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, and the blast and air hoses. For optimal performance, these elements must be compatibly sized. See the chart on the back of this page.

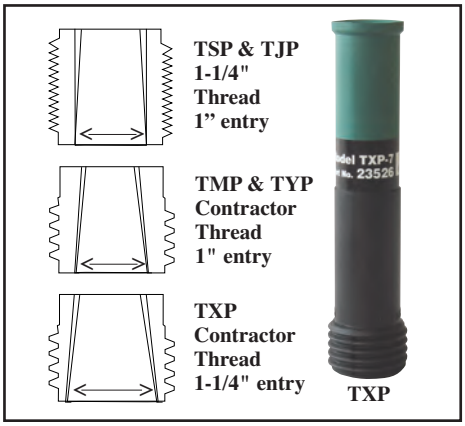
If too large a nozzle for the compressor is used, low blast pressure will occur. If too large a nozzle for the blast hose is used, rapid wear on the blast hose will occur. If too small a nozzle is used, smooth media flow will be difficult to achieve.

Description of Operation

The operator inserts the nozzle washer into a holder and screws in the nozzle, turning it by hand, until it seats firmly against the washer.

Description

Blast nozzle with venturi shaped tungsten carbide liner, natural rubber jacket, dual-compound hard rubber threads. Thread size and entry dimensions vary with nozzle series. Includes one nozzle washer.



With all related equipment correctly assembled and tested, the operator points the nozzle toward the surface to be cleaned and presses the remote control handle to begin blasting. The operator holds the nozzle and moves it smoothly at a rate that produces the desired cleanliness. Each pass should overlap slightly.

The operator must replace the nozzle once the orifice wears 1/16-inch beyond its original size.

Advantages

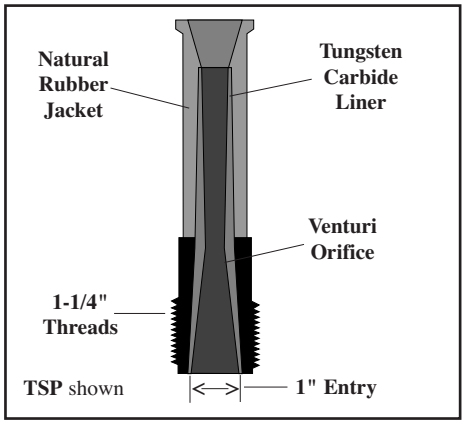
- Short-venturi nozzles (TJP, TYP) designed for blasting 12 to 18 inches away from the surface.
- Long-venturi nozzles (TSP, TMP, TXP) allow high production blasting at a distance of 18 to 24 inches for hard-to-clean surfaces, and 30 to 36 inches for loose paint and soft surfaces
- Expected life with expendable abrasives is approximately 300 hours
- Durable natural rubber jacket
- 1-inch entry provides smooth transition and maximum productivity with 1-inch ID blast hose
- 1-1/4-inch entry ensures maximum productivity with 1-1/4-inch ID blast hose

Packaging: Boxed individually

Nozzles

Tungsten Carbide Lined Rubber Jacketed

Short Venturi: TJP, TYP
Long Venturi: TSP, TMP, TXP



Specifications			
Nozzle Model	**TSP TJP**	**TMP TYP**	**TXP**
Mounting Thread	**1-1/4"**	**Contractor**	**Contractor**
Entry Diameter	**1"**	**1"**	**1-1/4"**
Liner	**Tungsten Carbide**		
Liner Style	**Venturi**		
Jacket Material	**Natural Rubber**		
Nozzle Color	**Green and Black**		

Authorized Distributor:

ISO 9001:2008 certified. Clemco is committed to continuous product improvement. Specifications are subject to change without notice.

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Note: Best performance is obtained when sizes of nozzle, blast machine piping, blast hose and air hose are properly matched.

- Cfm range is based on blasting at 100 psi for the life of the nozzle.
- Blast machine capacity should allow 20 to 30 minutes of blasting.
- Hose ID should be three to four times the size of the nozzle orifice.

Component Compatibility Guide

No.	Nozzle Orifice	Recommended cfm Range	Minimum Blast Machine Capacity	Minimum Piping ID	Blast Hose ID	Minimum Air Hose ID
3	3/16"	45 - 81	2 cu ft	1"	3/4"	1"
4	1/4"	81 - 137	2 cu ft	1"	1" - 1-1/4"	1-1/4"
5	5/16"	137 - 196	4 cu ft	1"	1" - 1-1/4"	1-1/4"
6	3/8"	196 - 254	6 cu ft	1-1/4"	1-1/4"	1-1/2"
7	7/16"	254 - 338	6 cu ft	1-1/4"	1-1/4" - 1-1/2"	2"
8	1/2"	338 - 548	6 cu ft	1-1/4"	1-1/2"	2"

Compressed Air and Abrasive Consumption

Chart shows air consumption in cubic feet per minute (cfm), abrasive consumption in pounds per hour and cubic feet per hour for abrasives weighing 100 pounds per cubic foot, and compressor horsepower (hp) based on 4 to 4.5 cfm per horsepower.

NOTE: Figures may vary depending upon working conditions. To maintain desired air pressure as nozzle orifice wears, air consumption increases. The effects of nozzle wear on air consumption must be considered when selecting nozzles and the compressors that support them.

When nozzle orifice is 3/8-inch or larger, blast machine valves and piping must be 1-1/4-inch or larger to provide sufficient air volume.

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	TJP-3	23507	3/16"	3-3/4"	.60 lb	1 lb	HEP SERIES	NW-4
	TJP-4	23508	1/4"	3-3/4"	.60 lb	1 lb		NW-4
	TJP-5	23509	5/16"	3-3/4"	.70 lb	1 lb		NW-4
	TJP-6	23510	3/8"	3-3/4"	.70 lb	1 lb		NW-4
	TJP-7	23511	7/16"	3-11/16"	.80 lb	1 lb		NW-4
	TJP-8	23512	1/2"	3-11/16"	.80 lb	1 lb		NW-4
Contractor Thread	TYP-3	23501	3/16"	3-3/4"	.70 lb	1 lb	NHP SERIES	NW-25
	TYP-4	23502	1/4"	3-3/4"	.70 lb	1 lb		NW-25
	TYP-5	23503	5/16"	3-3/4"	.70 lb	1 lb		NW-25
	TYP-6	23504	3/8"	3-3/4"	.80 lb	1 lb		NW-25
	TYP-7	23505	7/16"	3-3/4"	.80 lb	1 lb		NW-25
	TYP-8	23506	1/2"	3-3/4"	.80 lb	1 lb		NW-25
Fine 1-1/4" Thread	TSP-3	23513	3/16"	4-3/4"	1 lb	1.5 lb	HEP SERIES	NW-4
	TSP-4	23514	1/4"	5-3/4"	1.2 lb	1.5 lb		NW-4
	TSP-5	23515	5/16"	6-1/4"	1.2 lb	1.5 lb		NW-4
	TSP-6	23516	3/8"	7-3/4"	1.6 lb	2.0 lb		NW-4
	TSP-7	23517	7/16"	8-1/2"	2.0 lb	2.0 lb		NW-4
	TSP-8	23518	1/2"	9-5/8"	2.5 lb	2.5 lb		NW-4
Contractor Thread	TMP-3	23519	3/16"	4-3/4"	1 lb	1.5 lb	NHP SERIES	NW-25
	TMP-4	23520	1/4"	6"	1.2 lb	1.5 lb		NW-25
	TMP-5	23521	5/16"	6-1/4"	1.3 lb	1.5 lb		NW-25
	TMP-6	23522	3/8"	7-1/4"	1.7 lb	2.0 lb		NW-25
	TMP-7	23523	7/16"	8-1/2"	2.0 lb	2.5 lb		NW-25
	TMP-8	23524	1/2"	9-3/4"	2.5 lb	2.5 lb		NW-25
Contr Thread	TXP-6	23525	3/8"	7-3/8"	1.8 lb	2.0 lb	NHP SERIES	NW-32
	TXP-7	23526	7/16"	8-1/2"	2.4 lb	2.5 lb		NW-32
	TXP-8	23527	1/2"	9-3/4"	2.3 lb	2.5 lb		NW-32