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.

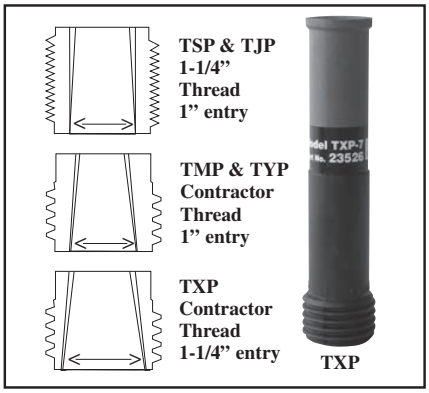
If too large a nozzle for the compressor is used, low blast pressure will occur. If too large a nozzle for the blast hose is used, rapid wear on the blast hose will occur. If too small a nozzle is used, smooth media flow will be difficult to achieve.

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

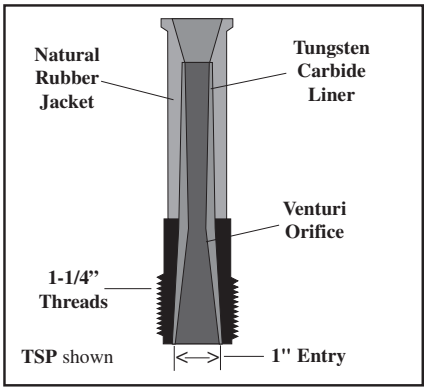
- Short-venturi nozzles (TJP, TYP) designed for blasting 12 to 18 inches away from the surface.
- Long-venturi nozzles (TSP, TMP, TXP) allow high production blasting at a distance of 18 to 24 inches for hard-to-clean surfaces, and 30 to 36 inches for loose paint and soft surfaces
- Expected life with 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		

Optional Accessories			
Nozzle Model	TSP TJP	TMP TYP	TXP
Blast Hose	Nozzle Holders		
1-1/2" OD	07720	04106	--
1-7/8" OD	07721	04127	04127
2-5/32"OD	07722	04128	04128
Coupling Nozzle Holder	--	--	07719
Nozzle Washers (Pkg. of 10)	00869	91024	91026

Authorized Distributor:

ISO 9001-2000 certified. Clemco is committed to continuous product improvement. Specifications are subject to change without notice.

THE WAREHOUSE RENTALS & SUPPLIES

www.twrs.com
Toll Free: 800.621.2777
Email: sales@twrs.com

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"

Compressor 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	150	Air (in cfm) Abrasive & HP requirements
No. 2 (1/8")	11	13	15	17	18.5	20	25	30	Air (cfm)
	.67	.77	.88	1.01	1.12	1.23	1.52	1.82	Abrasive (cu.ft./hr
	67	77	88	101	112	123	152	182	& Lbs/hr)
	2.5	3	3.5	4	4.5	5	5.5	6.6	Compressor hp
No. 3 (3/16")	26	30	33	38	41	45	55	66	Air (cfm)
	1.50	1.71	1.96	2.16	2.38	2.64	3.19	3.83	Abrasive (cu.ft./hr
	150	171	196	216	238	264	319	383	& Lbs/hr)
	6	7	8	9	10	10	12	14	Compressor hp
No. 4 (1/4")	47	54	61	68	74	81	98	118	Air (cfm)
	2.68	3.12	3.54	4.08	4.48	4.94	6.08	7.30	Abrasive (cu.ft./hr
	268	312	354	408	448	494	608	730	& Lbs/hr)
	11	12	14	16	17	18	22	26	Compressor hp
No. 5 (5/16")	77	89	101	113	126	137	168	202	Air (cfm)
	4.68	5.34	6.04	6.72	7.40	8.12	9.82	1.178	Abrasive (cu.ft./hr
	468	534	604	672	740	812	982	1,178	& Lbs/hr)
	18	20	23	26	28	31	37	44	Compressor hp
No. 6 (3/8")	108	126	143	161	173	196	237	284	Air (cfm)
	6.68	7.64	8.64	9.60	10.52	11.52	13.93	1.672	Abrasive (cu.ft./hr
	668	764	864	960	1052	1152	1393	1,672	& Lbs/hr)
	24	28	32	36	39	44	52	62	Compressor hp
No. 7 (7/16")	147	170	194	217	240	254	314	377	Air (cfm)
	8.96	10.32	11.76	13.12	14.48	15,84	19.31	2.317	Abrasive (cu.ft./hr
	896	1032	1176	1312	1448	1584	1931	2,317	& Lbs/hr)
	33	38	44	49	54	57	69	83	Compressor hp
No. 8 (1/2")	195	224	252	280	309	338	409	491	Air (cfm)
	11.60	13.36	15.12	16.80	18.56	20.24	24.59	2.951	Abrasive (cu.ft./hr
	1160	1336	1512	1680	1856	2024	2459	2951	& Lbs/hr)
	44	50	56	63	69	75	90	108	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-4
	TMP-4	23520	1/4"	6"	1.2 lb	1.5 lb		NW-4
	TMP-5	23521	5/16"	6-1/4"	1.3 lb	1.5 lb		NW-4
	TMP-6	23522	3/8"	7-1/4"	1.7 lb	2.0 lb		NW-4
	TMP-7	23523	7/16"	8-1/2"	2.0 lb	2.5 lb		NW-4
	TMP-8	23524	1/2"	9-3/4"	2.5 lb	2.5 lb		NW-4
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

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 becomming 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 correct distance will be established for each 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.

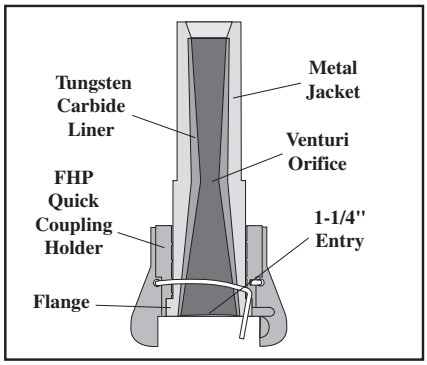
Advantages

- 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 with large contractor threads eliminate galling or binding 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 1-1/4-inch 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"	
Liner	Tungsten Carbide			
Liner Style	Venturi			
Jacket Material	Aluminum			

*Flanged nozzle includes quick-coupling nozzle holder

Authorized Distributor:

ISO 9001-2000 certified. Clemco is committed to continuous product improvement. Specifications are subject to change without notice.

THE WAREHOUSE RENTALS & SUPPLIES

www.twrs.com
Toll Free: 800.621.2777
Email: sales@twrs.com

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 consump-tion must be considered when selecting nozzles and the compressors that support them.

Compressor Air and Abrasive Consumption

Nozzle Orifice	Pressure at the Nozzle (psi) 50	60	70	80	90	100	125	150	Air (in cfm) Abrasive & HP requirements
No. 2 (1/8")	11	13	15	17	18.5	20	25	30	Air (cfm)
	.67	.77	.88	1.01	1.12	1.23	1.52	1.82	Abrasive (cu.ft./hr
	67	77	88	101	112	123	152	182	& Lbs/hr)
	2.5	3	3.5	4	4.5	5	5.5	6.6	Compressor hp
No. 3 (3/16")	26	30	33	38	41	45	55	66	Air (cfm)
	1.50	1.71	1.96	2.16	2.38	2.64	3.19	3.83	Abrasive (cu.ft./hr
	150	171	196	216	238	264	319	383	& Lbs/hr)
	6	7	8	9	10	10	12	14	Compressor hp
No. 4 (1/4")	47	54	61	68	74	81	98	118	Air (cfm)
	2.68	3.12	3.54	4.08	4.48	4.94	6.08	7.30	Abrasive (cu.ft./hr
	268	312	354	408	448	494	608	730	& Lbs/hr)
	11	12	14	16	17	18	22	26	Compressor hp
No. 5 (5/16")	77	89	101	113	126	137	168	202	Air (cfm)
	4.68	5.34	6.04	6.72	7.40	8.12	9.82	1.178	Abrasive (cu.ft./hr
	468	534	604	672	740	812	982	1,178	& Lbs/hr)
	18	20	23	26	28	31	37	44	Compressor hp
No. 6 (3/8")	108	126	143	161	173	196	237	284	Air (cfm)
	6.68	7.64	8.64	9.60	10.52	11.52	13.93	1.672	Abrasive (cu.ft./hr
	668	764	864	960	1052	1152	1393	1,672	& Lbs/hr)
	24	28	32	36	39	44	52	62	Compressor hp
No. 7 (7/16")	147	170	194	217	240	254	314	377	Air (cfm)
	8.96	10.32	11.76	13.12	14.48	15,84	19.31	2.317	Abrasive (cu.ft./hr
	896	1032	1176	1312	1448	1584	1931	2,317	& Lbs/hr)
	33	38	44	49	54	57	69	83	Compressor hp
No. 8 (1/2")	195	224	252	280	309	338	409	491	Air (cfm)
	11.60	13.36	15.12	16.80	18.56	20.24	24.59	2.951	Abrasive (cu.ft./hr
	1160	1336	1512	1680	1856	2024	2459	2951	& Lbs/hr)
	44	50	56	63	69	75	90	108	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	Cplg gskt 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		

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

Description

Blast nozzle with long venturi Clemlite® silicon carbide liner, urethane jacket. Thread size and entry dimensions vary with nozzle series.

SXR-6

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 18 to 36 inches from the surface 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

- Expected life with expendable abrasives is up to 500 hours
- Durable urethane jacket
- Non-binding contractor threads
- 42% lighter than tungsten carbide

Related Clemco Literature

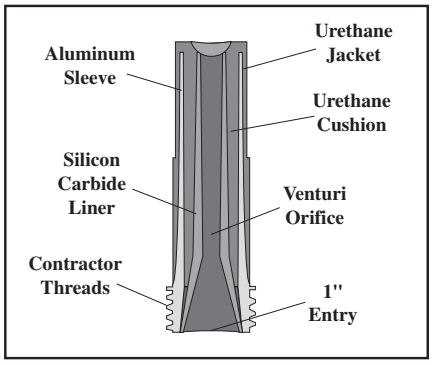
Description	Stock No.
Contractor Series Catalog	21385
Abrasive Blasting Safety Practices	22090
Blast Off 2	09294
Operator Safety Equipment	07764
Ultralight Product Study	07765

Color: Brown

Packaging - Boxed individually.

Nozzles

Clemlite® Lined Urethane Jacketed Long Venturi SFR, SMR, SSR, SXR



SXR Shown

Specifications			
Nozzle Model	SSR	SMR	
Mounting Thread	1-1/4"	Contractor	
Entry Diameter	1"	1"	
Liner	Clemlite® Silicon Carbide		
Liner Style	Venturi		
Jacket Material	Urethane, 70 durometer		

Specifications		
Nozzle Model	SXR	SFR
Mounting Thread	Contractor	*Flanged
Entry Diameter	1-1/4"	1-1/4"
Liner	Clemlite® Silicon Carbide	
Liner Style	Venturi	
Jacket Material	Urethane, 70 durometer	

*Flanged nozzle includes quick-coupling nozzle holder

Authorized Distributor:

ISO 9001-2000 certified. Clemco is committed to continuous product improvement. Specifications are subject to change without notice.

 • One Cable Car Drive • Washington, MO 63090 • Phone (636) 239-4300 • Fax (800) 726-7559

THE WAREHOUSE RENTALS & SUPPLIES

www.twrs.com
Toll Free: 800.621.2777
Email: sales@twrs.com

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"

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	150	Air (in cfm) Abrasive & HP requirements
No. 2 (1/8")	11	13	15	17	18.5	20	25	30	Air (cfm)
	.67	.77	.88	1.01	1.12	1.23	1.52	1.82	Abrasive (cu.ft./hr
	67	77	88	101	112	123	152	182	& Lbs/hr)
	2.5	3	3.5	4	4.5	5	5.5	6.6	Compressor hp
No. 3 (3/16")	26	30	33	38	41	45	55	66	Air (cfm)
	1.50	1.71	1.96	2.16	2.38	2.64	3.19	3.83	Abrasive (cu.ft./hr
	150	171	196	216	238	264	319	383	& Lbs/hr)
	6	7	8	9	10	10	12	14	Compressor hp
No. 4 (1/4")	47	54	61	68	74	81	98	118	Air (cfm)
	2.68	3.12	3.54	4.08	4.48	4.94	6.08	7.30	Abrasive (cu.ft./hr
	268	312	354	408	448	494	608	730	& Lbs/hr)
	11	12	14	16	17	18	22	26	Compressor hp
No. 5 (5/16")	77	89	101	113	126	137	168	202	Air (cfm)
	4.68	5.34	6.04	6.72	7.40	8.12	9.82	1.178	Abrasive (cu.ft./hr
	468	534	604	672	740	812	982	1,178	& Lbs/hr)
	18	20	23	26	28	31	37	44	Compressor hp
No. 6 (3/8")	108	126	143	161	173	196	237	284	Air (cfm)
	6.68	7.64	8.64	9.60	10.52	11.52	13.93	1.672	Abrasive (cu.ft./hr
	668	764	864	960	1052	1152	1393	1,672	& Lbs/hr)
	24	28	32	36	39	44	52	62	Compressor hp
No. 7 (7/16")	147	170	194	217	240	254	314	377	Air (cfm)
	8.96	10.32	11.76	13.12	14.48	15,84	19.31	2.317	Abrasive (cu.ft./hr
	896	1032	1176	1312	1448	1584	1931	2,317	& Lbs/hr)
	33	38	44	49	54	57	69	83	Compressor hp
No. 8 (1/2")	195	224	252	280	309	338	409	491	Air (cfm)
	11.60	13.36	15.12	16.80	18.56	20.24	24.59	2.951	Abrasive (cu.ft./hr
	1160	1336	1512	1680	1856	2024	2459	2951	& Lbs/hr)
	44	50	56	63	69	75	90	108	Compressor hp

Nozzle, Stock Number, Dimensions, & Weights

	Model No.	Stock No.	Orifice ID	Length	Net Wt.	Pkg'd Wt.	Holder	Washer
Flanged	SFR-6	04732	3/8"	7-5/8"	1 lb	1.5 lb	FHP incl.w/ nozzle	Not Reqd.
	SFR-7	04733	7/16"	8-3/8"	1.1 lb	1.5 lb		Not Reqd.
	SFR-8	04734	1/2"	9-3/8"	1.3 lb	1.5 lb		Not Reqd.
Contractor Thread	SMR-3	04538	3/16"	5"	.60 lb	1 lb	NHP series or CFPM 07719	NW-25
	SMR-4	04539	1/4"	6"	.70 lb	1 lb		NW-25
	SMR-5	04540	5/16"	6-3/8"	.90 lb	1 lb		NW-25
	SMR-6	04541	3/8"	7-3/8"	1 lb	1.5 lb		NW-25
	SMR-7	04542	7/16"	8-9/16"	1.1 lb	1.5 lb		NW-25
	SMR-8	04543	1/2"	9-3/8"	1.3 lb	1.5 lb		NW-25
Fine 1-1/4" Thread	SSR-3	04702	3/16"	4-3/4"	.50 lb	1 lb	HEP series or CFP 07716	NW-4
	SSR-4	04703	1/4"	6"	.70 lb	1 lb		NW-4
	SSR-5	04704	5/16"	6-7/16"	.70 lb	1 lb		NW-4
	SSR-6	04705	3/8"	7-3/8"	.90 lb	1.5 lb		NW-4
	SSR-7	04706	7/16"	8-7/16"	1.1 lb	1.5 lb		NW-4
	SSR-8	04707	1/2"	9-9/16"	1.2 lb	1.5 lb		NW-4
Contractor Thread	SXR-6	04601	3/8"	6-13/16"	1 lb	1.5 lb	NHP 2 or 3, CFPM 07719	NW-32
	SXR-7	04602	7/16"	8-1/16"	1.1 lb	1.5 lb		NW-32
	SXR-8	04503	1/2"	9-3/16"	1.3 lb	1.5 lb		NW-32

CONTRACTOR SERIES
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 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 inserts the nozzle washer into a contractor-thread nozzle holder and screws in the nozzle, turning it by hand, until it seats firmly against the washer.

Description

Blast nozzle with long venturi shaped Clemlite® silicon carbide liner, metal jacket. Thread size and entry dimensions vary with nozzle series.

SMD-6

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 18 to 36 inches from the surface 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

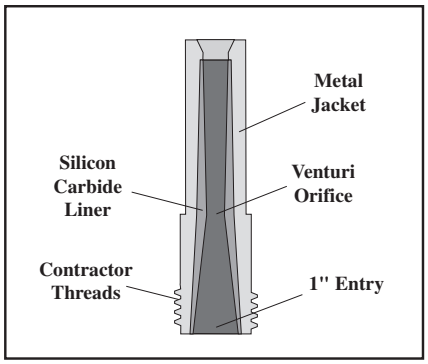
- Expected life with expendable abrasives is up to 500 hours
- Durable metal jacket
- Non-binding contractor threads
- 42% lighter than tungsten carbide

Related Clemco Literature

Description	Stock No.
Contractor Series Catalog	21385
Abrasive Blasting Safety Practices	22090
Blast Off 2	09294
Operator Safety Equipment	07764
Ultralight Product Study	07765

Nozzles

Clemlite® Lined Metal Jacketed Long Venturi SFD, SMD, SSD, SXD



SMD Shown

Specifications

Nozzle Model	SSD	SMD	SXD	SFD
Mounting Thread	1-1/4"	Contractor		*Flanged
Entry Diameter	1"	1"	1-1/4"	1-1/4"
Liner	Clemlite® Silicon Carbide			
Liner Style	Venturi			
Jacket Material	Aluminum			

*Flanged nozzle includes quick-coupling nozzle holder

Replacement Parts

Description	Stock No.
Nozzle washers shown on reverse. For flanged nozzle use coupling lock-springs (25)	21585

Color: Metallic Silver

Authorized Distributor:

ISO 9001-2000 certified. Clemco is committed to continuous product improvement. Specifications are subject to change without notice.

THE WAREHOUSE RENTALS & SUPPLIES

www.twrs.com
Toll Free: 800.621.2777
Email: sales@twrs.com

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"

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.

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.

Packaging: Boxed individually.

Compressor Air and Abrasive Consumption

Nozzle Orifice	Pressure at the Nozzle (psi) 50	60	70	80	90	100	125	150	Air (in cfm) Abrasive & HP requirements
No. 2 (1/8")	11	13	15	17	18.5	20	25	30	Air (cfm)
	.67	.77	.88	1.01	1.12	1.23	1.52	1.82	Abrasive (cu.ft./hr
	67	77	88	101	112	123	152	182	& Lbs/hr)
	2.5	3	3.5	4	4.5	5	5.5	6.6	Compressor hp
No. 3 (3/16")	26	30	33	38	41	45	55	66	Air (cfm)
	1.50	1.71	1.96	2.16	2.38	2.64	3.19	3.83	Abrasive (cu.ft./hr
	150	171	196	216	238	264	319	383	& Lbs/hr)
	6	7	8	9	10	10	12	14	Compressor hp
No. 4 (1/4")	47	54	61	68	74	81	98	118	Air (cfm)
	2.68	3.12	3.54	4.08	4.48	4.94	6.08	7.30	Abrasive (cu.ft./hr
	268	312	354	408	448	494	608	730	& Lbs/hr)
	11	12	14	16	17	18	22	26	Compressor hp
No. 5 (5/16")	77	89	101	113	126	137	168	202	Air (cfm)
	4.68	5.34	6.04	6.72	7.40	8.12	9.82	1.178	Abrasive (cu.ft./hr
	468	534	604	672	740	812	982	1,178	& Lbs/hr)
	18	20	23	26	28	31	37	44	Compressor hp
No. 6 (3/8")	108	126	143	161	173	196	237	284	Air (cfm)
	6.68	7.64	8.64	9.60	10.52	11.52	13.93	1.672	Abrasive (cu.ft./hr
	668	764	864	960	1052	1152	1393	1,672	& Lbs/hr)
	24	28	32	36	39	44	52	62	Compressor hp
No. 7 (7/16")	147	170	194	217	240	254	314	377	Air (cfm)
	8.96	10.32	11.76	13.12	14.48	15,84	19.31	2.317	Abrasive (cu.ft./hr
	896	1032	1176	1312	1448	1584	1931	2,317	& Lbs/hr)
	33	38	44	49	54	57	69	83	Compressor hp
No. 8 (1/2")	195	224	252	280	309	338	409	491	Air (cfm)
	11.60	13.36	15.12	16.80	18.56	20.24	24.59	2.951	Abrasive (cu.ft./hr
	1160	1336	1512	1680	1856	2024	2459	2951	& Lbs/hr)
	44	50	56	63	69	75	90	108	Compressor hp

Nozzle Stock Number, Dimensions, & Weights

	Model No.	Stock No.	Orifice ID	Length	Net Wt.	Pkg'd Wt.	Holder	Washer
Flanged	SFD-6 SFD-7 SFD-8	01623 01624 01625	3/8" 7/16" 1/2"	6-7/8" 8-1/16" 9-1/4"	1.1 lb 1.2 lb 1.3 lb	1.5 lb 2 lb 2 lb	FHP incl.w/ nozzle	Cplg gskt serves as nozzle washer
Contractor Thread	SMD-3 SMD-4 SMD-5 SMD-6 SMD-7 SMD-8	04520 04521 04522 04523 04524 04525	3/16" 1/4" 5/16" 3/8" 7/16" 1/2"	4-5/16" 5-7/16" 5-7/8" 6-3/4" 8" 9"	.70 lb .80 lb .80 lb .90 lb 1 lb 1 lb	1 lb 1 lb 1 lb 1 lb 1 lb 1 lb	NHP series or CFPM 07719	NW-25 NW-25 NW-25 NW-25 NW-25 NW-25
Fine 1-1/4" Thread	SSD-3 SSD-4 SSD-5 SSD-6 SSD-7 SSD-8	01617 01618 01619 01620 01621 01622	3/16" 1/4" 5/16" 3/8" 7/16" 1/2"	4-5/16" 5-7/16" 5-13/16" 6-13/16" 7-15/16" 9"	.60 lb .60 lb .70 lb .80 lb 1.1 lb 1.3 lb	1 lb 1 lb 1 lb 1 lb 1.5 lb 1.5 lb	HEP series or CFP 07716	NW-4 NW-4 NW-4 NW-4 NW-4 NW-4
Con-tractor Thread	SXD-6 SXD-7 SXD-8	04592 04593 04594	3/8" 7/16" 1/2"	6-13/16" 8-1/16" 9-3/16"	1 lb 1.2 lb 1.3 lb	1.5 lb 1.5 lb 1.5 lb	NHP 2 or 3, CFPM 07719	NW-32 NW-32 NW-32

CONTRACTOR SERIES
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. For optimal performance, these elements must be compatibly sized. See the chart on the back of this page.

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 on the coupled blast hose by turning the nozzle clockwise until firmly seated in place. The Clemco nozzle holder keeps the nozzle securely installed.

Description

Blast nozzle with venturi-shape boron carbide liner and metal jacket. All nozzles in the BSD series have 1" diameter entry and 1-1/4" threading.

BSD Nozzles

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 18 to 36 inches from the surface 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.

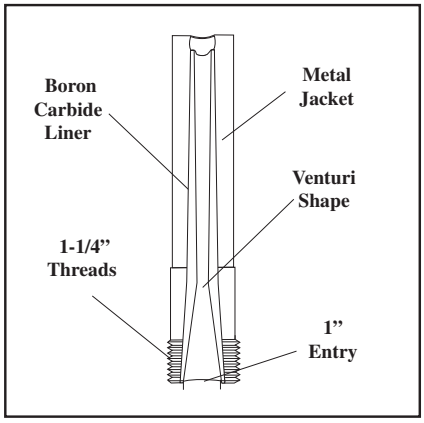
Advantages

- Boron Carbide liner material is the most abrasive-resistant, durable, and economical liner material.
- Long-venturi nozzles 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 1000 hours.
- 1-inch entry provides smooth transition and maximum productivity with 1-inch ID blast hose.

Nozzles

Boron Carbide Lined Metal Jacketed

BSD Series



Replacement Parts

Description	Stock No.
NW-4 nozzle washers (Pkg of 10)	00869

Specifications	
Nozzle Model	**BSD**
Mounting Thread	**1-1/4"**
Entry Diameter	**1"**
Liner	**Boron Carbide**
Liner Style	**Venturi**
Jacket Material	**Aluminum**

ISO 9001-2000 certified. Clemco is committed to continuous product improvement. Specifications are subject to change without notice.

THE WAREHOUSE RENTALS & SUPPLIES

www.twrs.com
Toll Free: 800.621.2777
Email: sales@twrs.com

Component Compatibility Guide

No.	Nozzle Orifice	Recommended cfm Range	Minimum Blast Machine Capacity	Minimum Piping ID	Blast Hose ID	Minimum Air Hose ID
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"

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.

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 vary depending upon working conditions. To maintain desired air pressure as nozzle orifice wears, air consumption increases. The effects of nozzle wear on air consump-tion 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.

Compressor Air and Abrasive Consumption

Nozzle Orifice	Pressure at the Nozzle (psi) 50	60	70	80	90	100	125	150	Air (in cfm) Abrasive & HP requirements
No. 2 (1/8")	11	13	15	17	18.5	20	25	30	Air (cfm)
	.67	.77	.88	1.01	1.12	1.23	1.52	1.82	Abrasive (cu.ft./hr
	67	77	88	101	112	123	152	182	& Lbs/hr)
	2.5	3	3.5	4	4.5	5	5.5	6.6	Compressor hp
No. 3 (3/16")	26	30	33	38	41	45	55	66	Air (cfm)
	1.50	1.71	1.96	2.16	2.38	2.64	3.19	3.83	Abrasive (cu.ft./hr
	150	171	196	216	238	264	319	383	& Lbs/hr)
	6	7	8	9	10	10	12	14	Compressor hp
No. 4 (1/4")	47	54	61	68	74	81	98	118	Air (cfm)
	2.68	3.12	3.54	4.08	4.48	4.94	6.08	7.30	Abrasive (cu.ft./hr
	268	312	354	408	448	494	608	730	& Lbs/hr)
	11	12	14	16	17	18	22	26	Compressor hp
No. 5 (5/16")	77	89	101	113	126	137	168	202	Air (cfm)
	4.68	5.34	6.04	6.72	7.40	8.12	9.82	1.178	Abrasive (cu.ft./hr
	468	534	604	672	740	812	982	1,178	& Lbs/hr)
	18	20	23	26	28	31	37	44	Compressor hp
No. 6 (3/8")	108	126	143	161	173	196	237	284	Air (cfm)
	6.68	7.64	8.64	9.60	10.52	11.52	13.93	1.672	Abrasive (cu.ft./hr
	668	764	864	960	1052	1152	1393	1,672	& Lbs/hr)
	24	28	32	36	39	44	52	62	Compressor hp
No. 7 (7/16")	147	170	194	217	240	254	314	377	Air (cfm)
	8.96	10.32	11.76	13.12	14.48	15,84	19.31	2.317	Abrasive (cu.ft./hr
	896	1032	1176	1312	1448	1584	1931	2,317	& Lbs/hr)
	33	38	44	49	54	57	69	83	Compressor hp
No. 8 (1/2")	195	224	252	280	309	338	409	491	Air (cfm)
	11.60	13.36	15.12	16.80	18.56	20.24	24.59	2.951	Abrasive (cu.ft./hr
	1160	1336	1512	1680	1856	2024	2459	2951	& Lbs/hr)
	44	50	56	63	69	75	90	108	Compressor hp

Nozzle Stock Number, Dimensions, & Weights

	Model No.	Stock No.	Orifice ID	Length	Net Wt	Pkg'd Wt	Holder	Washer	Washer Kit
Fine 1-1/4" Thread	BSD-4	01419	1/4"	5-7/16"	1 lb	1.5 lb	HEP series or CFP 07716	NW-4	Stock No. 00869
	BSD-5	01420	5/16"	5-7/8"	1 lb	1.5 lb		NW-4	
	BSD-6	01421	3/8"	6-13/16"	1.2 lb	1.5 lb		NW-4	
	BSD-7	01422	7/16"	8-1/8"	1.3 lb	1.5 lb		NW-4	
	BSD-8	01423	1/2"	9"	1.5 lb	2 lb		NW-4	

Authorized Distributor:

THE WAREHOUSE
RENTALS & SUPPLIES

www.twrs.com
Toll Free: 800.621.2777
Email: sales@twrs.com

THE WAREHOUSE
RENTALS & SUPPLIES

www.twrs.com
Toll Free: 800.621.2777
Email: sales@twrs.com

THE WAREHOUSE
RENTALS & SUPPLIES

www.twrs.com
Toll Free: 800.621.2777
Email: sales@twrs.com

THE WAREHOUSE
RENTALS & SUPPLIES

www.twrs.com
Toll Free: 800.621.2777
Email: sales@twrs.com

THE WAREHOUSE
RENTALS & SUPPLIES

www.twrs.com
Toll Free: 800.621.2777
Email: sales@twrs.com