

## Drifting and tunnelling

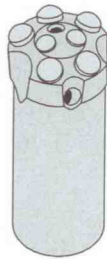
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# Drifting and tunnelling

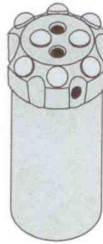
## Drill bit design



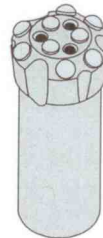
**Model -17**  
2+3 gauge buttons, 2 front buttons.  
One front and two side flushing holes.



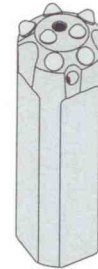
**Model -27**  
2+3 gauge buttons, 2 front buttons.  
With its large gauge buttons, model -27 is ideal for medium-hard to hard abrasive rock. Available with spherical or ballistic (-67) buttons.



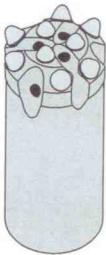
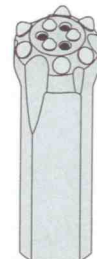
**Model -34**  
3+3 gauge buttons, 2 front buttons.  
Model -34 offers very good penetration. Ideal for most rock formations including hard rock. Available with spherical or ballistic (-67) buttons.



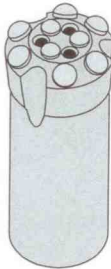
**Model -37**  
2+2+2 gauge buttons, 3 front buttons.  
With 9 buttons and superb flushing, model -37 bits offer very good penetration. Ideal for most rock formations including hard rock with heavy frontal wear on the bit. Available with spherical or ballistic (-67) buttons.



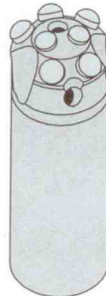
**Model -27-30, -37-30**  
Guide bit. Square skirt.  
Ideal where hole deviation is a problem. Longer service life, better penetration rate and longer grinding intervals compared to a cross-type bit, which is normally used to avoid hole deviations. Suitable for most rock formations including hard rock. Available with spherical or ballistic (-67) buttons.



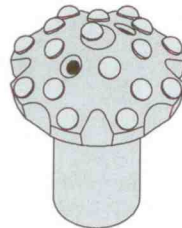
**Model -37-66**  
2+2+2 gauge buttons, 3 front buttons.  
With 9 full-ballistic buttons and excellent flushing with extra flushing grooves, model -37-66 offers extremely good penetration rate in soft rock.



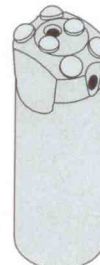
**Model -39**  
2+2+2 gauge buttons, 3 smaller front buttons.  
With its larger gauge buttons, model -39 is ideal for abrasive rock. Available with spherical or ballistic (-67) buttons.



**Model -41**  
2+3 gauge buttons, 2 front buttons.  
For medium-hard to hard rock formations. Available with spherical or ballistic (-67) buttons. Inclined front.



**Model -42**  
Reaming bit. Dome-shaped front.  
Model -42 is an alternative to traditional reaming equipment. Use in a pre-drilled pilot hole. Tried and tested with excellent results.



**Model -56**  
2+2 gauge buttons, 2 smaller front buttons.  
Traditionally used in hard rock formations, model -56 delivers excellent penetration rate. Available only with spherical buttons.



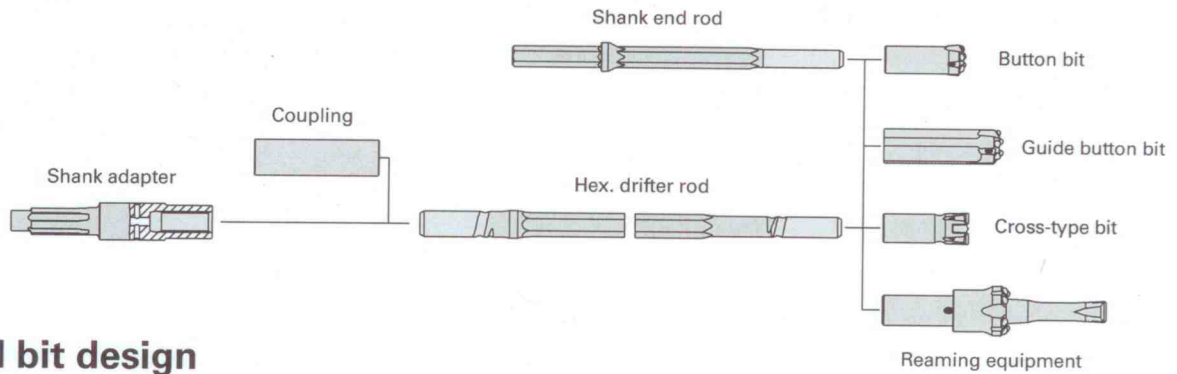
**Cross-type bit**  
4 chisel inserts in cross formation.  
Traditional insert bit for extremely abrasive rock formations. Ideal for soft formations that cause "snake-skin" problems for carbide. Produces straight holes but has lower penetration than button bits.

- 5 XXX Flat face button bit      - 6 XXX Drop centre button bit

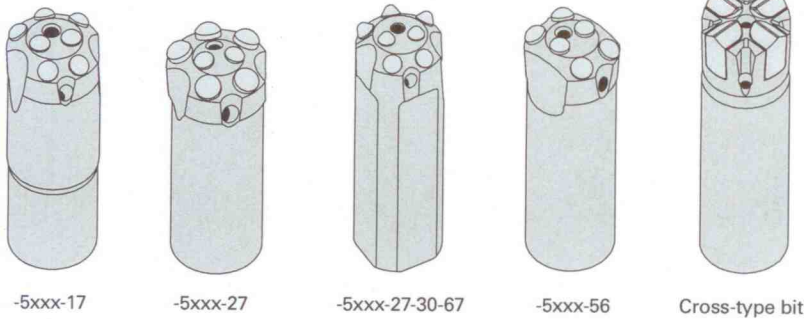
-XXXX- 67 Ballistic buttons      -XXXX- 66 Full-ballistic buttons      -XXXX- 45 Retrac skirt

Please observe that all button bits are manufactured over-sized 0,5–1,0 mm, meaning that for example a 36 mm bit is at least 36,5 mm as new. This is done because of the fast initial wear on button bits.

It is important to consider that the drilled hole could vary in size due to drilling conditions, drilling practices and ground formation.



## Drill bit design

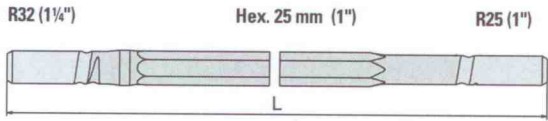


Please note text on page 22 re. finished hole size.

## Drill bit

Diameter		Product No.	Product code	No. of buttons	Buttons x button diameter (mm)		Buttons angle°		Flushing hole		Weight approx. kg
mm	inch				Gauge	Centre	Gauge	Centre	Side	Centre	
<b>BUTTON BIT - Spherical buttons</b>											
33	1 <sup>1</sup> / <sub>16</sub>	90510448	102-5033-17,39-20	7	5x7	2x7	35°	-	1	1	0,4
35	1 <sup>3</sup> / <sub>16</sub>	90505181	102-5035-27,39-20	7	5x9	2x7	25°	10°	1	1	0,5
37	1 <sup>5</sup> / <sub>32</sub>	90505295	102-5037-27,39-20	7	5x9	2x7	30°	-	1	1	0,6
38	1 <sup>1</sup> / <sub>2</sub>	90505179	102-5038-27,39-20	7	5x9	2x7	30°	-	1	1	0,6
38	1 <sup>1</sup> / <sub>2</sub>	90510206	102-5038-56,39-20	6	4x9	2x8	30°	-	2	1	0,5
41	1 <sup>5</sup> / <sub>16</sub>	90505175	102-5041-27,39-20	7	5x9	2x8	35°	-	1	1	0,6
41	1 <sup>5</sup> / <sub>16</sub>	90510207	102-5041-56,39-20	6	4x9	2x9	35°	-	2	1	0,6
45	1 <sup>3</sup> / <sub>4</sub>	90505145	102-5045-27,39-20	7	5x11	2x8	30°	-	2	1	0,7
45	1 <sup>3</sup> / <sub>4</sub>	90510208	102-5045-56,39-20	6	4x11	2x9	35°	-	2	1	0,6
<b>BUTTON BIT - Ballistic buttons</b>											
33	1 <sup>1</sup> / <sub>16</sub>	90510274	102-5033-17-67,39-20	7	5x7	2x7	35°	-	1	1	0,4
35	1 <sup>3</sup> / <sub>16</sub>	90509723	102-5035-27-67,39-20	7	5x9	2x7	25°	-	1	1	0,5
38	1 <sup>1</sup> / <sub>2</sub>	90505180	102-5038-27-67,39-20	7	5x9	2x7	40°	-	1	1	0,6
41	1 <sup>5</sup> / <sub>16</sub>	90505176	102-5041-27-67,39-20	7	5x9	2x8	40°	-	1	1	0,6
41	1 <sup>5</sup> / <sub>16</sub>	90510662	102-5041-27-30-67,39-20	7	5x9	2x8	40°	-	1	1	1,0
<b>CROSS-TYPE BIT</b>					<b>Insert</b>						
					<b>Width (mm)</b>		<b>Height (mm)</b>				
35	1 <sup>3</sup> / <sub>16</sub>	90514221	102-7035-44,20-17		10,3		19,5		2	1	0,6
38	1 <sup>1</sup> / <sub>2</sub>	90514222	102-7038-44,20-17		10,3		19,5		4	1	0,7
41	1 <sup>5</sup> / <sub>16</sub>	90514231	102-7041-44,20-17		11,1		20,0		4	1	0,8
45	1 <sup>3</sup> / <sub>4</sub>	90510687	102-7045-44,20-17		11,1		20,0		2	1	0,8

## Drifter rod



Fully carburized. Rod section 28,5 mm.



Length (L)		Product No.	Product code	Weight approx. kg
mm	foot/inch			
2100	6'10 <sup>5</sup> / <sub>8</sub> "	90503413	202-0321-03-C,02	8,6
2200	7'2 <sup>5</sup> / <sub>8</sub> "	90580096	202-0322-03-C,02	9,0
2400	7'10 <sup>1</sup> / <sub>2</sub> "	90503115	202-0324-03-C,02	9,3
2600	8'6 <sup>5</sup> / <sub>8</sub> "	90504963	202-0326-03-C,02	10,0
2675	8'9 <sup>5</sup> / <sub>8</sub> "	90505259	202-0327-03-91-C,02	10,4
2800	9'2 <sup>1</sup> / <sub>4</sub> "	90505346	202-0328-03-C,02	10,8
3090	10'1 <sup>5</sup> / <sub>8</sub> "	90539158	202-0331-03-C,02	12,0
3700	12'1 <sup>5</sup> / <sub>8</sub> "	90002721	202-0337-03-C,02	14,6

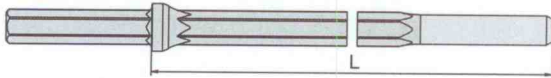
## Coupling



Full bridge -57.

Thread diameter		Diameter		Length		Product No.	Product code Rope thread	Weight approx. kg
mm	inch	mm	inch	mm	inch			
32	1 <sup>1</sup> / <sub>4</sub>	44	1 <sup>23</sup> / <sub>32</sub>	150	5 <sup>7</sup> / <sub>8</sub>	90515731	303-0044,10	1,0
32	1 <sup>1</sup> / <sub>4</sub>	44	1 <sup>23</sup> / <sub>32</sub>	160	6 <sup>5</sup> / <sub>16</sub>	90515732	303-0044-57,10	1,2

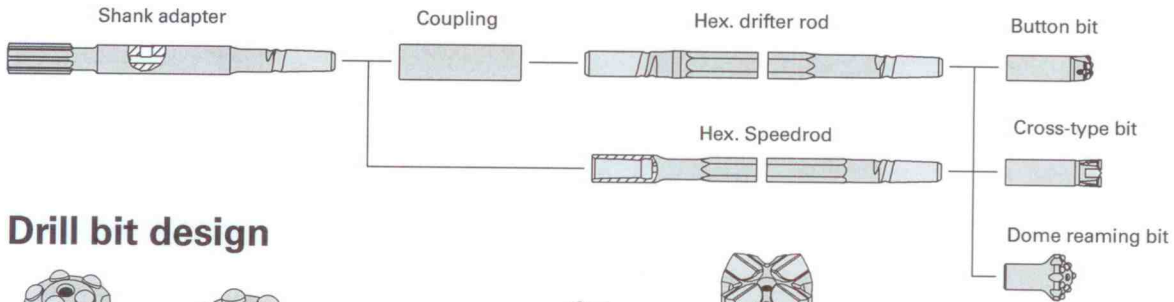
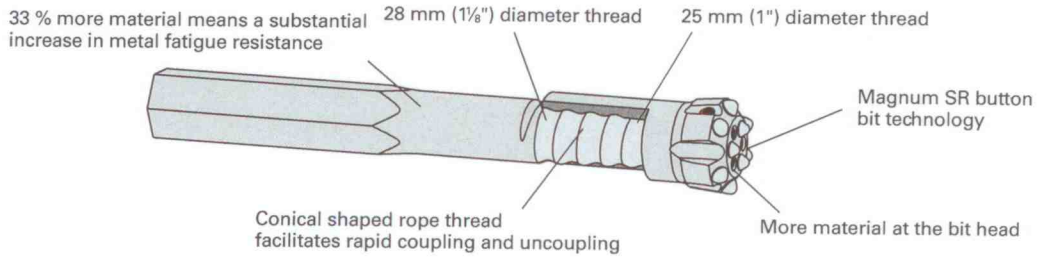
## Shank end rod



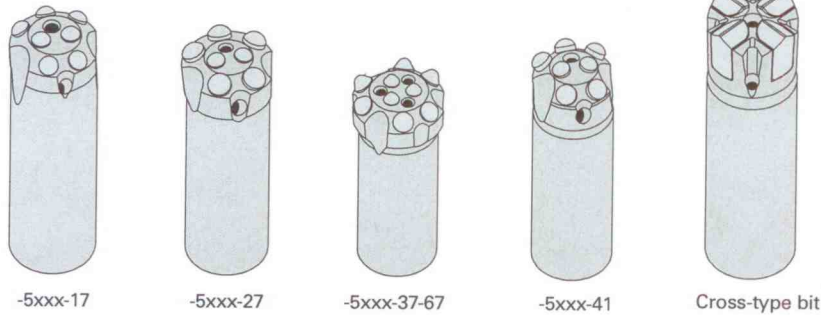
Fully carburized.

Length (L)		Product No.	Product code	Seal Product No.	Seal Product code	Weight approx. kg
mm	foot/inch					
<b>Shank hex. 22 mm (7/8") × 108 mm (4 1/4"). 25 mm (1") thread.</b>						
265	10 3/8"	90000237	502-0103-06-C,02	90002182	9232	1,2
610	2'	90570115	502-0106-06-C,02	90002182	9232	2,3
760	2'5 7/8"	90510004	502-0108-06-C,02	90002182	9232	2,9
1000	3'3 3/8"	90531258	502-0110-06-C,02	90002182	9232	3,4
1200	3'11 1/4"	90580089	502-0112-06-C,02	90002182	9232	4,5
1830	6'	90500017	502-0118-06-C,02	90002182	9232	6,2
2435	8'	90510009	502-0124-06-C,02	90002182	9232	8,0
3200	10'6"	90500012	502-0132-06-C,02	90002182	9232	10,4
3600	11'9 3/4"	90510785	502-0136-C,02	-	-	11,8
<b>Shank hex. 25 mm (1") × 108 mm (4 1/4"). 25 mm (1") thread.</b>						
255	10"	90000240	502-1203-C,02	90000378	9150-08	1,5
610	2'	90505425	502-1206-C,02	90000378	9150-08	3,1
1200	3'11 1/4"	90505424	502-1212-C,02	90000378	9150-08	5,1
1830	6'	90505423	502-1218-C,02	90000378	9150-08	7,7
2435	8'	90500568	502-1224-C,02	90000378	9150-08	9,5
<b>Shank hex. 25 mm (1") × 159 mm (6 1/4"). 25 mm (1") thread.</b>						
255	10"	90000247	502-1503-C,02	90000378	9150-08	1,7
610	2'	90510516	502-1506-C,02	90000378	9150-08	3,1
800	2'7 1/2"	90513915	502-1508-C,02	90000378	9150-08	4,1
3200	10'6"	90000986	502-1532-C,02	90000378	9150-08	13,2

### Magnum SR28 thread system



### Drill bit design



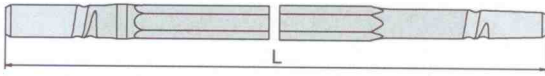
Please note text on page 22 re. finished hole size.

### Drill bit

Diameter		Product No.	Product code	No. of buttons	Buttons x button diameter (mm)		Buttons angle°		Flushing hole		Weight approx. kg	
mm	inch				Gauge	Centre	Gauge	Centre	Side	Centre		
<b>BUTTON BIT - Spherical buttons</b>												
33	1 1/16	90514200	125-5033-17,39-20	7	5x7	2x7	35°	-	1	1	0,5	
33	1 1/16	90514117	125-5033-41,39-20	7	5x8	2x7	40°	15°	1	1	0,4	
35	1 3/8	90514322	125-5035-27,39-20	7	5x9	2x7	25°	10°	1	1	0,5	
37	1 15/32	90514167	125-5037-99,39-20	7	5x9	2x7	35°	15°	1	1	0,5	
38	1 1/2	90514282	125-5038-27,39-20	7	5x9	2x7	30°	-	1	1	0,6	
41	1 5/8	90515379	125-5041-27,39-20	7	5x9	2x8	40°	-	1	1	0,7	
45	1 3/4	90514507	125-5045-27,39-20	7	5x11	2x8	30°	-	2	1	0,8	
<b>BUTTON BIT - Ballistic buttons</b>												
33	1 1/16	90514137	125-5033-41-67,39-20	7	5x8	2x7	40°	15°	1	1	0,4	
35	1 3/8	90514102	125-5035-27-67,39-20	7	5x9	2x7	25°	10°	1	1	0,4	
38	1 1/2	90516334	125-5038-41-67,39-20	7	5x9	2x8	40°	20°	1	1	0,5	
41	1 5/8	90516383	125-5041-37-67,39-20	9	6x9	3x7	40°	-	-	3	0,5	
45	1 3/4	90516422	125-5045-37-67,39-20	9	6x9	3x8	40°	-	-	3	0,7	
<b>CROSS-TYPE BIT</b>												
				Insert								
				Width (mm)		Height (mm)						
33	1 1/16	90514429	125-7033-44,20-17	10,3		19,5		2		1		0,5

## Drifter rod

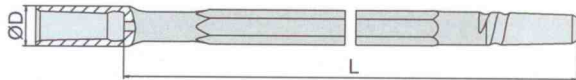
R32 (1 1/4")      Hex. 28 mm (1 1/8")      SR28 (1 1/8")



Fully carburized. Rod section 32 mm.

Length (L)		Product No.	Product code	Weight approx. kg
mm	foot/inch			
2100	6'10 3/8"	90514162	225-0421-03-C,02	10,4
2300	7'6 5/8"	90514163	225-0423-03-C,02	11,4
2400	7'10 1/2"	90514370	225-0424-03-C,02	12,2
2600	8'6 3/8"	90514153	225-0426-03-C,02	12,9
2675	8'9 3/8"	90514103	225-0427-03-91-C,02	13,3
2800	9'2 1/4"	90514164	225-0428-03-C,02	14,3
2950	9'8 1/8"	90514371	225-0430-03-91-C,02	14,9
3090	10'1 5/8"	90514168	225-0431-03-C,02	15,8

SR28 (1 1/8")      Hex. 25 mm (1")      SR28 (1 1/8")



Speedrod, fully carburized. D = 34 mm. Rod section 28,5 mm.

Length (L)		Product No.	Product code	Weight approx. kg
mm	foot			
3050	10	90516350	225-0331-69-MF-C,02	12,1

## Coupling

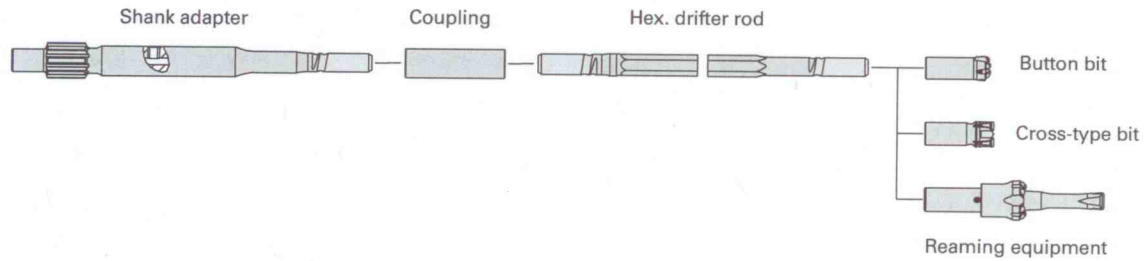


Full bridge -57.

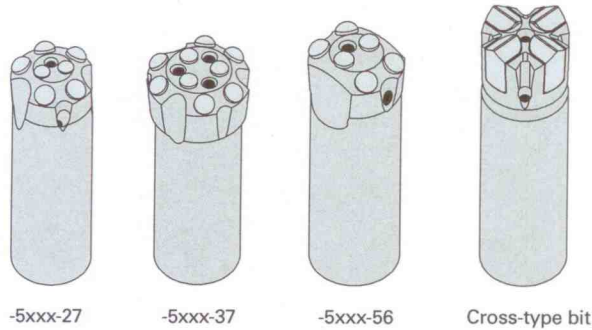
Thread diameter		Diameter		Length		Product No.	Product code Rope thread	Weight approx. kg
mm	inch	mm	inch	mm	inch			
32	1 1/4	44	1 23/32	150	5 7/8	90515731	303-0044,10	1,0
32	1 1/4	44	1 23/32	160	6 5/16	90515732	303-0044-57,10	1,2

# Drifting and tunnelling

R28 (1 1/8")



## Drill bit design



Please note text on page 22 re. finished hole size.

## Drill bit

Diameter		Product No.	Product code	No. of buttons	Buttons × button diameter (mm)		Gauge buttons angle°	Flushing hole		Weight approx. kg
mm	inch				Gauge	Centre		Side	Centre	
<b>BUTTON BIT - Spherical buttons</b>										
37	1 1/32	90505296	107-5037-27,39-20	7	5×9	2×7	30°	1	1	0,5
38	1 1/2	90505177	107-5038-27,39-20	7	5×9	2×7	30°	1	1	0,6
38	1 1/2	90510216	107-5038-56,39-20	6	4×9	2×8	30°	2	1	0,6
41	1 5/8	90505173	107-5041-27,39-20	7	5×9	2×8	35°	1	1	0,7
43	1 1/16	90505169	107-5043-27,39-20	7	5×9	2×9	35°	2	1	0,7
45	1 3/4	90509467	107-5045-37,39-20	9	6×9	3×8	35°	1	3	0,8
<b>BUTTON BIT- Ballistic buttons</b>										
38	1 1/2	90505178	107-5038-27-67,39-20	7	5×9	2×7	40°	1	1	0,6
41	1 5/8	90505174	107-5041-27-67,39-20	7	5×9	2×8	40°	1	1	0,7
<b>CROSS-TYPE BIT</b>					<b>Insert</b>					
					<b>Width (mm)</b>	<b>Height (mm)</b>				
38	1 1/2	90514249	107-7038-44,20-17		10,3	19,5		1	1	0,6
41	1 5/8	90514234	107-7041-44,20-17		11,1	20,0		4	1	0,8
45	1 3/4	90514252	107-7045-44,20-17		11,1	20,0		4	1	0,9

