

Broaches for polygonal holes



- The broach for polygonal holes is a specially shaped tool that is fixed to the spindle of the broaching head on one end, while the other end bears the shape of the hole to be obtained. These broaches are made in two different kind of steels:

- HSS This steel has a good resistance to wear and tear and a high capacity to absorb the vibrations of the broaching machining
- SINTERED steel. This steel has a high hardness and an excellent resistance to compression, even at high temperatures. It is used for heavy machin-ings when hard materials are involved (i.e. titanium, stainless steels,...) BRIGHETTI MECCANICA S.r.l. produces seven kinds of broaches with dif-ferenct shanks fitting perfectly the broach seat: G8, G12, G12A, G16, G16L and G25. Beside standard items mentioned in the General Catalogue, BRIGHETTI MECCANICA SRL can produce broaches with special profile and sizes, following Customer's specification.

- Important

Before starting with the broaching operation, a pre-broach hole must be drilled on the work piece. This pre-broach hole should be a little bit larger than the size of the broach (from 0,1 to 0,3 mm) and a little bit deeper (from 1 to 5 mm) in order to discharge the chips. It is a good habit of using a good cutting oil during the broaching operation.

- Coatings

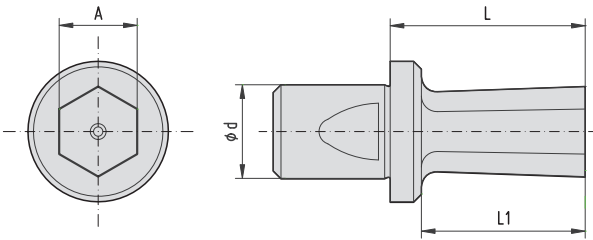
We can supply broaches with one of the following coatings:



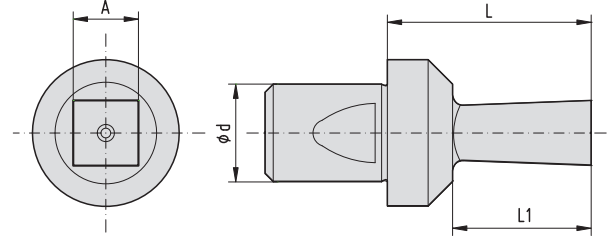
Rivestimenti / Coatings >	TiN	TiCN	TiAlN	INOX PLUS
ACCIAI / STEEL - RM ≤ 1000 N/mm ²	✓			
ACCIAI / STEEL - RM ≤ 1400 N/mm ²		✓		
ACCIAI LEGATI - ALLOYED STEELS		✓	✓	
ACCIAIO INOX / STAINLESS STEEL - RM ≤ 900 N/mm ²			✓	
ACCIAIO INOX / STAINLESS STEEL - RM ≥ 900 N/mm ²				✓
TITANIO - TITANIUM				✓

G5 BROACHES FOR BR-G5 BROACHING HEADS - 5 MM SHANK DIAMETER ("d")

Standard hexagonal section (E)



Standard square section (Q)



ARTICOLO-ITEM (materiale - material)		d	A	L1	L
HSS	SINTERIZ.				
G5-E-1	G5K-E-1	5	1 +0,04 +0,06	2	10
G5-E-1,5	G5K-E-1,5	5	1,5 +0,05 +0,07	3	10
G5-E-2	G5K-E-2	5	2 +0,05 +0,07	4	10
G5-E-2,5	G5K-E-2,5	5	2,5 +0,05 +0,07	5	10
G5-E-3	G5K-E-3	5	3 +0,06 +0,08	6	10
G5-E-3,5	G5K-E-3,5	5	3,5 +0,06 +0,08	6	10
G5-E-4	G5K-E-4	5	4 +0,07 +0,09	7	10
G5-E-4,5	G5K-E-4,5	5	4,5 +0,07 +0,09	7	10
G5-E-5	G5K-E-5	5	5 +0,08 +0,10	7,5	10
G5-E-5,5	G5K-E-5,5	5	5,5 +0,08 +0,10	7,5	10
G5-E-6	G5K-E-6	5	6 +0,08 +0,10	7,5	10

ARTICOLO-ITEM (materiale - material)		d	A	L1	L
HSS	SINTERIZ.				
G5-Q-1	G5K-Q-1	5	1 +0,04 +0,06	2	10
G5-Q-1,5	G5K-Q-1,5	5	1,5 +0,05 +0,07	3	10
G5-Q-2	G5K-Q-2	5	2 +0,05 +0,07	4	10
G5-Q-2,5	G5K-Q-2,5	5	2,5 +0,06 +0,08	5	10
G5-Q-3	G5K-Q-3	5	3 +0,06 +0,08	6	10
G5-Q-3,5	G5K-Q-3,5	5	3,5 +0,07 +0,09	6	10
G5-Q-4	G5K-Q-4	5	4 +0,07 +0,09	7	10

G8 BROACHES FOR BR-G8 BROACHING HEADS - 8 MM SHANK DIAMETER ("d")

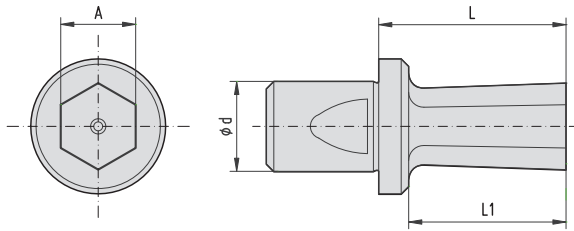
ITEM (material)		d	A	L1	L
HSS	SINTERED.				
G8-E-1	G8K-E-1	8	1 +0,04 +0,06	2	18
G8-E-1,5	G8K-E-1,5	8	1,5 +0,05 +0,07	3	18
G8-E-2	G8K-E-2	8	2 +0,05 +0,07	5	18
G8-E-2,5	G8K-E-2,5	8	2,5 +0,05 +0,07	6	18
G8-E-3	G8K-E-3	8	3 +0,06 +0,08	7	18
G8-E-3,5	G8K-E-3,5	8	3,5 +0,06 +0,08	8	18
G8-E-4	G8K-E-4	8	4 +0,07 +0,09	9	18
G8-E-4,5	G8K-E-4,5	8	4,5 +0,07 +0,09	9	18
G8-E-5	G8K-E-5	8	5 +0,08 +0,10	11	18
G8-E-5,5	G8K-E-5,5	8	5,5 +0,08 +0,10	11	18
G8-E-6	G8K-E-6	8	6 +0,08 +0,10	13	18
G8-E-7	G8K-E-7	8	7 +0,08 +0,10	15	18
G8-E-8	G8K-E-8	8	8 +0,08 +0,10	15	18
G8-E-9	G8K-E-9	8	9 +0,08 +0,10	15	18
G8-E-10	G8K-E-10	8	10 +0,08 +0,10	15	18

ITEM (material)		d	A	L1	L
HSS	SINTERED.				
G8-Q-1	G8K-Q-1	8	1 +0,04 +0,06	2	18
G8-Q-1,5	G8K-Q-1,5	8	1,5 +0,05 +0,07	3	18
G8-Q-2	G8K-Q-2	8	2 +0,05 +0,07	5	18
G8-Q-2,5	G8K-Q-2,5	8	2,5 +0,06 +0,08	6	18
G8-Q-3	G8K-Q-3	8	3 +0,06 +0,08	7	18
G8-Q-3,5	G8K-Q-3,5	8	3,5 +0,07 +0,09	8	18
G8-Q-4	G8K-Q-4	8	4 +0,07 +0,09	9	18
G8-Q-4,5	G8K-Q-4,5	8	4,5 +0,07 +0,09	9	18
G8-Q-5	G8K-Q-5	8	5 +0,08 +0,10	11	18
G8-Q-5,5	G8K-Q-5,5	8	5,5 +0,08 +0,10	11	18
G8-Q-6	G8K-Q-6	8	6 +0,08 +0,10	13	18
G8-Q-7	G8K-Q-7	8	7 +0,08 +0,10	15	18
G8-Q-8	G8K-Q-8	8	8 +0,08 +0,10	15	18

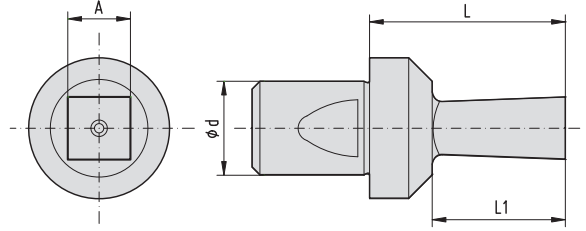
N.B. The measure of the shank of the broach ("d") has "g6" tolerance

G12 BROACHES FOR BR-G12 AND BR-G12B BROACHING HEADS - 12 MM SHANK DIAMETER ("d")

Standard hexagonal section (E)



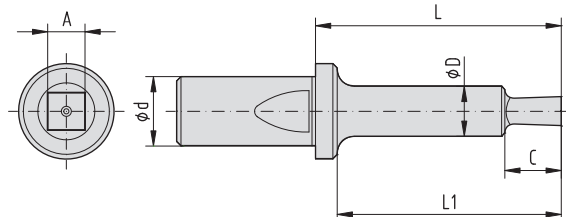
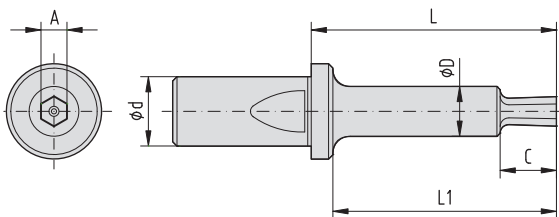
Standard square section (Q)



ITEM (material)		d	A	L1	L
HSS	SINTERED				
G12-E-1	G12K-E-1	12	1 +0,04 +0,06	2	25
G12-E-1,5	G12K-E-1,5	12	1,5 +0,05 +0,07	3	25
G12-E-2	G12K-E-2	12	2 +0,05 +0,07	5	25
G12-E-2,5	G12K-E-2,5	12	2,5 +0,05 +0,07	6	25
G12-E-3	G12K-E-3	12	3 +0,06 +0,08	7	25
G12-E-3,5	G12K-E-3,5	12	3,5 +0,06 +0,08	8	25
G12-E-4	G12K-E-4	12	4 +0,07 +0,09	9	25
G12-E-4,5	G12K-E-4,5	12	4,5 +0,07 +0,09	9	25
G12-E-5	G12K-E-5	12	5 +0,08 +0,10	11	25
G12-E-5,5	G12K-E-5,5	12	5,5 +0,08 +0,10	11	25
G12-E-6	G12K-E-6	12	6 +0,08 +0,10	13	25
G12-E-7	G12K-E-7	12	7 +0,08 +0,10	15	25
G12-E-8	G12K-E-8	12	8 +0,08 +0,10	17	25
G12-E-9	G12K-E-9	12	9 +0,09 +0,11	19	25
G12-E-10	G12K-E-10	12	10 +0,10 +0,12	21	25
G12-E-11	G12K-E-11	12	11 +0,10 +0,12	21	25
G12-E-12	G12K-E-12	12	12 +0,11 +0,13	21	25
G12-E-13	G12K-E-13	12	13 +0,11 +0,13	21	25
G12-E-14	G12K-E-14	12	14 +0,12 +0,14	21	25

ITEM (material)		d	A	L1	L
HSS	SINTERED.				
G12-Q-1	G12K-Q-1	12	1 +0,04 +0,06	2	25
G12-Q-1,5	G12K-Q-1,5	12	1,5 +0,05 +0,07	3	25
G12-Q-2	G12K-Q-2	12	2 +0,05 +0,07	5	25
G12-Q-2,5	G12K-Q-2,5	12	2,5 +0,05 +0,07	6	25
G12-Q-3	G12K-Q-3	12	3 +0,06 +0,08	7	25
G12-Q-3,5	G12K-Q-3,5	12	3,5 +0,06 +0,08	8	25
G12-Q-4	G12K-Q-4	12	4 +0,07 +0,09	9	25
G12-Q-4,5	G12K-Q-4,5	12	4,5 +0,07 +0,09	9	25
G12-Q-5	G12K-Q-5	12	5 +0,08 +0,10	11	25
G12-Q-5,5	G12K-Q-5,5	12	5,5 +0,08 +0,10	11	25
G12-Q-6	G12K-Q-6	12	6 +0,08 +0,10	13	25
G12-Q-7	G12K-Q-7	12	7 +0,08 +0,10	15	25
G12-Q-8	G12K-Q-8	12	8 +0,08 +0,10	17	25
G12-Q-9	G12K-Q-9	12	9 +0,09 +0,11	19	25
G12-Q-10	G12K-Q-10	12	10 +0,10 +0,12	21	25
G12-Q-11	G12K-Q-11	12	11 +0,10 +0,12	21	25
G12-Q-12	G12K-Q-12	12	12 +0,11 +0,13	21	25

G12A BROACHES FOR BR-G12A BROACHING HEADS - 12 MM SHANK DIAMETER ("d")



ITEM (material)		d	A	L1	L	C	D
HSS	SINTERED.						
G12A-E-4	G12AK-E-4	12	4 +0,07 +0,09	55	60	9	10
G12A-E-4,5	G12AK-E-4,5	12	4,5 +0,07 +0,09	55	60	9	10
G12A-E-5	G12AK-E-5	12	5 +0,08 +0,10	55	60	11	10
G12A-E-5,5	G12AK-E-5,5	12	5,5 +0,08 +0,10	55	60	11	10
G12A-E-6	G12AK-E-6	12	6 +0,08 +0,10	55	60	13	10
G12A-E-7	G12AK-E-7	12	7 +0,08 +0,10	55	60	15	10
G12A-E-8	G12AK-E-8	12	8 +0,08 +0,10	55	60	17	10
G12A-E-9	G12AK-E-9	12	9 +0,09 +0,11	55	60	19	10
G12A-E-10	G12AK-E-10	12	10 +0,10 +0,12	55	60	21	10
G12A-E-11	G12AK-E-11	12	11 +0,10 +0,12	55	60	21	10
G12A-E-12	G12AK-E-12	12	12 +0,11 +0,13	55	60	21	10
G12A-E-13	G12AK-E-13	12	13 +0,11 +0,13	55	60	21	11,5
G12A-E-14	G12AK-E-14	12	14 +0,12 +0,14	55	60	21	12,5

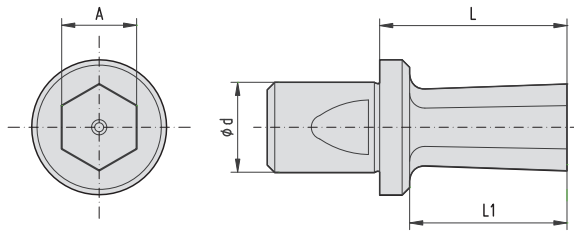
ITEM (material)		d	A	L1	L	C	D
HSS	SINTERED.						
G12A-Q-4	G12AK-Q-4	12	4 +0,07 +0,09	55	60	9	10
G12A-Q-4,5	G12AK-Q-4,5	12	4,5 +0,07 +0,09	55	60	9	10
G12A-Q-5	G12AK-Q-5	12	5 +0,08 +0,10	55	60	11	10
G12A-Q-5,5	G12AK-Q-5,5	12	5,5 +0,08 +0,10	55	60	11	10
G12A-Q-6	G12AK-Q-6	12	6 +0,08 +0,10	55	60	13	10
G12A-Q-7	G12AK-Q-7	12	7 +0,08 +0,10	55	60	15	10
G12A-Q-8	G12AK-Q-8	12	8 +0,08 +0,10	55	60	17	10
G12A-Q-9	G12AK-Q-9	12	9 +0,09 +0,11	55	60	19	10
G12A-Q-10	G12AK-Q-10	12	10 +0,10 +0,12	55	60	21	10
G12A-Q-11	G12AK-Q-11	12	11 +0,10 +0,12	55	60	21	10
G12A-Q-12	G12AK-Q-12	12	12 +0,11 +0,13	55	60	21	10

C = Depth of the shape
 L1 = maximum broaching depth

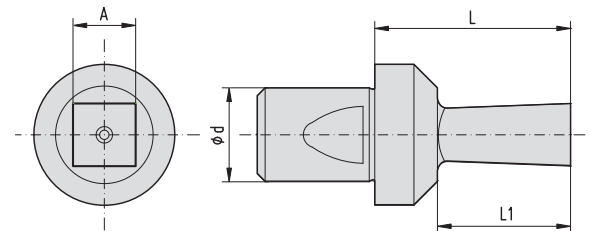
N.B. The measure of the shank of the broach ("d") has "g6" tolerance

G16 BROACHES FOR BR-G16 BROACHING HEADS - 16 MM SHANK DIAMETER ("d")

Standard hexagonal section (E)



Standard square section (Q)



L1= Depth of the shape and maximum broaching depth

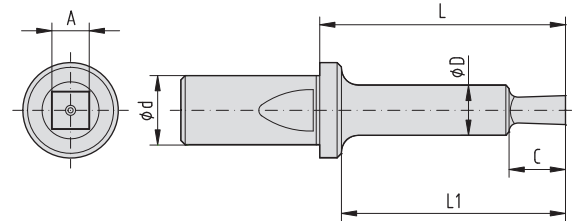
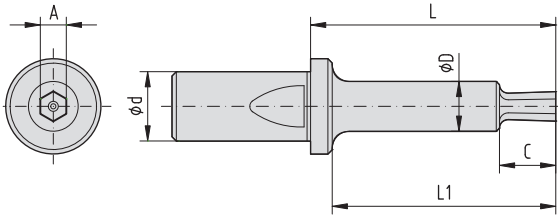
ITEM (material)		d	A	L1	L
HSS	SINTERED.				
G16-E-1	G16K-E-1	16	1 +0,04 +0,06	2	25
G16-E-1,5	G16K-E-1,5	16	1,5 +0,05 +0,07	3	25
G16-E-2	G16K-E-2	16	2 +0,05 +0,07	5	25
G16-E-2,5	G16K-E-2,5	16	2,5 +0,05 +0,07	6	25
G16-E-3	G16K-E-3	16	3 +0,06 +0,08	7	25
G16-E-3,5	G16K-E-3,5	16	3,5 +0,06 +0,08	8	25
G16-E-4	G16K-E-4	16	4 +0,07 +0,09	9	25
G16-E-4,5	G16K-E-4,5	16	4,5 +0,07 +0,09	9	25
G16-E-5	G16K-E-5	16	5 +0,08 +0,10	11	25
G16-E-5,5	G16K-E-5,5	16	5,5 +0,08 +0,10	11	25
G16-E-6	G16K-E-6	16	6 +0,08 +0,10	13	25
G16-E-7	G16K-E-7	16	7 +0,08 +0,10	15	25
G16-E-8	G16K-E-8	16	8 +0,08 +0,10	17	25
G16-E-9	G16K-E-9	16	9 +0,09 +0,11	19	25
G16-E-10	G16K-E-10	16	10 +0,10 +0,12	21	25
G16-E-11	G16K-E-11	16	11 +0,10 +0,12	21	25
G16-E-12	G16K-E-12	16	12 +0,11 +0,13	21	25
G16-E-13	G16K-E-13	16	13 +0,11 +0,13	21	25
G16-E-14	G16K-E-14	16	14 +0,12 +0,14	21	25
G16-E-15	G16K-E-15	16	15 +0,13 +0,15	21	25
G16-E-16	G16K-E-16	16	16 +0,13 +0,15	21	25
G16-E-17	G16K-E-17	16	17 +0,14 +0,16	21	25
G16-E-18	G16K-E-18	16	18 +0,15 +0,17	21	25
G16-E-19	G16K-E-19	16	19 +0,16 +0,18	21	25
G16-E-20	G16K-E-20	16	20 +0,18 +0,20	21	25
G16-E-21	G16K-E-21	16	21 +0,18 +0,20	21	25
G16-E-22	G16K-E-22	16	22 +0,19 +0,21	21	25
G16-E-23	G16K-E-23	16	23 +0,20 +0,22	21	25
G16-E-24	G16K-E-24	16	24 +0,21 +0,23	21	25
G16-E-25	G16K-E-25	16	25 +0,22 +0,24	21	25
G16-E-27	G16K-E-27	16	27 +0,22 +0,24	21	25
G16-E-28	G16K-E-28	16	28 +0,22 +0,24	21	25
G16-E-30	G16K-E-30	16	30 +0,23 +0,25	21	25

ITEM (material)		d	A	L1	L
HSS	SINTERED				
G16-Q-1	G16K-Q-1	16	1 +0,04 +0,06	2	25
G16-Q-1,5	G16K-Q-1,5	16	1,5 +0,05 +0,07	3	25
G16-Q-2	G16K-Q-2	16	2 +0,05 +0,07	5	25
G16-Q-2,5	G16K-Q-2,5	16	2,5 +0,05 +0,07	6	25
G16-Q-3	G16K-Q-3	16	3 +0,06 +0,08	7	25
G16-Q-3,5	G16K-Q-3,5	16	3,5 +0,07 +0,09	8	25
G16-Q-4	G16K-Q-4	16	4 +0,07 +0,09	9	25
G16-Q-4,5	G16K-Q-4,5	16	4,5 +0,07 +0,09	9	25
G16-Q-5	G16K-Q-5	16	5 +0,08 +0,10	11	25
G16-Q-5,5	G16K-Q-5,5	16	5,5 +0,08 +0,10	11	25
G16-Q-6	G16K-Q-6	16	6 +0,08 +0,10	13	25
G16-Q-7	G16K-Q-7	16	7 +0,08 +0,10	15	25
G16-Q-8	G16K-Q-8	16	8 +0,08 +0,10	17	25
G16-Q-9	G16K-Q-9	16	9 +0,09 +0,11	19	25
G16-Q-10	G16K-Q-10	16	10 +0,10 +0,12	21	25
G16-Q-11	G16K-Q-11	16	11 +0,10 +0,12	21	25
G16-Q-12	G16K-Q-12	16	12 +0,11 +0,13	21	25
G16-Q-13	G16K-Q-13	16	13 +0,11 +0,13	21	25
G16-Q-14	G16K-Q-14	16	14 +0,12 +0,14	21	25
G16-Q-15	G16K-Q-15	16	15 +0,13 +0,15	21	25
G16-Q-16	G16K-Q-16	16	16 +0,13 +0,15	21	25
G16-Q-17	G16K-Q-17	16	17 +0,14 +0,16	21	25
G16-Q-18	G16K-Q-18	16	18 +0,15 +0,17	21	25
G16-Q-19	G16K-Q-19	16	19 +0,16 +0,18	21	25
G16-Q-20	G16K-Q-20	16	20 +0,18 +0,20	21	25
G16-Q-21	G16K-Q-21	16	21 +0,18 +0,20	21	25
G16-Q-22	G16K-Q-22	16	22 +0,19 +0,21	21	25
G16-Q-23	G16K-Q-23	16	23 +0,20 +0,22	21	25
G16-Q-24	G16K-Q-24	16	24 +0,21 +0,23	21	25
G16-Q-25	G16K-Q-25	16	25 +0,22 +0,24	21	25

. G16L BROACHES FOR BR-G16L BROACHING HEADS - 16 MM SHANK DIAMETER ("d")

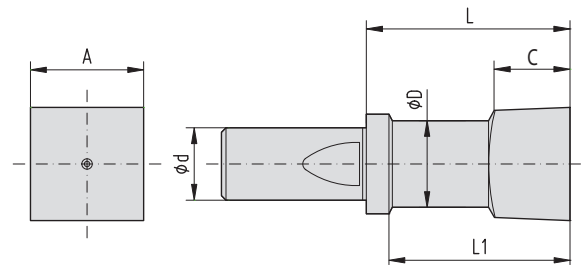
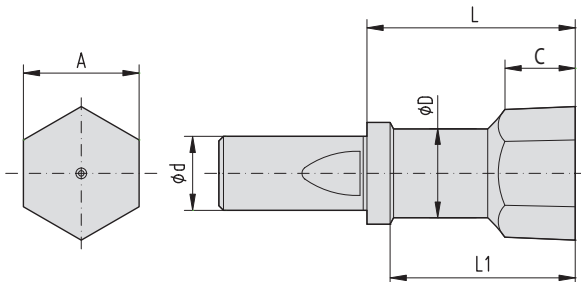
Standard hexagonal section (E) - Long series

Standard square section (Q) - Long series



ITEM (material)		d	A	L1	L	C	D
HSS	SINTERED.						
G16L-E-4	G16LK-E-4	16	4 +0,08 +0,10	40	45	11	7,5
G16L-E-5	G16LK-E-5	16	5 +0,08 +0,10	40	45	11	9
G16L-E-6	G16LK-E-6	16	6 +0,08 +0,10	40	45	13	9
G16L-E-7	G16LK-E-7	16	7 +0,08 +0,10	40	45	15	9

ITEM (material)		d	A	L1	L	C	D
HSS	SINTERED.						
G16L-Q-4	G16LK-Q-4	16	4 +0,08 +0,10	40	45	11	7,5
G16L-Q-5	G16LK-Q-5	16	5 +0,08 +0,10	40	45	11	9
G16L-Q-6	G16LK-Q-6	16	6 +0,08 +0,10	40	45	13	9



ITEM (material)		d	A	L1	L	C	D
HSS	SINTERIZ.						
G16L-E-8	G16LK-E-8	16	8 +0,08 +0,10	40	45	16	8
G16L-E-9	G16LK-E-9	16	9 +0,09 +0,11	40	45	16,5	8
G16L-E-10	G16LK-E-10	16	10 +0,10 +0,12	40	45	17	9,5
G16L-E-11	G16LK-E-11	16	11 +0,10 +0,12	40	45	17	9,5
G16L-E-12	G16LK-E-12	16	12 +0,11 +0,13	40	45	17	10,5
G16L-E-13	G16LK-E-13	16	13 +0,11 +0,13	40	45	17	10,5
G16L-E-14	G16LK-E-14	16	14 +0,12 +0,14	40	45	17	12,5
G16L-E-15	G16LK-E-15	16	15 +0,13 +0,15	40	45	17	12,5
G16L-E-16	G16LK-E-16	16	16 +0,13 +0,15	40	45	17	13,5
G16L-E-17	G16LK-E-17	16	17 +0,14 +0,16	40	45	17	15
G16L-E-18	G16LK-E-18	16	18 +0,15 +0,17	40	45	17	15
G16L-E-19	G16LK-E-19	16	19 +0,16 +0,18	40	45	17	17
G16L-E-20	G16LK-E-20	16	20 +0,18 +0,20	40	45	17	17
G16L-E-21	G16LK-E-21	16	21 +0,18 +0,20	40	45	17	19
G16L-E-22	G16LK-E-22	16	22 +0,20 +0,22	40	45	17	19
G16L-E-23	G16LK-E-23	16	23 +0,20 +0,22	40	45	17	19
G16L-E-24	G16LK-E-24	16	24 +0,21 +0,23	40	45	17	21
G16L-E-25	G16LK-E-25	16	25 +0,22 +0,24	40	45	17	21
G16L-E-27	G16LK-E-27	16	27 +0,22 +0,24	40	45	17	23
G16L-E-28	G16LK-E-28	16	28 +0,22 +0,24	40	45	17	24
G16L-E-30	G16LK-E-30	16	30 +0,23 +0,25	40	45	17	26

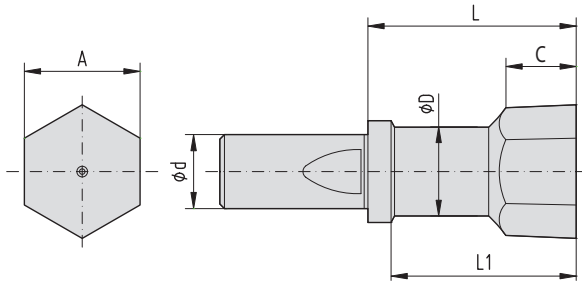
ITEM (material)		d	A	L1	L	C	D
HSS	SINTERED						
G16L-Q-7	G16LK-Q-7	16	7 +0,08 +0,10	40	45	16,5	6
G16L-Q-8	G16LK-Q-8	16	8 +0,09 +0,11	40	45	16,5	7
G16L-Q-9	G16LK-Q-9	16	9 +0,09 +0,11	40	45	16,5	8
G16L-Q-10	G16LK-Q-10	16	10 +0,10 +0,12	40	45	17	9,5
G16L-Q-11	G16LK-Q-11	16	11 +0,10 +0,12	40	45	17	9,5
G16L-Q-12	G16LK-Q-12	16	12 +0,11 +0,13	40	45	17	10,5
G16L-Q-13	G16LK-Q-13	16	13 +0,11 +0,13	40	45	17	10,5
G16L-Q-14	G16LK-Q-14	16	14 +0,12 +0,14	40	45	17	12,5
G16L-Q-15	G16LK-Q-15	16	15 +0,13 +0,15	40	45	17	12,5
G16L-Q-16	G16LK-Q-16	16	16 +0,13 +0,15	40	45	17	13,5
G16L-Q-17	G16LK-Q-17	16	17 +0,14 +0,16	40	45	17	15,5
G16L-Q-18	G16LK-Q-18	16	18 +0,15 +0,17	40	45	17	15,5
G16L-Q-19	G16LK-Q-19	16	19 +0,16 +0,18	40	45	17	16,5
G16L-Q-20	G16LK-Q-20	16	20 +0,18 +0,20	40	45	17	17,5
G16L-Q-21	G16LK-Q-21	16	21 +0,18 +0,20	40	45	17	17,5
G16L-Q-22	G16LK-Q-22	16	22 +0,20 +0,22	40	45	17	19,5
G16L-Q-23	G16LK-Q-23	16	23 +0,20 +0,22	40	45	17	19,5
G16L-Q-24	G16LK-Q-24	16	24 +0,21 +0,23	40	45	17	21
G16L-Q-25	G16LK-Q-25	16	25 +0,22 +0,24	40	45	17	21

C = Depth of the shape

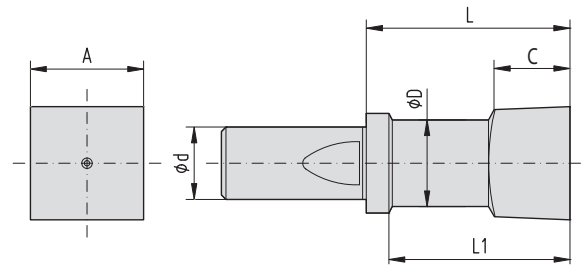
L1 = maximum broaching depth

G25 BROACHES FOR BR-G25 BROACHING HEADS - 25 MM SHANK DIAMETER ("d")

Standard hexagonal section (E)



Standard square section (Q)



ITEM (material)		d	A	L1	L	C	D
HSS	SINTERED.						
G25-E-15	G25K-E-15	25	15 +0,13 +0,15	65	70	32	13,5
G25-E-16	G25K-E-16	25	16 +0,13 +0,15	65	70	32	13,5
G25-E-17	G25K-E-17	25	17 +0,14 +0,16	65	70	32	15,5
G25-E-18	G25K-E-18	25	18 +0,15 +0,17	65	70	32	15,5
G25-E-19	G25K-E-19	25	19 +0,16 +0,18	65	70	32	16
G25-E-20	G25K-E-20	25	20 +0,18 +0,20	65	70	32	16
G25-E-21	G25K-E-21	25	21 +0,18 +0,20	65	70	32	17
G25-E-22	G25K-E-22	25	22 +0,20 +0,22	65	70	32	19
G25-E-23	G25K-E-23	25	23 +0,20 +0,22	65	70	32	19
G25-E-24	G25K-E-24	25	24 +0,21 +0,23	65	70	32	21
G25-E-25	G25K-E-25	25	25 +0,22 +0,24	65	70	32	21
G25-E-26	G25K-E-26	25	26 +0,22 +0,24	65	70	32	23
G25-E-27	G25K-E-27	25	27 +0,22 +0,24	65	70	32	24
G25-E-28	G25K-E-28	25	28 +0,22 +0,24	65	70	32	24
G25-E-29	G25K-E-29	25	29 +0,22 +0,24	65	70	32	24
G25-E-30	G25K-E-30	25	30 +0,23 +0,25	65	70	32	26
G25-E-31	G25K-E-31	25	31 +0,23 +0,25	65	70	32	26
G25-E-32	G25K-E-32	25	32 +0,23 +0,25	65	70	32	26
G25-E-33	G25K-E-33	25	33 +0,23 +0,25	65	70	32	28
G25-E-34	G25K-E-34	25	34 +0,23 +0,25	65	70	32	28
G25-E-35	G25K-E-35	25	35 +0,24 +0,26	65	70	32	28
G25-E-36	G25K-E-36	25	36 +0,24 +0,26	65	70	32	32
G25-E-37	G25K-E-37	25	37 +0,24 +0,26	65	70	32	32
G25-E-38	G25K-E-38	25	38 +0,24 +0,26	65	70	32	32
G25-E-39	G25K-E-39	25	39 +0,24 +0,26	65	70	32	32
G25-E-40	G25K-E-40	25	40 +0,24 +0,26	65	70	32	32

ITEM (material)		d	A	L1	L	C	D
HSS	SINTERED						
G25-Q-15	G25K-Q-15	25	15 +0,13 +0,15	65	70	32	12
G25-Q-16	G25K-Q-16	25	16 +0,13 +0,15	65	70	32	12
G25-Q-17	G25K-Q-17	25	17 +0,14 +0,16	65	70	32	14
G25-Q-18	G25K-Q-18	25	18 +0,15 +0,17	65	70	32	14
G25-Q-19	G25K-Q-19	25	19 +0,16 +0,18	65	70	32	16
G25-Q-20	G25K-Q-20	25	20 +0,18 +0,20	65	70	32	16
G25-Q-21	G25K-Q-21	25	21 +0,18 +0,20	65	70	32	18
G25-Q-22	G25K-Q-22	25	22 +0,20 +0,22	65	70	32	18
G25-Q-23	G25K-Q-23	25	23 +0,20 +0,22	65	70	32	20
G25-Q-24	G25K-Q-24	25	24 +0,21 +0,23	65	70	32	20
G25-Q-25	G25K-Q-25	25	25 +0,22 +0,24	65	70	32	20

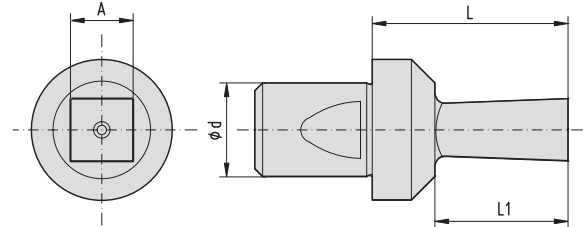
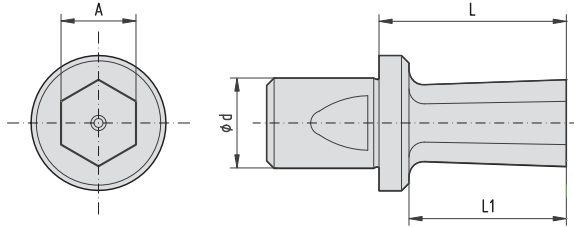
C = Depth of the shape

L1 = maximum broaching depth

STD broaches for polygonal holes - Sizes in inches

Standard hexagonal section (E)

Standard square section (Q)



L1= Depth of the shape and maximum broaching depth

FOR BR-G8 BROACHING HEADS

ITEM (material)		d	A		L1	L
HSS	SINTERED					
GP8-E-3/32"	GP8K-E-3/32"	8	2,38	+0,06 +0,08	5	18
GP8-E-1/8"	GP8K-E-1/8"	8	3,17	+0,07 +0,09	6	18
GP8-E-5/32"	GP8K-E-5/32"	8	3,97	+0,08 +0,10	8	18
GP8-E-3/16"	GP8K-E-3/16"	8	4,76	+0,08 +0,10	9	18
GP8-E-7/32"	GP8K-E-7/32"	8	5,55	+0,08 +0,10	11	18
GP8-E-1/4"	GP8K-E-1/4"	8	6,35	+0,08 +0,10	13	18

ITEM (material)		d	A		L1	L
HSS	SINTERED					
GP8-Q-3/32"	GP8K-Q-3/32"	8	2,38	+0,06 +0,08	5	18
GP8-Q-1/8"	GP8K-Q-1/8"	8	3,17	+0,07 +0,09	6	18
GP8-Q-5/32"	GP8K-Q-5/32"	8	3,97	+0,08 +0,10	8	18
GP8-Q-3/16"	GP8K-Q-3/16"	8	4,76	+0,08 +0,10	9	18
GP8-Q-7/32"	GP8K-Q-7/32"	8	5,55	+0,08 +0,10	11	18
GP8-Q-1/4"	GP8K-Q-1/4"	8	6,35	+0,08 +0,10	13	18

FOR BR-G12 BROACHING HEADS

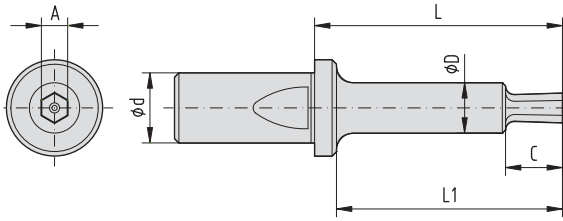
ITEM (material)		d	A		L1	L
HSS	SINTERED					
GP12-E-3/32"	GP12K-E-3/32"	12	2,38	+0,06 +0,08	5	25
GP12-E-1/8"	GP12K-E-1/8"	12	3,17	+0,07 +0,09	6	25
GP12-E-5/32"	GP12K-E-5/32"	12	3,97	+0,08 +0,10	8	25
GP12-E-3/16"	GP12K-E-3/16"	12	4,76	+0,08 +0,10	9	25
GP12-E-7/32"	GP12K-E-7/32"	12	5,55	+0,08 +0,10	11	25
GP12-E-1/4"	GP12K-E-1/4"	12	6,35	+0,08 +0,10	13	25
GP12-E-9/32"	GP12K-E-9/32"	12	7,14	+0,09 +0,11	16	25
GP12-E-5/16"	GP12K-E-5/16"	12	7,93	+0,09 +0,11	16	25
GP12-E-3/8"	GP12K-E-3/8"	12	9,52	+0,10 +0,12	18	25
GP12-E-1/2"	GP12K-E-1/2"	12	12,70	+0,12 +0,14	21	25

ITEM (material)		d	A		L1	L
HSS	SINTERED					
GP12-Q-3/32"	GP12K-Q-3/32"	12	2,38	+0,06 +0,08	5	25
GP12-Q-1/8"	GP12K-Q-1/8"	12	3,17	+0,07 +0,09	6	25
GP12-Q-5/32"	GP12K-Q-5/32"	12	3,97	+0,08 +0,10	8	25
GP12-Q-3/16"	GP12K-Q-3/16"	12	4,76	+0,08 +0,10	9	25
GP12-Q-7/32"	GP12K-Q-7/32"	12	5,55	+0,08 +0,10	11	25
GP12-Q-1/4"	GP12K-Q-1/4"	12	6,35	+0,08 +0,10	15	25
GP12-Q-9/32"	GP12K-Q-9/32"	12	7,14	+0,09 +0,11	16	25
GP12-Q-5/16"	GP12K-Q-5/16"	12	7,93	+0,09 +0,11	16	25
GP12-Q-3/8"	GP12K-Q-3/8"	12	9,52	+0,10 +0,12	18	25
GP12-Q-1/2"	GP12K-Q-1/2"	12	12,70	+0,12 +0,14	21	25

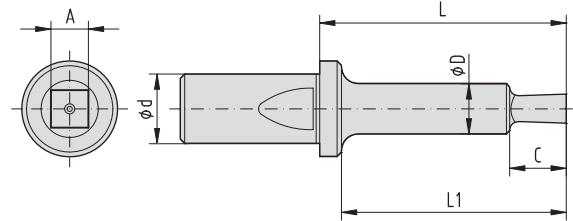


GP12A POLYGONAL BROACHES FOR BR-G12A BROACHING HEADS - SIZES IN INCHES

Standard hexagonal section (E)



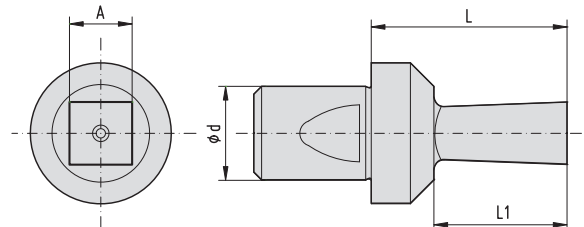
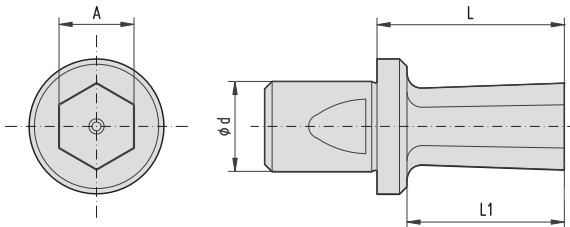
Standard square section (Q)



L1= Depth of the shape and maximum broaching depth
FOR G12A BROACHING HEADS

ITEM (material)		d	A	L1	L	C	D
HSS	SINTERED.						
GP12A-E-3/32"	GP12AK-E-3/32"	12	2,38 +0,06 +0,08	55	60	5	10
GP12A-E-1/8"	GP12AK-E-1/8"	12	3,17 +0,07 +0,09	55	60	6	10
GP12A-E-5/32"	GP12AK-E-5/32"	12	3,97 +0,08 +0,10	55	60	9	10
GP12A-E-3/16"	GP12AK-E-3/16"	12	4,76 +0,08 +0,10	55	60	9	10
GP12A-E-7/32"	GP12AK-E-7/32"	12	5,55 +0,08 +0,10	55	60	11	10
GP12A-E-1/4"	GP12AK-E-1/4"	12	6,35 +0,08 +0,10	55	60	13	10
GP12A-E-5/16"	GP12AK-E-5/16"	12	7,93 +0,09 +0,11	55	60	16	10
GP12A-E-3/8"	GP12AK-E-3/8"	12	9,52 +0,10 +0,12	55	60	18	10
GP12A-E-1/2"	GP12AK-E-1/2"	12	12,70 +0,12 +0,14	55	60	21	10

ITEM (material)		d	A	L1	L	C	D
HSS	SINTERED.						
GP12A-Q-3/32"	GP12AK-Q-3/32"	12	2,38 +0,06 +0,08	55	60	5	10
GP12A-Q-1/8"	GP12AK-Q-1/8"	12	3,17 +0,07 +0,09	55	60	6	10
GP12A-Q-5/32"	GP12AK-Q-5/32"	12	3,97 +0,08 +0,10	55	60	9	10
GP12A-Q-3/16"	GP12AK-Q-3/16"	12	4,76 +0,08 +0,10	55	60	9	10
GP12A-Q-7/32"	GP12AK-Q-7/32"	12	5,55 +0,08 +0,10	55	60	11	10
GP12A-Q-1/4"	GP12AK-Q-1/4"	12	6,35 +0,08 +0,10	55	60	13	10
GP12A-Q-5/16"	GP12AK-Q-5/16"	12	7,93 +0,09 +0,11	55	60	16	10
GP12A-Q-3/8"	GP12AK-Q-3/8"	12	9,52 +0,10 +0,12	55	60	18	10
GP12A-Q-1/2"	GP12AK-Q-1/2"	12	12,70 +0,12 +0,14	55	60	21	10

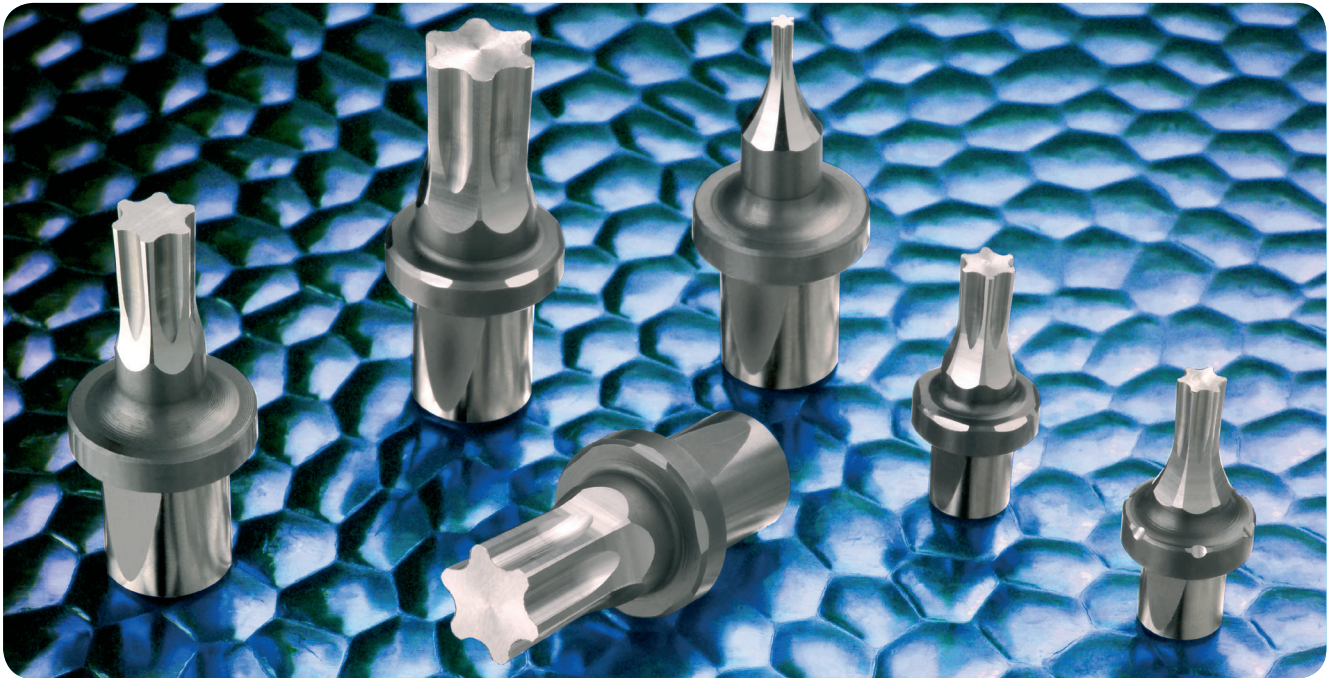


FOR BR-G16 BROACHING HEADS

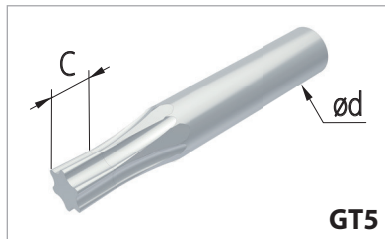
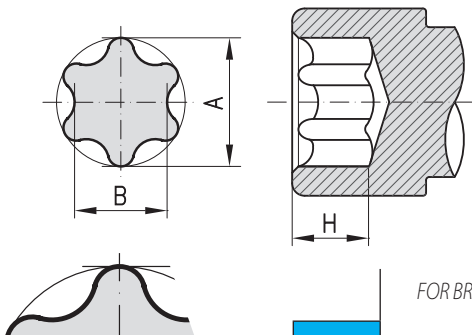
ITEM (material)		d	A	L1	L
HSS	SINTERED.				
GP16-E-3/32"	GP16K-E-3/32"	16	2,38 +0,06 +0,08	5	25
GP16-E-1/8"	GP16K-E-1/8"	16	3,17 +0,07 +0,09	6	25
GP16-E-5/32"	GP16K-E-5/32"	16	3,97 +0,08 +0,10	8	25
GP16-E-3/16"	GP16K-E-3/16"	16	4,76 +0,08 +0,10	9	25
GP16-E-7/32"	GP16K-E-7/32"	16	5,55 +0,08 +0,10	11	25
GP16-E-1/4"	GP16K-E-1/4"	16	6,35 +0,08 +0,10	13	25
GP16-E-5/16"	GP16K-E-5/16"	16	7,93 +0,09 +0,11	16	25
GP16-E-3/8"	GP16K-E-3/8"	16	9,52 +0,10 +0,12	18	25
GP16-E-1/2"	GP16K-E-1/2"	16	12,70 +0,12 +0,14	21	25
GP16-E-9/16"	GP16K-E-9/16"	16	14,28 +0,12 +0,14	21	25
GP16-E-5/8"	GP16K-E-5/8"	16	15,87 +0,13 +0,15	21	25
GP16-E-3/4"	GP16K-E-3/4"	16	19,05 +0,17 +0,19	21	25
GP16-E-7/8"	GP16K-E-7/8"	16	22,22 +0,21 +0,23	21	25
GP16-E-1"	GP16K-E-1"	16	25,40 +0,22 +0,24	21	25

ITEM (material)		d	A	L1	L
HSS	SINTERED				
GP16-Q-3/32"	GP16K-Q-3/32"	16	2,38 +0,06 +0,08	5	25
GP16-Q-1/8"	GP16K-Q-1/8"	16	3,17 +0,07 +0,09	6	25
GP16-Q-5/32"	GP16K-Q-5/32"	16	3,97 +0,08 +0,10	8	25
GP16-Q-3/16"	GP16K-Q-3/16"	16	4,76 +0,08 +0,10	9	25
GP16-Q-7/32"	GP16K-Q-7/32"	16	5,55 +0,08 +0,10	11	25
GP16-Q-1/4"	GP16K-Q-1/4"	16	6,35 +0,08 +0,10	13	25
GP16-Q-5/16"	GP16K-Q-5/16"	16	7,93 +0,09 +0,11	16	25
GP16-Q-3/8"	GP16K-Q-3/8"	16	9,52 +0,10 +0,12	18	25
GP16-Q-1/2"	GP16K-Q-1/2"	16	12,70 +0,12 +0,14	21	25
GP16-Q-9/16"	GP16K-Q-9/16"	16	14,28 +0,12 +0,14	21	25
GP16-Q-5/8"	GP16K-Q-5/8"	16	15,87 +0,13 +0,15	21	25
GP16-Q-3/4"	GP16K-Q-3/4"	16	19,05 +0,17 +0,19	21	25
GP16-Q-7/8"	GP16K-Q-7/8"	16	22,22 +0,21 +0,23	21	25
GP16-Q-1"	GP16K-Q-1"	16	25,40 +0,22 +0,24	21	25

Broaches for TORX®



TORX® - Trade Mark by TEXTRON Inc. - Providence (USA)

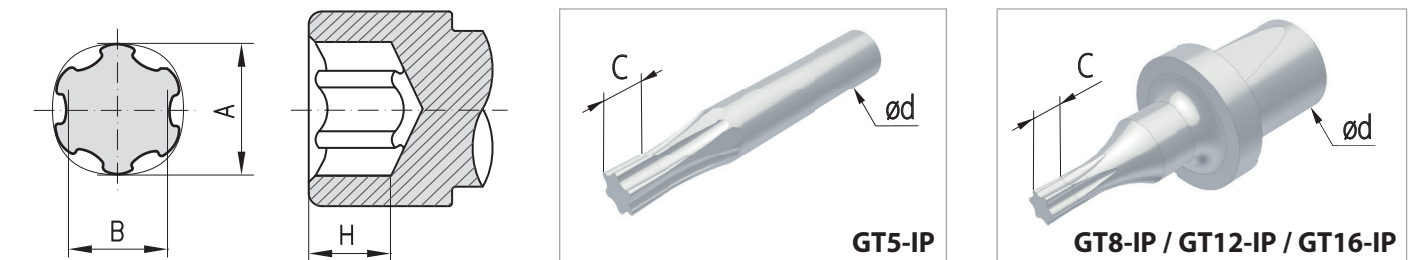


A	B	C	H max (*)	TORX®	FOR BROACHING HEADS BR-G5		FOR BROACHING HEADS BR-G8S / BR-G8M / BR-G8		FOR BROACHING HEADS BR-G12 / BR-G12B / BR-G12A		FOR BROACHING HEADS BR-G16	
					ød = 5		ød = 8		ød = 12		ød = 16	
					ITEM (material)		ITEM (material)		ITEM (material)		ITEM (material)	
					HSS	SINTERED.	HSS	SINTERED.	HSS	SINTERIZ.	HSS	SINTERIZ.
1,214	0,884	1,2	0,40	3	GT5-T3	GT5K-T3	GT8-T3	GT8K-T3	GT12-T3	GT12K-T3		
1,374	0,996	1,2	0,50	4	GT5-T4	GT5K-T4	GT8-T4	GT8K-T4	GT12-T4	GT12K-T4		
1,499	1,097	1,5	1,00	5	GT5-T5	GT5K-T5	GT8-T5	GT8K-T5	GT12-T5	GT12K-T5		
1,778	1,293	1,7	1,20	6	GT5-T6	GT5K-T6	GT8-T6	GT8K-T6	GT12-T6	GT12K-T6		
2,095	1,521	1,7	1,50	7	GT5-T7	GT5K-T7	GT8-T7	GT8K-T7	GT12-T7	GT12K-T7		
2,418	1,755	2	1,70	8	GT5-T8	GT5K-T8	GT8-T8	GT8K-T8	GT12-T8	GT12K-T8		
2,603	1,889	2	1,70	9	GT5-T9	GT5K-T9	GT8-T9	GT8K-T9	GT12-T9	GT12K-T9		
2,844	2,057	2	2,50	10	GT5-T10	GT5K-T10	GT8-T10	GT8K-T10	GT12-T10	GT12K-T10	GT16-T10	GT16K-T10
3,378	2,438	3	3,00	15	GT5-T15	GT5K-T15	GT8-T15	GT8K-T15	GT12-T15	GT12K-T15	GT16-T15	GT16K-T15
3,962	2,857	3,5	3,00	20	GT5-T20	GT5K-T20	GT8-T20	GT8K-T20	GT12-T20	GT12K-T20	GT16-T20	GT16K-T20
4,559	3,226	4	3,50	25			GT8-T25	GT8K-T25	GT12-T25	GT12K-T25	GT16-T25	GT16K-T25
5,118	3,672	4	3,50	27			GT8-T27	GT8K-T27	GT12-T27	GT12K-T27	GT16-T27	GT16K-T27
5,651	4,0645	4,5	3,50	30			GT8-T30	GT8K-T30	GT12-T30	GT12K-T30	GT16-T30	GT16K-T30
6,807	4,889	5	4,00	40			GT8-T40	GT8K-T40	GT12-T40	GT12K-T40	GT16-T40	GT16K-T40
7,975	5,689	5,5	5,20	45					GT12-T45	GT12K-T45	GT16-T45	GT16K-T45
8,991	6,502	6	6,00	50					GT12-T50	GT12K-T50	GT16-T50	GT16K-T50
11,404	8,009	7	7,00	55					GT12-T55	GT12K-T55	GT16-T55	GT16K-T55
13,487	9,677	7,5	8,00	60							GT16-T60	GT16K-T60



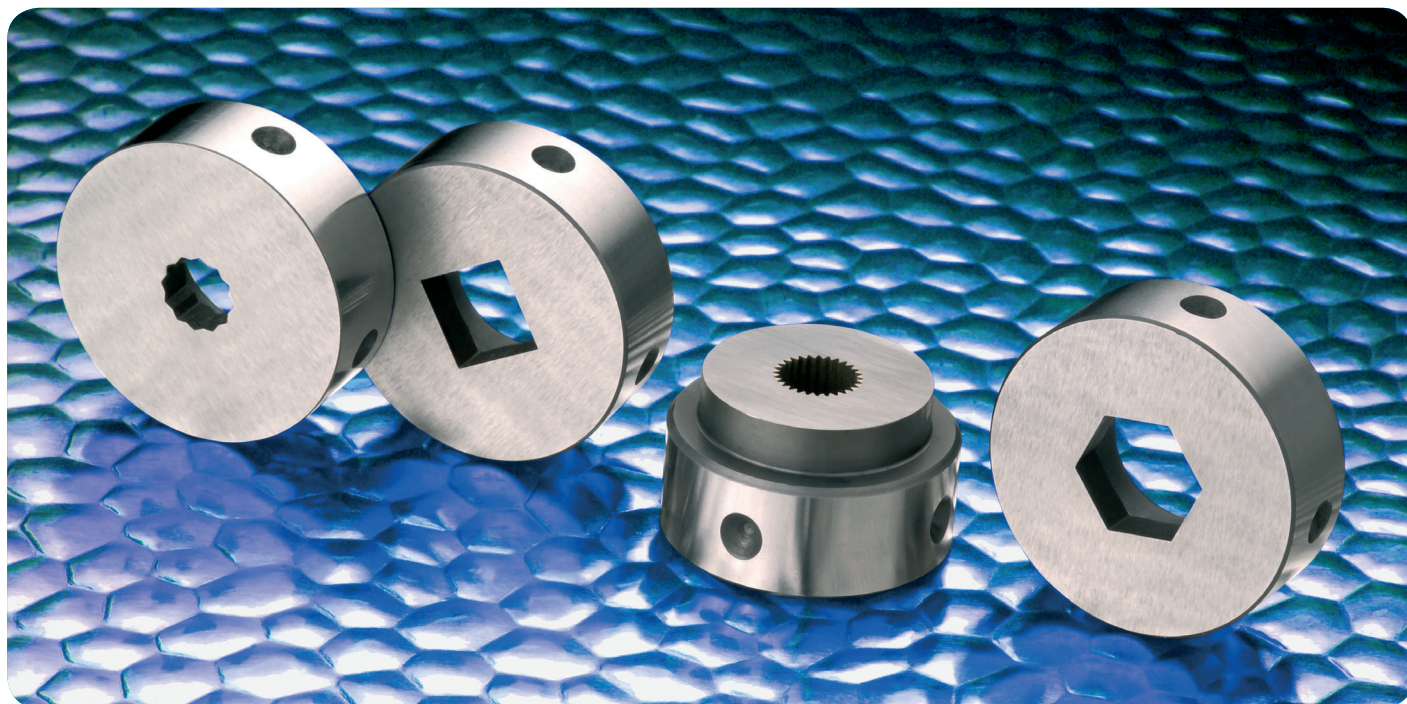
Broaches for TORX® PLUS wrenches

TORX® PLUS profile has been recently introduced on the market and it's an enhancement of the older TORX® shape. TORX® PLUS drive system maximizes engagement between driver and fastener and optimizes torque transmission. This means the depth of the profile can be shorter than TORX® old version, even if at the same time TORX® PLUS assures a much longer life of the tools. The elliptically based geometry of the TORX® PLUS profile broadens contact surface giving a better engagement between driver and fastener than old TORX® shape. This feature virtually eliminates radial stresses and increase tool life.

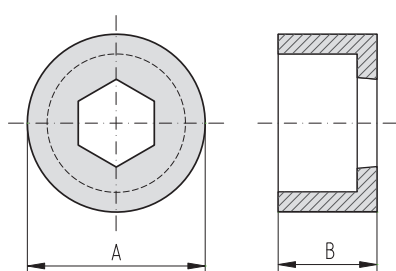


					FOR BROACHING HEADS BR-G5		FOR BROACHING HEADS BR-G8S / BR-G8M / BR-G8				FOR BROACHING HEADS BR-G12 / BR-G12B / BR-G12A				FOR BROACHING HEADS BR-G16	
					ød = 5		ød = 8				ød = 12				ød = 16	
A	B	C	H max (*)	TORX® PLUS	ITEM (material)		ITEM (material)		ITEM (material)		ITEM (material)		ITEM (material)			
					HSS	SINTERED.	HSS	SINTERED	HSS	SINTERED	HSS	SINTERED	HSS	SINTERED.		
1,778	1,381	1,7	1,20	6	GT5-IP6	GT5K-IP6	GT8-IP6	GT8K-IP6	GT12-IP6	GT12K-IP6						
2,095	1,606	1,7	1,50	7	GT5-IP7	GT5K-IP7	GT8-IP7	GT8K-IP7	GT12-IP7	GT12K-IP7						
2,418	1,860	2	1,70	8	GT5-IP8	GT5K-IP8	GT8-IP8	GT8K-IP8	GT12-IP8	GT12K-IP8						
2,603	2,014	2	1,70	9	GT5-IP9	GT5K-IP9	GT8-IP9	GT8K-IP9	GT12-IP9	GT12K-IP9						
2,844	2,174	2	2,50	10	GT5-IP10	GT5K-IP10	GT8-IP10	GT8K-IP10	GT12-IP10	GT12K-IP10	GT16-IP10	GT16K-IP10				
3,378	2,606	3	3,00	15	GT5-IP15	GT5K-IP15	GT8-IP15	GT8K-IP15	GT12-IP15	GT12K-IP15	GT16-IP15	GT16K-IP15				
3,962	3,088	3,5	3,00	20	GT5-IP20	GT5K-IP20	GT8-IP20	GT8K-IP20	GT12-IP20	GT12K-IP20	GT16-IP20	GT16K-IP20				
4,559	3,492	4	3,50	25			GT8-IP25	GT8K-IP25	GT12-IP25	GT12K-IP25	GT16-IP25	GT16K-IP25				
5,118	3,990	4	3,50	27			GT8-IP27	GT8K-IP27	GT12-IP27	GT12K-IP27	GT16-IP27	GT16K-IP27				
5,651	4,391	4,5	3,50	30			GT8-IP30	GT8K-IP30	GT12-IP30	GT12K-IP30	GT16-IP30	GT16K-IP30				
6,807	5,283	5	4,00	40			GT8-IP40	GT8K-IP40	GT12-IP40	GT12K-IP40	GT16-IP40	GT16K-IP40				
7,975	6,141	5,5	5,20	45					GT12-IP45	GT12K-IP45	GT16-IP45	GT16K-IP45				
8,991	6,923	6	6,00	50					GT12-IP50	GT12K-IP50	GT16-IP50	GT16K-IP50				
11,385	8,766	7	7,00	55					GT12-IP55	GT12K-IP55	GT16-IP55	GT16K-IP55				
13,442	10,350	7,5	8,00	60							GT16-IP60	GT16K-IP60				

Surface broaches

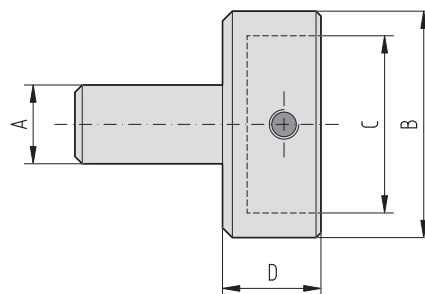


Following the technical details supplied by the Customer we can produce surface broaches for a wide range of profiles. To use surface broaches there is no need to have a particular broaching head. In fact the broach can be installed on every kind of broaching head thanks to a special adaptor.



ITEM (material)	A - h7	B
HSS		
G8-ESTER	16	7
G12-ESTER	32	20
G12A-ESTER	32	20
G16-ESTER	36	20
G16L-ESTER	42	20

ADAPTORS FOR SURFACE BROACHES



ITEM (material)	A - h7	B	C - H7	D
HSS				
A-08	8	26	16	18
A-12	12	42	32	18
A-12-A	12	42	32	53
A-16	16	46	36	18
A-16-L	16	54	42	40



Special broaches for inner/outer profiles

We can produce special broaches for holes or surface profiles.

If you did not find in this Catalogue the kind of broach you are interested in, please fill this page in and send it to us. We will answer you as soon as possible.

Machine Tool Supplies Ltd

Tel.: 01204 523429 (3 lines) Mobile : 07792 296269 E-mail: sales@mtsdriventools.co.uk

Date: _____

Company: _____

Address: _____

Tel: _____

E-mail: _____

Contact: _____

/Material to broach: _____

Qty: _____

Internal form

External form

Spline broach

N° of teeth (Z) _____

Inside diameter (DI) _____

Outside diameter (DE) _____

Measure of the teeth on DE(L1) _____

Measure of the teeth on DI (L2) _____

*External Radius (R1) _____

*Internal Radius (R2) _____

Involute broach

N° of teeth (Z) _____

Inside diameter (DI) _____

Outside diameter (DE) _____

Module (M) _____

Pressure angle _____

*External Radius (R1) _____

*Internal Radius (R2) _____

Serration broach

N° of teeth (Z) _____

Inside diameter (DI) _____

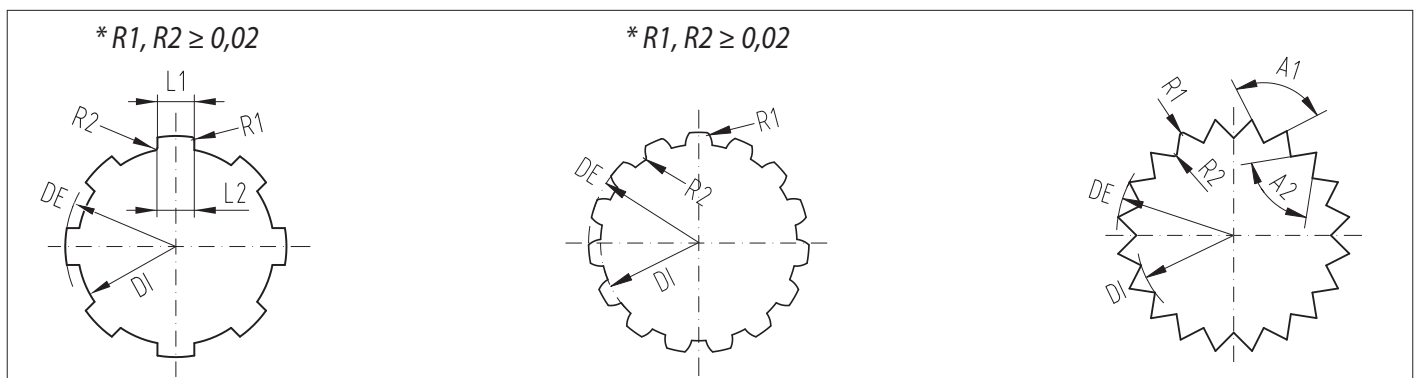
Outside diameter (DE) _____

External Radius (R1) _____

Internal Radius (R2) _____

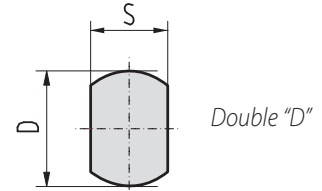
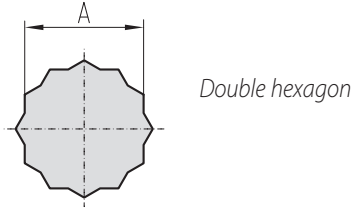
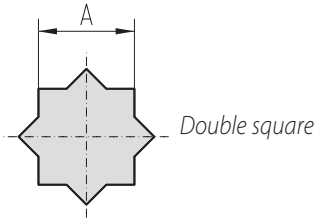
Angle between teeth (A1) _____

Angle of the tooth (A2) _____



STD special broaches

For double hexagon or double square broaches it is enough to indicate measure "A", while for double "D" broaches it is necessary to indicate measures "D" and "S".

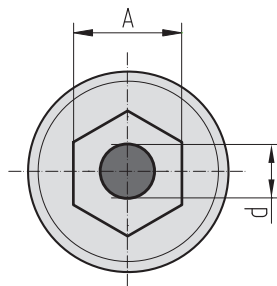


Special broaches for anti-tamper screws

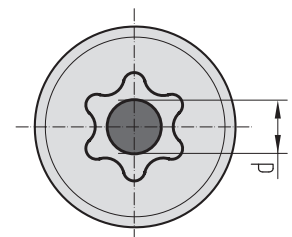


Anti-tamper screws are special screws with a pin in the middle of the shape on their head. Only special wrenches can access these anti-tamper screws. We can supply special broaches to machine polygonal shapes with a pin in the centre. The following broaches for anti-tamper screws are available in stock.

ITEM (material)	A	ø d
HSS		
G12V-E-8	8	5,80
G12V-E-9	9	6,90
G12V-E-10	10	7,75
G12V-E-11	11	8,20
G12V-E-12	12	9,00



ITEM (material)	TORX®	ø d
HSS		
GT12V - T20	20	1,50
GT12V - T25	25	1,90
GT12V - T27	27	2,20
GT12V - T30	30	2,60
GT12V - T40	40	3,00
GT12V - T45	45	3,50
GT12V - T50	50	3,90



Mini milling core drilling for anti tampering screws



ITEM (material)
FG12



G/NG check gauges for internal and external polygonal profiles



Brighetti Gauges for Polygon profiles : Continuing with our policy of innovation and updating of our machinery pool, we equipped ourselves with the most state-of-the-art control instruments.

The first step was the acquisition of **3D software programs** for the development of bi-dimensional and three-dimensional executive drawings in an environment requiring absolute precision.

The 3D software system allows us to offer our Clients a free support service at the tool's dimensional definition stage (broaching heads, inserts, gauges and control buffers) by designing the executive drawing to be submitted to the Client for approval.

The second stage was the acquisition of a **profile projector, which combines high-resolution optical/video measurement technologies**, guaranteeing a "measurement uncertainty" of μm .



The metrological software allows acquisition of the profile image of the tool worked and the generation of a report containing the dimensional characteristics complete of tolerances as well as the management of a dxf file.

GO/NOGO CHECK GAUGES FOR INTERNAL AND EXTERNAL POLYGONAL PROFILES

After many years of experience gained in the market of tooling for broaching/slotting, we thought of making ourselves available for all problems relative to control systems for internal/external polygonal profiles according to ruling national and international standards. For this, we implemented a series of G/NG gauges for hexagonal and square TORX profiles.

We also engaged in the field of splined profiles both with G/NG rings for the control of straight teeth, splined and evolving shafts and G/NG buffers to ensure a correct dimensional construction of the internal profile. Normally, for control gauges and buffers implemented according to the most used regulations these are available ex stock. In other cases, they get constructed with the forms and dimensional characteristics according to Client needs.

On request, we are able to provide a calibration certification.

The TORX gauges control inside profiles with GO/NO GO (from TORX T5 to TORX T60); external (from E1 to E16), HEXAGONAL gauges (from 1mm-28mm, and SQUARE gauges it's place in compliance with the tolerances envisaged by the ISO-DIN standards

Gauges: hexagonal, square and all other polygons that has special dimensions and tolerances, can be manufactured as "Specials".

