CLEMCO
The Performance System

Technical Data Sheet

Note: For safe, efficient blasting, read and follow the owner's manual and seek training for everyone who will use this equipment.

Purpose

A blast nozzle accelerates the air and abrasive as the mixture exits the end of the hose. The taper and length of the nozzle's inlet and outlet determine the pattern and velocity of the abrasive exiting the nozzle. The composition of the liner material determines its resistance to wear.

Requirements for Operation

Nozzles are sized by the diameter of their orifices in 1/16-inch increments. A No. 2 nozzle has a 2/16-inch (1/8-inch) orifice, a No. 3 nozzle has a 3/16-inch orifice, etc. The size of the nozzle orifice determines abrasive and air consumption. Air consumption is measured in cubic feet per minute (cfm) at a given pressure. See the air and abrasive consumption chart on the back of this page.

When choosing a nozzle, consider the amount of available air in cfm, the capacity of the blast machine and the inside diameter of the piping, the blast and air hoses.

If too large a nozzle is used, low blast pressure and rapid wear on the blast hose will occur. If too small a nozzle is used, smooth media flow will be difficult to achieve.

Description of Operation

The operator attaches the nozzle to the nozzle holder. Threaded nozzles require a holder with matching threads. CJD, CSD and CXD nozzles have 1-1/4-inch threads. TXD nozzles have Contractor threads (50 mm). Flange-style nozzles use a quick-coupling nozzle holder, which couples to most quick couplings. Clemco's nylon quick couplings have built-in lock springs to keep the couplings from becoming uncoupled. If other couplings are used, the operator must install pins to secure the couplings.

Description

Blast nozzle with venturi shaped tungsten carbide liner and metal jacket. Thread size and entry dimensions vary with nozzle series.

***CXD* shown**

With all related equipment correctly assembled and tested, the operator points the nozzle at the surface to be cleaned and presses the remote control handle to begin blasting. The operator holds the nozzle at the appropriate distance and angle to the surface. The longer the nozzle, the greater the stand-off distance. The normal range for short-venturi nozzles is 12 to 18 inches. For long venturi nozzles, it is between 18 and 36 inches. The operator will determine the appropriate distance for the application.

The operator must check the nozzle and nozzle washer daily for damage or wear and replace as necessary. The nozzle should be replaced when the orifice wears 1/16-inch beyond its original size.

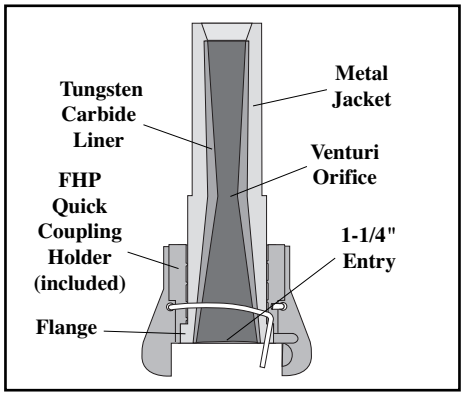
Advantages

- Rugged and durable aluminum jacket.
- Tungsten carbide is the most rugged and durable liner material and provides the best value.
- Expected wear-life when blasting with expendable abrasives is approximately 300 hours.
- TXD nozzles have large contractor threads, which eliminate galling or bind ing of the threads in the holder.
- CXD nozzles provide smooth transition from 1-1/4-inch blast hose to the 1-1/4-inch entry for users who prefer fine thread nozzles.

Nozzles

Tungsten Carbide Lined Metal Jacketed

Short Venturi: CJD
Long Venturi: CSD, TXD, SDX, CXD



SDX shown

Replacement Parts

Description **Stock No.**

Nozzle washers shown on reverse.

Flanged nozzle coupling lock-springs (25) 21585

Specifications

Nozzle Model	CJD CSD	CXD	TXD	SDX
Mounting Thread	1-1/4"	1-1/4"	Contractor	*Flanged
Entry Diameter	1"	1-1/4"	1-1/4"	1/14"
Liner	Tungsten Carbide			
Liner Style	Venturi			
Jacket Material	Aluminum			

*Flanged nozzle includes quick-coupling nozzle holder

Based on abrasives weighing 100 pounds per cubic foot, and compressor horsepower (hp) based on 4 to 4.5 cfm per horsepower.

NOTE: Figures vary depending upon working conditions. The effects of nozzle wear on air consumption must be considered when selecting nozzles and the compressors that support them.

Compressed Air and Abrasive Consumption

Nozzle Orifice	Pressure at the Nozzle (psi) 50	60	70	80	90	100	125	140	Air (in cfm) Abrasive & HP requirements
No. 2 (1/8")	11	13	15	17	18.5	20	25	28	Air (cfm)
	.67	.77	.88	1.01	1.12	1.23	1.52	1.70	Abrasive (cu.ft./hr
	67	77	88	101	112	123	152	170	& Lbs/hr)
	2.5	3	3.5	4	4.5	5	5.5	6.2	Compressor hp
No. 3 (3/16")	26	30	33	38	41	45	55	62	Air (cfm)
	1.50	1.71	1.96	2.16	2.38	2.64	3.19	3.57	Abrasive (cu.ft./hr
	150	171	196	216	238	264	319	357	& Lbs/hr)
	6	7	8	9	10	10	12	13	Compressor hp
No. 4 (1/4")	47	54	61	68	74	81	98	110	Air (cfm)
	2.68	3.12	3.54	4.08	4.48	4.94	6.08	6.81	Abrasive (cu.ft./hr
	268	312	354	408	448	494	608	681	& Lbs/hr)
	11	12	14	16	17	18	22	25	Compressor hp
No. 5 (5/16")	77	89	101	113	126	137	168	188	Air (cfm)
	4.68	5.34	6.04	6.72	7.40	8.12	9.82	11.0	Abrasive (cu.ft./hr
	468	534	604	672	740	812	982	1100	& Lbs/hr)
	18	20	23	26	28	31	37	41	Compressor hp
No. 6 (3/8")	108	126	143	161	173	196	237	265	Air (cfm)
	6.68	7.64	8.64	9.60	10.52	11.52	13.93	15.60	Abrasive (cu.ft./hr
	668	764	864	960	1052	1152	1393	1560	& Lbs/hr)
	24	28	32	36	39	44	52	58	Compressor hp
No. 7 (7/16")	147	170	194	217	240	254	314	352	Air (cfm)
	8.96	10.32	11.76	13.12	14.48	15,84	19.31	21.63	Abrasive (cu.ft./hr
	896	1032	1176	1312	1448	1584	1931	2163	& Lbs/hr)
	33	38	44	49	54	57	69	77	Compressor hp
No. 8 (1/2")	195	224	252	280	309	338	409	458	Air (cfm)
	11.60	13.36	15.12	16.80	18.56	20.24	24.59	27.54	Abrasive (cu.ft./hr
	1160	1336	1512	1680	1856	2024	2459	2754	& Lbs/hr)
	44	50	56	63	69	75	90	101	Compressor hp

Nozzle Stock Number, Dimensions, & Weights

		Model No.	Stock No.	Orifice ID	Length	Net Wt	Pkg'd Wt	Holder	Washer
Fine 1-1/4" Thread	1" Entry	CJD-3	01378	3/16"	3-1/8"	.70 lb	1 lb	HEP series or CFP 07716	NW-4
		CJD-4	01379	1/4"	3-1/8"	.70 lb	1 lb		NW-4
		CJD-5	01380	5/16"	3-1/8"	.70 lb	1 lb		NW-4
		CJD-6	01381	3/8"	3-1/8"	.80 lb	1 lb		NW-4
		CJD-7	01382	7/16"	3-1/8"	.80 lb	1 lb		NW-4
		CJD-8	01383	1/2"	3-1/8"	.90 lb	1 lb		NW-4
Fine 1-1/4" Thread	1" Entry	CSD-3	01384	3/16"	4-1/4"	1.1 lb	1.5 lb	HEP series or CFP 07716	NW-4
		CSD-4	01385	1/4"	5-3/8"	1.3 lb	1.5 lb		NW-4
		CSD-5	01386	5/16"	5-3/4"	1.3 lb	1.5 lb		NW-4
		CSD-6	01387	3/8"	6-3/4"	1.6 lb	2 lb		NW-4
		CSD-7	01388	7/16"	8"	2 lb	2 lb		NW-4
		CSD-8	01389	1/2"	9"	2.4 lb	2.5		NW-4
Fine 1-1/4" Thread	1-1/4" Entry	CXD-6	23460	3/8"	6-3/4"	1.6 lb	2 lb	HEP series or CFP 07716	NW-5
		CXD-7	23461	7/16"	8"	2 lb	2 lb		NW-5
		CXD-8	23462	1/2"	9"	2.5 lb	2.5 lb		NW-5
Contractor Thread	1-1/4" Entry	TXD-6	99147	3/8"	6-3/4"	1.9 lb	2 lb	NHP 2 or 3, CFPM 07719	NW-32
		TXD-7	99148	7/16"	8"	2 lb	2.5 lb		NW-32
		TXD-8	99149	1/2"	9-9/16"	2 lb	2.5 lb		NW-32
Flanged	1-1/4" Entry	SDX-6	01394	3/8"	6-3/4"	2.2 lb	3 lb	FHP incl.w/ nozzle	Coupling gasket serves as nozzle washer
		SDX-7	01395	7/16"	8-3/4"	2.2 lb	3 lb		
		SDX-8	01396	1/2"	9-3/16"	2.4 lb	3 lb		
		SDX-10	01397	5/8"	9-3/16"	2.8 lb	3.5 lb		
		SDX-12	01398	3/4"	9"	2.9 lb	3.5 lb		