



# FBS

Flexible  
Drill head System

**“Universal Drilling” for small - to - medium batches  
(Symmetrical and asymmetrical hole patterns of  
varying types).**

**Each spindle can handle variable machine planes,  
revolutions and machining tasks.**

**Drilling Tapping Flow Drilling - Thread molding  
Countersinking and Brushing**

The Multi spindle Drill heads going by the Brand Bormaster are gear driven and, thus, sturdier than comparable drilling heads with universal joints.

The performance figure taken from the equipment availability (activity unit) is greatly increased due to minor and schedulable maintenance times.

A large reduction in weight is achieved by only using a single drive wheel compared to an ASP System. This allows the implementation within a machining center.

Only the Spindle plate has to be replaced should there be changes in dimensions or technical change in the machining tasks. In general the existing interchangeable spindles (EBS) and idler (EBZ) can be reused.

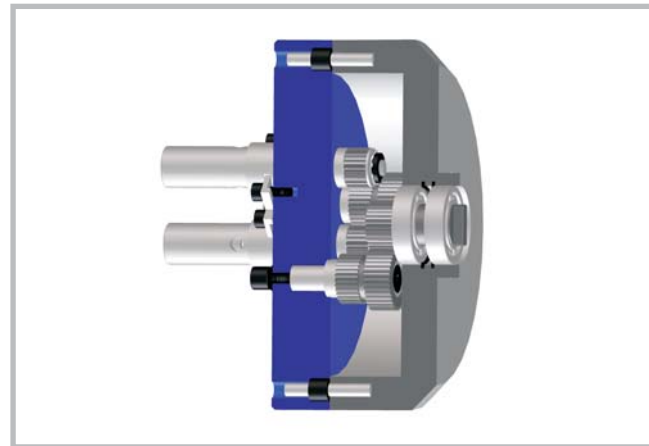
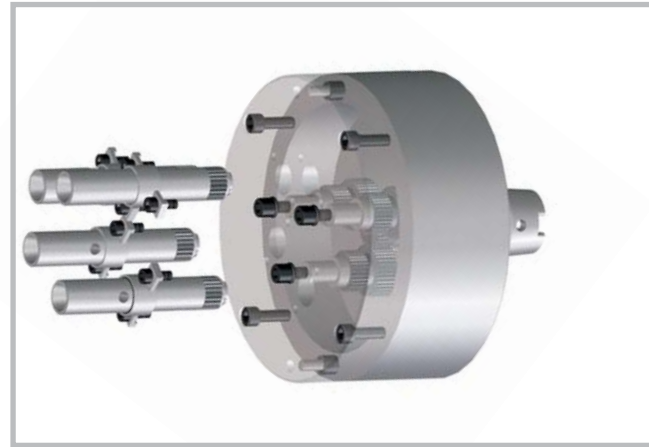
**Resulting in a potential saving of up to 90% compared to a new drill head.**

**EBS Interchangeable Spindles:**

There are many types available depending on the torque, center distance or clamping sleeve.

**EBZ Interchangeable Idlers:**

There are many different types available depending on ratio.



The flexible Drill head System (FBS) is available in three lines

	<b>FBS 0</b>	<b>FBS 1</b>	<b>FBS 2</b>
Max. Drilling Capacity in St 50	8 mm	14 mm	32 mm
Max. Revolution	<b>5000 rpm</b>	<b>3000 rpm</b>	<b>2000 rpm</b>
<b>BM-Code</b>	<b>BM CODE 6513</b>	<b>BM CODE 6523</b>	<b>BM CODE 6533</b>

**FBS 0/60**

corresponds with line **FBS 0** with a working area diameter of about **60 mm**.

Type	Working area ASP 0	interchangeable spindle / Type	Drilling capacity in St 50	smallest distance in mm	Clamping sleeve
60	<b>60</b>	<b>EBS/ER8/4</b>	<b>4 mm</b>	M 3 <b>13 mm</b>	E1
75	<b>75</b>	<b>EBS/60/6</b>	<b>6 mm</b>	M 5 <b>18 mm</b>	B1 B2 B3
100	<b>100</b>	<b>EBS/80/8</b>	<b>8 mm</b>	M 6 <b>22 mm</b>	C1 C2 C3
150	<b>150</b>	-			

**FBS 1/110**

corresponds with line **FBS 0** with a working area diameter of about **110 mm**.

Type	Working area ASP 0	interchangeable spindle / Type	Drilling capacity in St 50	smallest distance in mm	Clamping sleeve
110	<b>110</b>	<b>EBS1/80/8</b>	<b>8 mm</b>	M 6 <b>22 mm</b>	C1 C2 C3
155	<b>155</b>	<b>EBS1/130/11</b>	<b>11 mm</b>	M 10 <b>25 mm</b>	D1 D2 D3
295	<b>295</b>	<b>EBS1/S16/11</b>	<b>11 mm</b>	M 10 <b>25 mm</b>	G1 H1 H2 F1 F2 E3 E4

**FBS 2/200**

corresponds with line **FBS 2** with a working area diameter of about **170 mm**.

Type	Working area FBS 2	interchangeable spindle / Type	Drilling capacity in St 50	smallest distance in mm	Clamping sleeve
170	<b>170</b>	<b>EBS2/S20/16</b>	<b>16 mm</b>	M 14 <b>34 mm</b>	G2 H1 H2
200	<b>200</b>	<b>EBS2/S25/20</b>	<b>20 mm</b>	M 16 <b>38 mm</b>	G3 H1 H2 H3 H4

Tapping capacity in St 50

		from - to in mm	grading in mm
E 1	collet ER 8	1,0 - 5,0	0,5
E 2	collet ER 11	1,0 - 7,0	0,5
E 3	collet ER 16	2,0 - 10,0	0,5
E 4	collet ER 20	2 - 13	0,5
E 5	collet ER 25	3 - 16	0,5
F 1	collet chuck ER 16 / Ø 16mm	-	-
F 2	collet chuck ER 20 / Ø 16mm	-	-
F 3	collet chuck ER 25 / Ø 28mm	-	-
A	collet 44	1,0 - 4,0	0,1
B 1	collet 60	1,0 - 6,3	0,1
B 3	collet 62	1,0 - 6,3	0,1
B 2	collet 61	M2 - M6	-
C 1	collet 80	1,0 - 8,5	0,1
C 3	collet 82	1,0 - 8,5	0,1
C 2	collet 81	M2 - M8	-
D 1	collet 130	1,0 - 10 10,25 - 14,0	0,1 0,25
D 3	collet 132	1,0 - 10 10,25 - 14,0	0,1 0,25
D 2	collet 131	M2 - M12	-
G 1	shank MT1 Ø 16mm	-	-
G 2	shank MT1 Ø 20mm	-	-
G 3	shank MT1/MT2 Ø 25mm	-	-
G 4	shank MT1/MT2 Ø 28mm	-	-
G 5	shank MT2/MT3 Ø 36mm	-	-
H 1	clamping sleeve MT1 DIN 6329	3,0 - 8,0	0,1
H 2	clamping sleeve MT1 DIN 6328	M3 - M10	-
H 3	clamping sleeve MT2 DIN 6329	5,0 - 13,0	0,1
H 4	clamping sleeve MT2 DIN 6328	M4 - M12	-
notice / drawings			

