

**Garant****Stub drill set HSS-E No. 113020, type FS with case, uncoated, Type: 1-10****Order data**

Order number	113520 1-10
GTIN	4045197008435
Item class	11B

**Description****Version:**

Made up of stub drills No. 113020.

Bright finish flutes, nitrided lands.

With point geometry shape C up to 3.9 mm; shape S (special) from 4 mm.

**Advantage:**

**Ideal for drilling shallow holes (approx. 2 - 4xD)** on NC machines and automatic machines.

Through-coolant: no

Shank: Plain shank

Number of cutting edges Z: 2

Drill range: 1 - 10 mm

Number of drills: 19

Incremental steps of drills: 0.5 mm

**Technical description**

Number of drills	19
Drill range	1 - 10 mm

Incremental steps of drills	0.5 mm
Shank	Plain shank
Number of cutting edges Z	2
Coating	uncoated
Tool material	HSS E
Standard	DIN 1897
Type	FS
Tolerance nominal $\varnothing$	h8
Point angle	135 °
Through-coolant	no
with case	yes
Colour ring	without
Type of product	Jobber drill

## User data

	Suitability	$V_c$	ISO code
Alu plastics	suitable	70 m/min	N
Aluminium (short chipping)	suitable	45 m/min	N
Steel < 500 N/mm <sup>2</sup>	suitable	40 m/min	P
Steel < 750 N/mm <sup>2</sup>	suitable	30 m/min	P
GG(G)	suitable	25 m/min	K
Uni	suitable only under restricted conditions		
Oil	suitable		
wet maximum	suitable		

## Accessories

Stub drill HSS-E FS  $\varnothing$  DC h8 2,5 mm

113020 2,5

Stub drill HSS-E FS Ø DC h8 7 mm	113020 7
Stub drill HSS-E FS Ø DC h8 10 mm	113020 10
Stub drill HSS-E FS Ø DC h8 2 mm	113020 2
Stub drill HSS-E FS Ø DC h8 5,5 mm	113020 5,5
Stub drill HSS-E FS Ø DC h8 7,5 mm	113020 7,5
Stub drill HSS-E FS Ø DC h8 9 mm	113020 9
Stub drill HSS-E FS Ø DC h8 4,5 mm	113020 4,5
Stub drill HSS-E FS Ø DC h8 6,5 mm	113020 6,5
Stub drill HSS-E FS Ø DC h8 6 mm	113020 6
Stub drill HSS-E FS Ø DC h8 1,5 mm	113020 1,5
Stub drill HSS-E FS Ø DC h8 1 mm	113020 1
Stub drill HSS-E FS Ø DC h8 5 mm	113020 5
Stub drill HSS-E FS Ø DC h8 9,5 mm	113020 9,5
Stub drill HSS-E FS Ø DC h8 8,5 mm	113020 8,5
Stub drill HSS-E FS Ø DC h8 4 mm	113020 4
Stub drill HSS-E FS Ø DC h8 8 mm	113020 8
Stub drill HSS-E FS Ø DC h8 3,5 mm	113020 3,5
Stub drill HSS-E FS Ø DC h8 3 mm	113020 3