

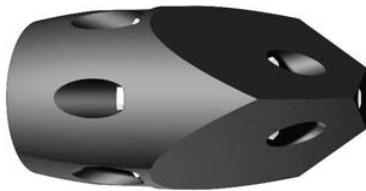


## Spitzdüsen

Geballte Kraft nach vorne durch 4 Vorstrahl-Düsen. Die scharfen Kanten schneiden, zerreißen und durchbohren jede Verstopfung. Hergestellt aus verschleißfestem, gehärtetem Stahl. Alle Düsen ab Art. 60.050 sind mit Stahlkeramikeinsätzen ausgerüstet. Dadurch wird der Wirkungsgrad im Vergleich zu direkt gebohrten Düsen erheblich gesteigert. Die Lebensdauer wird um ein Mehrfaches erhöht.

### Einsatzgebiet

- Durchdringen von total verstopften Rohren
- Öffnen von Verwurzungen
- Öffnen von gefrorenen Leitungen
- Ausspülen von Stahlrohren nach Pressvortrieb



## Pointed nozzles

Concentrated powerful advance by means of 4 front jet nozzles. The sharp edges cut, break and penetrate through every kind of blockage. Made of wear-resistant, hardened steel. All nozzles from art. 60.050 onward are provided with ceramic inserts. Because of this, the efficiency is considerably higher compared with those nozzles with drilled holes and the service life is several times longer.

### Applications

- Penetrating of completely clogged pipes
- Opening of interlaced roots
- Opening of frozen pipelines
- Flushing out at hydraulic thrust boring



## Buses pointues


























Toute l'énergie est concentrée vers l'avant au travers des 4 jets frontaux. Les arêtes tranchantes découpent, déchirent et transpercent chaque obstruction. Fabrication en acier trempé résistant à l'usure. A partir de l'art. 60.050, toutes les buses sont munies d'inserts céramique interchangeables. L'efficacité, comparée au percement direct, est considérablement améliorée et la durée de vie considérablement augmentée.












### Domaine d'application

- Passage dans les conduites totalement bouchées
- Ouverture dans un réseau de racines
- Percer une conduite gelée
- Rinçage des tubes acier lors de forages pousse-tube



Spitzdüsen 1/8" - 1 1/4" | Pointed nozzles 1/8" - 1 1/4" | Buses pointues 1/8" - 1 1/4"

					
	<b>60.012SL15</b>	<b>60.025SL15</b>	<b>60.025SL30</b>	<b>60.038-30</b>	<b>60.038SL40</b>
	1/8	1/4	1/4	3/8	3/8
	20 - 40	22 - 50	22 - 50	28 - 100	28 - 100
	15	15	30	30	40
	3 × Ø 0.95	3 × Ø 0.90	3 × Ø 1.35	3 × Ø 1.30	3 × Ø 1.45
	4 × Ø 0.50	4 × Ø 0.60	4 × Ø 0.70	4 × M4	4 × 0.80
	25°	25°	25°	20°	20°
	15°	15°	15°	15°	15°
	16 × 25	20 × 33	20 × 33	25 × 40	25 × 40
	0.020	0.034	0.032	0.060	0.060
	350	350	350	350	350
	—	—	—	—	—
					
	<b>60.038-60</b>	<b>60.038SL60</b>			
	3/8	3/8			
	28 - 100	28 - 100			
	60	60			
	3 × Ø 1.70	3 × Ø 1.85			
	4 × M4	4 × Ø 0.95			
	20°	20°			
	15°	15°			
	25 × 40	25 × 40			
	0.060	0.060			
	350	350			
	—	—			

	Anschlussgewinde innen ["] Connecting thread inside ["] Raccord fileté intérieur ["]		Schubstrahl Thrust jet Jet de poussée		Strahlwinkel vorne Jet angle forward Angle de jet avant		Recycling Recycling Recyclage
	Anwendungsbereich [mm] Application range [mm] Champ d'application [mm]		Frontstrahl Front jet Jet frontal		Abmessungen [mm] Measures [mm] Dimensions [mm]		Maximaldruck [bar] Maximum pressure [bar] Pression maximale [bar]
	min. l/min bei 100 bar min. l/min at 100 bar min. l/min à 100 bar		Strahlwinkel hinten Jet angle backward Angle de jet arrière		Gewicht [kg] Weight [kg] Poids [kg]	*	optional Frontstrahl optional front jet optional jet frontal



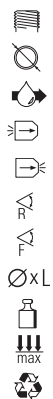
**60.050**



**0061.0504**



**61.050**



1/2  
40 - 150  
50  
3 × M6  
4 × M4  
25°  
15°  
32 × 55  
0.140  
350  
✓

M4  
  
  
  
  
6 x 25

1/2  
40 - 150  
50  
3 × M6  
3 × M4  
25°  
15°  
32 × 82  
0.145  
350  
✓



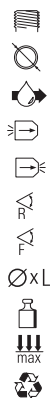
**60.075**



**0061.0504**














**61.075**












































3/4  
60 - 250  
100  
3 × M6  
4 × M4  
25°  
15°  
38 × 80  
0.320  
250  
✓





























M4  
  
  
  
  
6 x 25












3/4  
60 - 250  
100  
3 × M6  
3 × M4  
25°  
15°  
38 × 104.5  
0.325  
250  
✓

	Anschlussgewinde innen ["] Connecting thread inside ["] Raccord fileté intérieur ["]		Schubstrahl Thrust jet Jet de poussée		Strahlwinkel vorne Jet angle forward Angle de jet avant		Recycling Recycling Recyclage
	Anwendungsbereich [mm] Application range [mm] Champ d'application [mm]		Frontstrahl Front jet Jet frontal		Abmessungen [mm] Measures [mm] Dimensions [mm]		Maximaldruck [bar] Maximum pressure [bar] Pression maximale [bar]
	min. l/min bei 100 bar min. l/min at 100 bar min. l/min à 100 bar		Strahlwinkel hinten Jet angle backward Angle de jet arrière		Gewicht [kg] Weight [kg] Poids [kg]	*	optional Frontstrahl optional front jet optional jet frontal

			
	<b>60.100</b>	<b>0061.1004</b>	<b>61.100</b>
	1	M6	1
	100 - 300		100 - 300
	150		150
	6 × M6		6 × M6
	4 × M6		3 × M6
	25°		25°
	15°		15°
	48 × 90	9 x 33	48 × 123.5
	0.550		0.560
	250		250
	✓		✓
	✓		✓
			
	<b>60.100L</b>	<b>0061.1254</b>	<b>61.100L</b>
	1	M8	1
	150 - 400		150 - 400
	200		200
	6 × M10		6 × M10
	4 × M8		3 × M8
	25°		25°
	15°		15°
	68 × 187	11 x 40	68 × 220
	2.700		2.715
	250		250
	✓		✓
	✓		✓

	Anschlussgewinde innen ["] Connecting thread inside ["] Raccord fileté intérieur ["]		Schubstrahl Thrust jet Jet de poussée		Strahlwinkel vorne Jet angle forward Angle de jet avant		Recycling Recycling Recyclage
	Anwendungsbereich [mm] Application range [mm] Champ d'application [mm]		Frontstrahl Front jet Jet frontal		Abmessungen [mm] Measures [mm] Dimensions [mm]		Maximaldruck [bar] Maximum pressure [bar] Pression maximale [bar]
	min. l/min bei 100 bar min. l/min at 100 bar min. l/min à 100 bar		Strahlwinkel hinten Jet angle backward Angle de jet arrière		Gewicht [kg] Weight [kg] Poids [kg]	*	optional Frontstrahl optional front jet optional jet frontal

			
	<b>60.100L80</b>	<b>0061.1254</b>	<b>61.100L80</b>
	1	M8	1
	150 - 500		150 - 500
	200		200
	6 × M10		6 × M10
	4 × M8		3 × M8
	10°		10°
	15°		15°
	79 × 218	11 x 40	79 × 260
	4.680		4.705
	250		250
	✓		✓
			
	<b>60.125</b>	<b>0061.1004</b>	<b>61.125</b>
	1 1/4	M6	1 1/4
	150 - 400		150 - 400
	200		200
	6 × M6		6 × M6
	4 × M6		3 × M6
	20°		20°
	15°		15°
	58 × 100	9 x 33	58 × 133
	0.925		0.940
	250		250
	✓		✓

	Anschlussgewinde innen ["] Connecting thread inside ["] Raccord fileté intérieur ["]		Schubstrahl Thrust jet Jet de poussée		Strahlwinkel vorne Jet angle forward Angle de jet avant		Recycling Recycling Recyclage
	Anwendungsbereich [mm] Application range [mm] Champ d'application [mm]		Frontstrahl Front jet Jet frontal		Abmessungen [mm] Measures [mm] Dimensions [mm]		Maximaldruck [bar] Maximum pressure [bar] Pression maximale [bar]
	min. l/min bei 100 bar min. l/min at 100 bar min. l/min à 100 bar		Strahlwinkel hinten Jet angle backward Angle de jet arrière		Gewicht [kg] Weight [kg] Poids [kg]	*	optional Frontstrahl optional front jet optional jet frontal














**60.125L**














**0061.1254**



**61.125L**

	1 1/4	M8	1 1/4
	200 - 800		200 - 800
	300		300
	6 × M10		6 × M10
	4 × M8		3 × M8
	10°		10°
	15°		15°
	98 × 258	11 x 40	98 × 300
	8.400		8.425
	250		250
	✓		✓

	Anschlussgewinde innen ["] Connecting thread inside ["] Raccord fileté intérieur ["]		Schubstrahl Thrust jet Jet de poussée		Strahlwinkel vorne Jet angle forward Angle de jet avant		Recycling Recycling Recyclage
	Anwendungsbereich [mm] Application range [mm] Champ d'application [mm]		Frontstrahl Front jet Jet frontal		Abmessungen [mm] Measures [mm] Dimensions [mm]		Maximaldruck [bar] Maximum pressure [bar] Pression maximale [bar]
	min. l/min bei 100 bar min. l/min at 100 bar min. l/min à 100 bar		Strahlwinkel hinten Jet angle backward Angle de jet arrière		Gewicht [kg] Weight [kg] Poids [kg]	*	optional Frontstrahl optional front jet optional jet frontal