

Single lip drill with indexable inserts WP-ELB Series 10

Drill- ϕ		Tool	Cutting blade	Guide pad		Adjusting Shim	Screw	Torx key
from	To	Item code						
12,000	13,940	WPELB-10- ϕ x L-P	TSTS000199	TSTS000277	TSTS000278	TSTS000004	TSTS000093	TSTS000010
13,950	14,500	WPELB-10- ϕ x L-P	TSTS000094	TSTS000090	TSTS000091	TSTS000092	TSTS000093	TSTS000010
14,510	15,000	WPELB-10- ϕ x L-P	TSTS000094			TSTS000092	TSTS000093	TSTS000010
15,010	15,700	WPELB-10- ϕ x L-P	TSTS000095			TSTS000092	TSTS000103	TSTS000102
15,710	16,500	WPELB-10- ϕ x L-P	TSTS000095	TSTS000090		TSTS000092	TSTS000103	TSTS000102
16,510	17,300	WPELB-10- ϕ x L-P	TSTS000095			TSTS000092	TSTS000103	TSTS000102
17,310	18,000	WPELB-10- ϕ x L-P	TSTS000098			TSTS000092	TSTS000103	TSTS000102
18,010	18,800	WPELB-10- ϕ x L-P	TSTS000098			TSTS000092	TSTS000103	TSTS000102
18,810	19,700	WPELB-10- ϕ x L-P	TSTS000098			TSTS000092	TSTS000103	TSTS000102
19,710	20,700	WPELB-10- ϕ x L-P	TSTS000100	TSTS000016		TSTS000018	TSTS000096	TSTS000021
20,710	21,700	WPELB-10- ϕ x L-P	TSTS000100			TSTS000018	TSTS000096	TSTS000021
21,710	22,700	WPELB-10- ϕ x L-P	TSTS000100			TSTS000018	TSTS000096	TSTS000021
22,710	23,800	WPELB-10- ϕ x L-P	TSTS000100			TSTS000018	TSTS000096	TSTS000021
23,810	25,000	WPELB-10- ϕ x L-P	TSTS000181			TSTS000018	TSTS000096	TSTS000021
25,010	26,000	WPELB-10- ϕ x L-P	TSTS000181			TSTS000018	TSTS000096	TSTS000021
26,010	27,000	WPELB-10- ϕ x L-P	TSTS000181			TSTS000018	TSTS000096	TSTS000021
27,010	28,000	WPELB-10- ϕ x L-P	TSTS000181	TSTS000018	TSTS000096	TSTS000021		

Important Information

All specified values are intended solely as a guideline and may vary depending on the application. For special applications please contact the TBT tool Service

TBT is not liable for improper use of the tools and for any insufficient mechanical conditions or operating errors!

Undue use can cause severe damages and be hazardous or even fatal for operating staff.

Operational Instructions

For indexable gun drills TBT WP-ELB series 10

Introduction

Indexable gun drills offer in addition to the high efficiency important advantages in handling:

- Quick change of wear parts
- No regrinding necessary
- Easy inventory of wear parts

Thus, the TBT WP-ELB series 10 are particularly suitable for minimizing the non-productive times.

Please use only original TBT wear parts to ensure proper functioning.

Cutting plate and guide pads are indexable.

At the end of life time the cutting plate and / or the guide pads can be detached, turned by 180° and re-inserted.

Assembly

To tighten the screws we recommend using a torque screwdriver (available as optional)

A simple Torx screwdriver is supplied with each new tool.

Please observe the following values:

Screw	Torque
M 2,2	0,6 Nm
M 2,5	0,6 Nm
M3,0	0,9 Nm

Bore quality

Using standard tools, bore diameter tolerances up to IT8 are attainable. In individual cases IT7 can be reached after consultation and possible fine adjustment of the tool.

Tool design

TBT indexable gun drills consist of the tool body in which the wear parts such as insert and guide pads are screw fitted. See below schematic illustrations for both the short and long body version including their wear parts.

An adjusting shim below the diameter guide pad is used to achieve a higher accuracy of the drilling diameter.

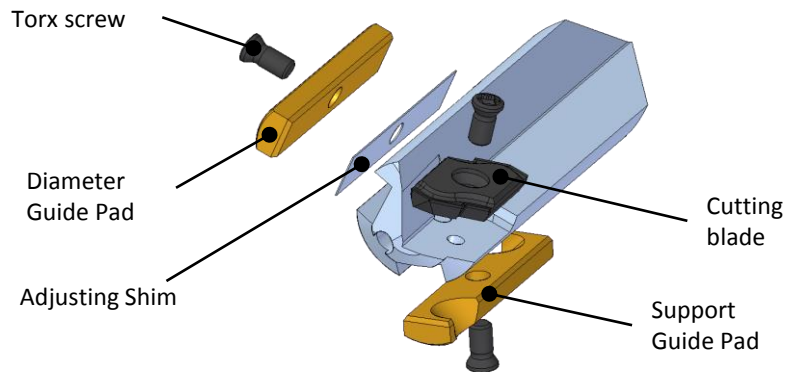
For normal applications it is not necessary to adjust the tool.

For higher accuracy requirements, this may be necessary.

It is always recommended to perform a fitting check of pilot hole or drill bush with the tool before initiating the drilling process.

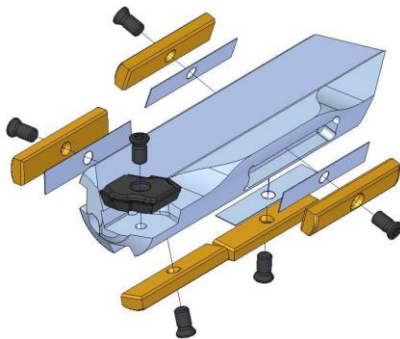
Version with short body

for standard deep drilling tasks



Version with long body

For cross drilling and drilling tasks with special requirements in terms of guide behavior



Operating conditions

The maximum potential process parameters depend on a variety of factors e.g. work piece material, required hole quality in terms of diameter tolerance and drift, machine and tool diameter.

Furthermore, there is always a conflict of objectives between the highest possible feed rate and tool life.

This has to be considered when selecting the process parameters.

The indicated values can therefore constitute only guidelines and differ depending on the application!

Preferably suitable deep hole drilling oil should be used, or an emulsion with EP additives and an oil content of at least 15% to ensure proper functionality of the tools.

Material	Cutting Speed. V_c in m/min	Feed. v_f in mm/U		
		\varnothing 12 to 16	\varnothing 16 to 20	\varnothing 20 to...
Construction and cutting steel $\delta B < 700 \text{ N/mm}^2$	60 – 90	0,08 - 0,10	0,08 - 0,16	0,10 - 0,18
Heat-treated steel $\delta B < 900 \text{ N/mm}^2$	70 – 90	0,06 - 0,12	0,08 - 0,16	0,10 - 0,18
Heat-treated steel $\delta B < 1100 \text{ N/mm}^2$	60 – 80	0,06 - 0,10	0,08 - 0,14	0,14 - 0,16
case-hardened steel $\delta B < 700 \text{ N/mm}^2$	60 – 80	0,06 - 0,12	0,10 - 0,16	0,14 - 0,18
case-hardened steel $\delta B < 1100 \text{ N/mm}^2$	60 – 80	0,06 - 0,10	0,08 - 0,12	0,10 - 0,16
Nitriding steel $\delta B < 1100 \text{ N/mm}^2$	50 – 70	0,06 - 0,10	0,08 - 0,12	0,10 - 0,16
ferritic stainless steel (heat resistant)	50 – 60	0,06 - 0,10	0,08 - 0,12	0,12 - 0,18
austenitic stainless steel	50 – 60	0,06 - 0,08	0,08 - 0,10	0,10 - 0,14
High Tempered Alloy Ni-Co-Fe base	50 – 70	0,06 - 0,08	0,08 - 0,10	0,10 - 0,14
Cast iron unalloyed. and alloys.	70 – 100	0,08 - 0,12	0,10 - 0,16	0,16 - 0,20
GGG, GGL, GTS, GTW, HB < 2400 N/mm ²	60 – 80	0,06 - 0,10	0,10 - 0,16	0,16 - 0,20
Aluminium Alloys (depending on the Si content)	90 – 150	0,08 - 0,12	0,10 - 0,18	0,16 - 0,22