.	2,000 PSI	4,000 PSI	5,000 PSI	6,000 PSI	7,000 PSI	8,000 PSI	9,000 PSI	10,000 PSI	15,000 PSI	20,000 PSI	25,000 PSI	30,000 PSI
0.15	0.015	0.291	0.412	0.460	0.504	0.544	0.582	0.617	0.651	0.797	0.920	1.029	1.127
0.16	0.016	0.331	0.468	0.524	0.573	0.619	0.662	0.702	0.740	0.907	1.047	1.171	1.282
0.18	0.018	0.419	0.593	0.663	0.726	0.784	0.838	0.889	0.937	1.148	1.325	1.482	1.623
0.2	0.020	0.517	0.732	0.818	0.896	0.968	1.035	1.097	1.157	1.417	1.636	1.829	2.004
0.21	0.021	0.570	0.807	0.902	0.988	1.067	1.141	1.210	1.275	1.562	1.804	2.017	2.209
0.22	0.022	0.626	0.885	0.990	1.084	1.171	1.252	1.328	1.400	1.714	1.980	2.213	2.424
0.24	0.024	0.745	1.054	1.178	1.290	1.394	1.490	1.580	1.666	2.040	2.356	2.634	2.885
0.25	0.025	0.808	1.143	1.278	1.400	1.512	1.617	1.715	1.807	2.214	2.556	2.858	3.131
0.26	0.026	0.874	1.236	1.382	1.514	1.636	1.749	1.855	1.955	2.394	2.765	3.091	3.386
0.28	0.028	1.014	1.434	1.603	1.756	1.897	2.028	2.151	2.267	2.777	3.206	3.585	3.927
0.29	0.029	1.088	1.538	1.720	1.884	2.035	2.175	2.307	2.432	2.979	3.440	3.846	4.213
0.31	0.031	1.243	1.758	1.965	2.153	2.325	2.486	2.637	2.779	3.404	3.930	4.394	4.814
0.32	0.032	1.324	1.873	2.094	2.294	2.478	2.649	2.809	2.961	3.627	4.188	4.682	5.129
2	0.036	1.676	2.370	2.650	2.903	3.136	3.352	3.556	3.748	4.590	5.300	5.926	6.492
2_	0.039	1.967	2.782	3.110	3.407	3.680	3.934	4.173	4.399	5.387	6.221	6.955	7.619
2_	0.040	2.069	2.926	3.272	3.584	3.871	4.139	4.390	4.627	5.667	6.544	7.316	8.014
2_	0.041	2.174	3.075	3.438	3.766	4.067	4.348	4.612	4.861	5.954	6.875	7.687	8.420
3	0.043	2.391	3.382	3.781	4.142	4.474	4.783	5.073	5.347	6.549	7.562	8.455	9.262
4	0.047	2.857	4.040	4.517	4.948	5.345	5.714	6.061	6.388	7.824	9.035	10.101	11.065
4.5	0.050	3.233	4.573	5.112	5.600	6.049	6.467	6.859	7.230	8.855	10.225	11.432	12.523
4_	0.051	3.364	4.757	5.319	5.827	6.293	6.728	7.136	7.522	9.213	10.638	11.893	13.029
5	0.052	3.497	4.946	5.530	6.057	6.543	6.994	7.419	7.820	9.577	11.059	12.364	13.544
5.5	0.055	3.912	5.533	6.186	6.776	7.319	7.825	8.299	8.748	10.714	12.372	13.832	15.152
6	0.059	4.502	6.367	7.118	7.798	8.423	9.004	9.550	10.067	12.329	14.237	15.917	17.437
6.5	0.060	4.656	6.585	7.362	8.064	8.711	9.312	9.877	10.411	12.751	14.724	16.461	18.033
7	0.062	4.972	7.031	7.861	8.611	9.301	9.943	10.546	11.117	13.615	15.721	17.577	19.255
7.5	0.065	5.464	7.728	8.640	9.465	10.223	10.929	11.592	12.219	14.965	17.280	19.319	21.163
8	0.067	5.806	8.211	9.180	10.056	10.862	11.612	12.316	12.982	15.900	18.359	20.527	22.486
8.5	0.069	6.158	8.708	9.736	10.665	11.520	12.315	13.062	13.769	16.863	19.472	21.770	23.848
9	0.071	6.520	9.220	10.309	11.292	12.197	13.039	13.830	14.578	17.855	20.617	23.051	25.251
9.5	0.073	6.892	9.747	10.897	11.938	12.894	13.784	14.621	15.411	18.875	21.795	24.368	26.693
10	0.075	7.275	10.288	11.503	12.601	13.610	14.550	15.433	16.267	19.923	23.006	25.721	28.176
10.5	0.077	7.668	10.844	12.124	13.282	14.346	15.336	16.267	17.147	21.000	24.249	27.111	29.699
11	0.078	7.869	11.128	12.441	13.629	14.721	15.737	16.692	17.595	21.549	24.883	27.820	30.475
11.5	0.080	8.277	11.706	13.088	14.337	15.485	16.555	17.559	18.509	22.668	26.175	29.265	32.058
12	0.082	8.696	12.299	13.750	15.063	16.269	17.393	18.448	19.446	23.816	27.500	30.746	33.681
12.5	0.084	9.126	12.906	14.429	15.806	17.073	18.252	19.359	20.406	24.992	28.858	32.264	35.344
13	0.085	9.344	13.215	14.775	16.185	17.482	18.689	19.822	20.895	25.591	29.549	33.037	36.190
14	0.089	10.244	14.488	16.198	17.744	19.166	20.489	21.732	22.907	28.056	32.396	36.220	39.677
15	0.093	11.186	15.819	17.687	19.375	20.927	22.372	23.729	25.013	30.634	35.373	39.549	43.323
16	0.095	11.672	16.507	18.456	20.217	21.837	23.345	24.761	26.100	31.966	36.911	41.268	45.207
18	0.100	12.933	18.290	20.449	22.401	24.196	25.867	27.436	28.920	35.419	40.899	45.726	50.091
20	0.106	14.532	20.551	22.977	25.170	27.187	29.064	30.827	32.494	39.797	45.954	51.378	56.282
25	0.118	18.008	25.468	28.474	31.191	33.691	36.017	38.202	40.268	49.318	56.947	63.669	69.746
27	0.125	20.208	28.579	31.952	35.002	37.806	40.417	42.868	45.187	55.343	63.904	71.447	78.267
30	0.130	21.857	30.911	34.559	37.858	40.891	43.715	46.366	48.874	59.859	69.119	77.277	84.653
35	0.140	25.349	35.849	40.081	43.906	47.424	50.699	53.774	56.683	69.422	80.162	89.623	98.178
40	0.156	31.475	44.512	49.766	54.516	58.884	62.949	66.768	70.379	86.197	99.531	****	****
50	0.167	36.070	51.010	57.031	62.475	67.480	72.140	76.516	80.654	98.781	****	****	****
60	0.187	45.227	63.960	71.509	78.335	84.611	90.453	80.654	****	****	****	****	****
70	0.203	53.297	75.373	84.270	92.313	99.710	95.940	****	****	****	****	****	****
80	0.210	57.036	80.661	90.182	98.789	****	****	****	****	****	****	****	****
90	0.219	62.030	87.723	98.077	****	****	****	****	****	****	****	****	****
100	0.250	80.833	****	****	****	****	****	****	****	****	****	****	****