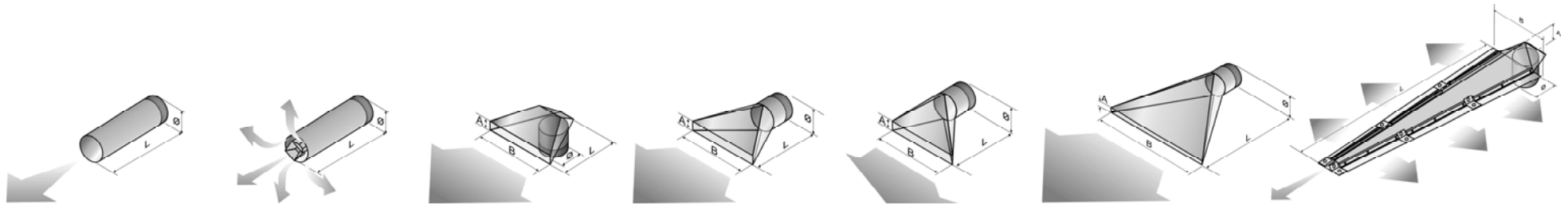


Overall view on nozzles for VSR BLASTER® Air Cannons Normal and high temperature areas

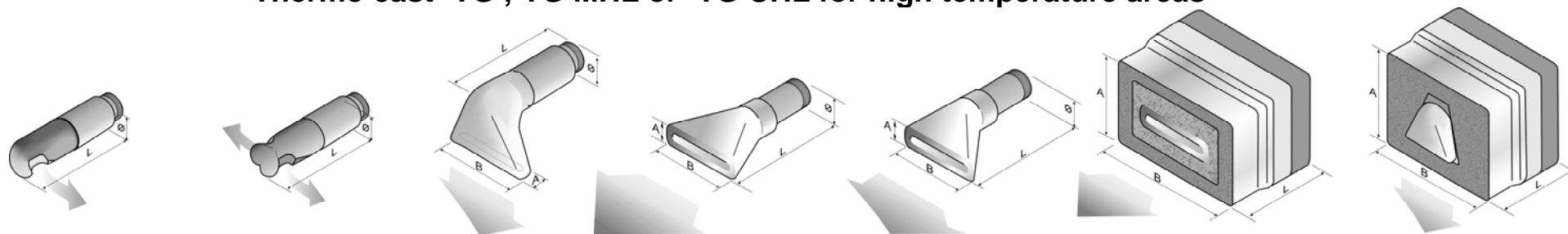


	Blow Pipe		Spreader Nozzle		Fan Jet Angle Nozzle		Fan Jet Blow Nozzle		Fan Jet Blow Nozzle asymmetrical		Slot Nozzle		Isobaric Sword Nozzle (pat.)	
Ø	both sides R 2"	R 4"	R 2"	R 4"	R 2"	R 4"	R 2"	R 4"	R 2"	R 4"	R 2"	R 4"	60,3 x 4	114,3 x 5,6
L	200	500	200	300 / 500	106	240	190	340	200	350	will be adapted to local conditions		500 up to 2000	1000 up to 4000
A	-	-	-	-	23	35	26	40	25	30			45	95
B	-	-	-	-	150	310	150	310	160	430			180	280

Construction	seamless, welded pipe	welded	welded	welded	welded	welded	welded	welded	welded	welded	welded
Different materials and temperatures	ST 37 up to 400° C stainl. steel up to 500°C Thermax up to 800°C	ST 37 up to 400° C stainl. steel up to 500°C Thermax up to 800°C	ST 37 up to 400° C stainl. steel up to 500°C Thermax up to 800°C	ST 37 up to 400° C stainl. steel up to 500°C Thermax up to 800°C	ST 37 up to 400° C stainl. steel up to 500°C Thermax up to 800°C	ST 37 up to 400° C stainl. steel up to 500°C Thermax up to 800°C	ST 37 up to 400° C stainl. steel up to 500°C Thermax up to 800°C	ST 37 up to 400° C stainl. steel up to 500°C Thermax up to 800°C	ST 37 up to 400° C stainl. steel up to 500°C Thermax up to 800°C	ST 37 up to 400° C stainl. steel up to 500°C Thermax up to 800°C	ST 37 up to 400° C stainl. steel up to 500°C Thermax up to 800°C
Typical application	Removal of bridging, chimney and funnel formations, tangential blowing at silo cones and pipes. Not suitable when holes can be shot into the material, for example with humid, cohesive materials.	Removal of bridging, chimney and funnel formations, fluidizing of light up to semi-heavy material, whirls the air jet up. Simple installation from outside possible by drilling dia. 116 mm.	Removal of clogging, blows the air jet alongside, respectively between silo wall and material, whirls the air jet up for surface cleaning.	Removal of clogging, blows the air jet alongside, respectively between silo wall and material, whirls the air jet up for surface cleaning.	Removal of clogging, blows the air jet alongside, respectively between silo wall and material, whirls the air jet up for surface cleaning.	Removal of clogging, blows the air jet alongside, respectively between silo wall and material, whirls the air jet up for surface cleaning.	Removal of clogging, blows the air jet alongside, respectively between silo wall and material, whirls the air jet up for surface cleaning.	Removal of clogging, blows the air jet alongside, respectively between silo wall and material, whirls the air jet up for surface cleaning.	Removal of clogging at wide, relatively short surfaces, e.g. transfer chutes, blows the air jet alongside, respectively between chute wall and material, whirls the air jet up for surface cleaning.	Removal of clogging at wide, relatively short surfaces, e.g. transfer chutes, blows the air jet alongside, respectively between chute wall and material, whirls the air jet up for surface cleaning.	Cleaning of long bunker throats, exhaust pipes and clinker cooler etc., removal of bridging and chimney formations at stock-piles. The lateral slots remove clogging and, the open nozzle top, removes bridging. The effect is also given with a nozzle partly covered with material.

Overall view on nozzles for VSR BLASTER® Air Cannons

Thermo cast -TG , -TG MHL or -TG UHL for high temperature areas



	Blow Head TG	Double Blow Head TG	Fan Jet Angle Nozzle TG		Fan Jet Blow Nozzle TG		Fan Jet Blow Nozzle TG, asymmetrical	Changeable Nozzle System (Pat.) Fan Jet Blow Nozzle TG	Changeable Nozzle System (Pat.) Fan Jet Angle Nozzle TG
Ø	R 4"	R 4"	R 4"	R 6"	R 4"	R 6"	R 4"	R 4"	R 4"
L	550	613	490	490	500	1000	500	340	305
A	-	-	87	102	87	102	105	385	640
B	-	-	345	510	360	510	260	615	560

Construction	Cast/welded construction	Cast/welded construction	Cast/welded construction	Cast/welded construction	Cast/welded construction	Welded construction	Welded construction
Different materials	Thermo cast TG Thermo cast MHL, Thermo cast UHL, chemically resistant	Thermo cast TG Thermo cast MHL, Thermo cast UHL, chemically resistant	Thermo cast TG Thermo cast MHL, Thermo cast UHL, chemically resistant	Thermo cast TG Thermo cast MHL, Thermo cast UHL, chemically resistant	Thermo cast TG Thermo cast MHL, Thermo cast UHL, chemically resistant	Stones: silicon carbide Support angle: stainless steel Angle frame: ST37, primed Nozzles: Thermo cast TG r Thermo cast MHL Thermo cast UHL	Stones: silicon carbide Support angle: stainless steel Angle frame: ST37, primed Nozzles: Thermo cast TG r Thermo cast MHL Thermo cast UHL
Maximum temperature	1200° C	1200° C	1200° C	1200° C	1200° C	1200° C	1200° C
Typical application	Removal of deposits at pipe heat exchangers, at narrow local conditions. Later installation possible at short standstill by drilling dia. 140 mm from outside.	Removal of deposits at pipe heat exchangers, at narrow local conditions. Later installation possible at short standstill by drilling dia. 140 mm from outside.	Cleaning of incrustations in heat exchangers, flue gas channels, clinker cooler and kiln inlets. Positioning unprotected on the refractory.	Cleaning of incrustations in heat exchangers, flue gas channels, clinker cooler and kiln inlets. Positioning protected in the refractory.	Cleaning of incrustations in heat exchangers, flue gas channels, clinker cooler and kiln inlets. Positioning protected in the refractory.	For quick nozzle change from outside. Cleaning of incrustations in heat exchangers, flue gas channels, clinker cooler and kiln inlets. Nozzle positioning protected in the refractory.	For quick nozzle change from outside. Cleaning of incrustations in heat exchangers, flue gas channels, clinker cooler and kiln inlets. Nozzle positioning unprotected on the refractory.