

# Rock Drilling Equipment



## INTRODUCTION

Padley & Venables has been established for over 92 years and manufactures an extensive range of quality tools for use in the Rock Drilling, Quarrying, Mining, Tunnelling, Construction, Civil Engineering and Demolition industries worldwide.

P&V's reputation for "PERFORMANCE & VALUE" Rock Drilling products has been nurtured throughout the years by continuous research, development and testing of the Company's wide range of products, together with ongoing investment in modern technology and machinery.

This catalogue features P&V's range of tools designed to be compatible with most types of Rock Drilling machines currently in use. Customer requirements for equipment, other than the range featured in this catalogue, will be considered by special arrangement and discussion.

P&V's commitment to manufacturing quality products for its customers is enhanced by the operation of a Total Quality Management System, certified to BS EN ISO 9001 Standard.

Material and drawings in this catalogue are the property of P&V and are not to be reproduced.

P&V reserve the right to amend product specifications without prior notification.

## WARRANTY

Padley & Venables' tools are guaranteed against defects in raw material and manufacture. No other Warranty is implied or expressed.

The Company's liability in respect of any warranty claim is limited to replacement and does not extend to any other expenditure incurred or to any consequential damage. Warranty claims are subject to immediate notification of any problems and return of the goods to P&V under their Returned Goods System.

Operators' attention is drawn to the requirement to select the correct tool and machine for the specific type of application required. When the correct P&V tool is used for its appropriate application and is used in the proper manner for which it is designed and operated within a correctly maintained machine, risks to the safety and health of operators will be avoided.

## BIT DESIGNS

P&V Bit codes are designated by the 5th and 6th digits of the catalogue number, e.g. 4732-0945. P&V offer a wide range of bit designs for a variety of thread types and applications. Following is a brief description of the suitability of the common designs together with other options that can be obtained.

Type 09 <b>Standard Duty</b>	Suitable for the majority of applications, gives an optimum combination of wear and penetration rate.
Type 20 <b>Heavy Duty</b>	Suitable for applications where carbide wear is high, e.g. hard and abrasive rock.
Type 18 <b>Retrac</b>	For applications where broken ground is a problem and also used where hole directional stability is required.
Type 19 <b>Drop Centre</b>	Particularly suited to soft rock applications where hole deviation needs to be a minimum.
Type 25 <b>Ballistic</b>	Suitable for softer rocks where maximum penetration is required. Can also be successful in abrasive applications but is more susceptible to carbide failure than the conventional hemispherical design.
Type 34 <b>Paraboloid</b>	This is half way between the ballistic and hemispherical tips and it gives well above normal penetration rates without the vulnerability of the ballistic design.

## COMBINATIONS

It is possible to combine several of the above types into one design. Bit codes for these are as follows:

26 - Retrac Ballistic	29 - Drop Centre Ballistic	38 - Retrac Paraboloid
27 - Retrac Drop Centre	33 - Retrac Drop Centre Ballistic	39 - Retrac Drop Centre Paraboloid

All the above designs are available on size ranges of 64-115mm (2½" - 4½") on thread types P38 through to P60. Other design combinations are available on request. Contact P&V or your local distributor for details.



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# Padley & Venables Ltd.

P&V manufacture a comprehensive range of quality tools for use in the Rock Drilling, Mining, Quarrying, Tunnelling, Demolition, Construction and Civil Engineering industries worldwide.

## **Rock Drilling Division**

Integral drill steels, taper rods and bits. Shank adaptors to fit most types of hammers. Couplings, extension drill rods, male/female "speedrods", tunnelling rods and tungsten carbide tipped drill bits, with button (flat face, ballistic, paraboloid, drop-centre), cross and 'X' head configurations. All threaded items are available with most popular international thread forms.

Tubular drill rods & bits and guide tubes.

## **Hydraulic Breaker Tools Division**

P&V manufacture the widest range of quality heavy duty demolition tools in Europe, for use with most types of hydraulic breaker machines. Tools available with point, chisel and blunt working ends.

## **Contractors' Tools Division**

An extensive range of quality forged shank tools for use with hand held pneumatic, hydraulic and petrol driven hammers, including moil point concrete breakers, chisel ends, asphalt cutters, easibusts, frost wedges, tarmac cutters, digger steels, clay spades, plugs & feathers, rammer stems & pads and sheeting driver shoes.

Tools for use with pick hammers, clay diggers, chipping hammers. Tungsten carbide tipped plug drills for cavity wall drilling.



**P&V**   
**Padley & Venables**

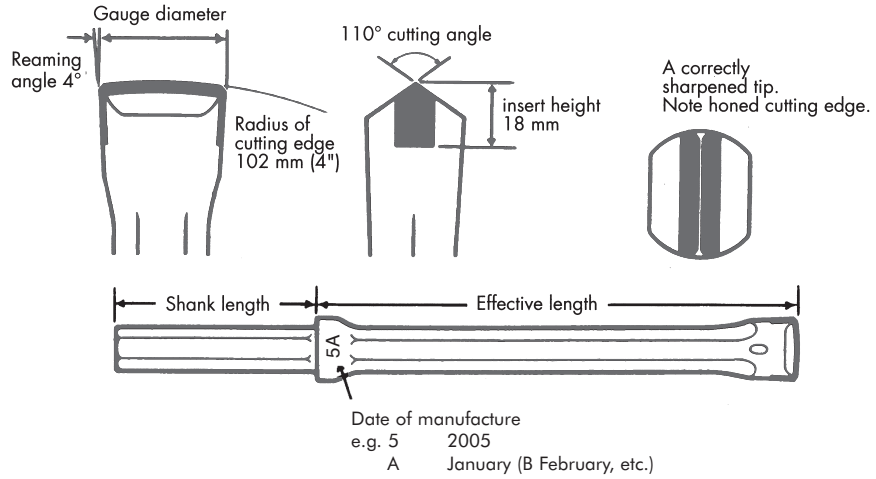
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# INTEGRAL DRILL STEELS



## NOMENCLATURE OF DRILL STEELS



### 22 mm (7/8") HEXAGON BODY

82.5 x 22 mm (3 1/4" x 7/8") HEXAGON SHANK



### 22 mm (7/8") HEXAGON BODY

108 x 22 mm (4 1/4" x 7/8") HEXAGON SHANK



EFFECTIVE LENGTH	HEAD DIA.	CATALOGUE NUMBER

L = 800	2' 7"	34	<b>5323 - 0834</b>
1600	5' 3"	33	<b>5323 - 1633</b>
2400	7' 10"	32	<b>5323 - 2432</b>
3200	10' 6"	31	<b>5323 - 3231</b>
4000	13' 1"	30	<b>5323 - 4030</b>
4800	15' 9"	29	<b>5323 - 4829</b>
L = 800	2' 7"	40	<b>5323 - 0840</b>
1600	5' 3"	39	<b>5323 - 1639</b>
2400	7' 10"	38	<b>5323 - 2438</b>
3200	10' 6"	37	<b>5323 - 3237</b>
4000	13' 1"	36	<b>5323 - 4036</b>
4800	15' 9"	35	<b>5323 - 4835</b>

11	L = 800	2' 7"	34	<b>5324 - 0834</b>
	1600	5' 3"	33	<b>5324 - 1633</b>
	2400	7' 10"	32	<b>5324 - 2432</b>
	3200	10' 6"	31	<b>5324 - 3231</b>
	4000	13' 1"	30	<b>5324 - 4030</b>
	4800	15' 9"	29	<b>5324 - 4829</b>
	5600	18' 4"	28	<b>5324 - 5628</b>
	6400	21' 0"	27	<b>5324 - 6427</b>
12	L = 800	2' 7"	40	<b>5324 - 0840</b>
	1600	5' 3"	39	<b>5324 - 1639</b>
	2400	7' 10"	38	<b>5324 - 2438</b>
	3200	10' 6"	37	<b>5324 - 3237</b>
	4000	13' 1"	36	<b>5324 - 4036</b>
	4800	15' 9"	35	<b>5324 - 4835</b>
	5600	18' 4"	34	<b>5324 - 5634</b>
	6400	21' 0"	33	<b>5324 - 6433</b>
13	L = 400	1' 4"	34	<b>5324 - 0434</b>
	800	2' 7"	33	<b>5324 - 0833</b>
	1200	3' 11"	32	<b>5324 - 1232</b>
	1600	5' 3"	31	<b>5324 - 1631</b>
	2000	6' 6"	30	<b>5324 - 2030</b>

**INTEGRAL DRILL STEELS, Continued**

**22 mm (7/8") HEXAGON BODY - continued**

108 x 22 mm (4 1/4" x 7/8") HEXAGON SHANK

ISO SERIES	EFFECTIVE LENGTH		HEAD DIA. MM	CATALOGUE NUMBER
	MM	FT/INS		
16	L = 600	2' 0"	35	<b>5324-0635</b>
	1200	3'11"	34	<b>5324-1234</b>
	1800	5'11"	33	<b>5324-1833</b>
	2400	7'10"	32	<b>5324-2432</b>
17	L = 600	2' 0"	41	<b>5324-0641</b>
	1200	3'11"	40	<b>5324-1240</b>
	1800	5'11"	39	<b>5324-1839</b>
	2400	7'10"	38	<b>5324-2438</b>

**25 mm (1") HEXAGON BODY**

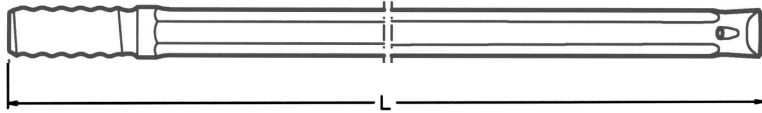
108 x 25 mm (4 1/4" x 1") HEXAGON SHANK



31	L = 800	2' 7"	36	<b>5336-0836</b>
	1600	5' 3"	35	<b>5336-1635</b>
	2400	7'10"	34	<b>5336-2434</b>
	3200	10' 6"	33	<b>5336-3233</b>
32	L = 800	2' 7"	42	<b>5336-0842</b>
	1600	5' 3"	41	<b>5336-1641</b>
	2400	7'10"	40	<b>5336-2440</b>
	3200	10' 6"	39	<b>5336-3239</b>
	4000	13' 1"	38	<b>5336-4038</b>
	4800	15' 9"	37	<b>5336-4837</b>

**THREADED INTEGRAL DRILL STEELS**

R32 THREAD 25mm HEXAGON BODY



L = 2200	30	<b>5332-2230</b>
	30	<b>5332-2830</b>
3200	32	<b>5332-3232</b>
4500	32	<b>5332-4532</b>

# TAPER DRIVE EQUIPMENT



DIMENSIONS  
MM FT/INS

CATALOGUE  
NUMBER

## 22 x 7° TAPER EQUIPMENT

BITS

### CROSS

7° x 22



### BUTTON



D = 32	1 1/4"	4202-0332
35	1 3/8"	4202-0335
38	1 1/2"	4202-0338
41	1 5/8"	4202-0341
45	1 3/4"	4202-0345
48	1 7/8"	4202-0348
51	2"	4202-0351

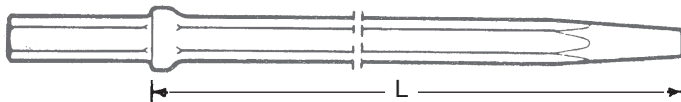
D = 32	1 1/4"	4702-0932
35	1 3/8"	4702-0935
38	1 1/2"	4702-0938
41	1 5/8"	4702-0941
45	1 3/4"	4702-0945

DRILL RODS

### 22 mm (7/8") HEXAGON BODY

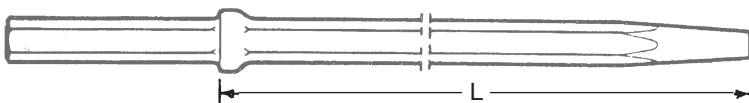
82.5 x 22 mm (3 1/4" x 7/8") HEXAGON SHANK

7° x 22



108 x 22 mm (4 1/4" x 7/8") HEXAGON SHANK

7° x 22



L = 600	2'	5033-0206
915	3'	5033-0209
1220	4'	5033-0212
1830	6'	5033-0218
2435	8'	5033-0224
3050	10'	5033-0231

L = 600	2'	5034-0206
915	3'	5034-0209
1220	4'	5034-0212
1830	6'	5034-0218
2145	7'	5034-0221
2435	8'	5034-0224
3050	10'	5034-0231

## 22 x 12° TAPER EQUIPMENT

BITS

### CROSS

12° x 22



### BUTTON



D = 32	1 1/4"	4203-0332
35	1 3/8"	4203-0335
38	1 1/2"	4203-0338
41	1 5/8"	4203-0341
45	1 3/4"	4203-0345
48	1 7/8"	4203-0348
51	2"	4203-0351

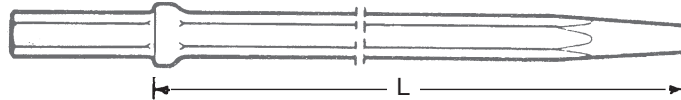
D = 32	1 1/4"	4703-0932
35	1 3/8"	4703-0935
38	1 1/2"	4703-0938
41	1 5/8"	4703-0941
45	1 3/4"	4703-0945

DRILL RODS

### 22 mm (7/8") HEXAGON BODY

82.5 x 22 mm (3 1/4" x 7/8") HEXAGON SHANK

12° x 22



108 x 22 mm (4 1/4" x 7/8") HEXAGON SHANK

12° x 22



L = 600	2'	5033-0306
915	3'	5033-0309
1220	4'	5033-0312
1830	6'	5033-0318
2435	8'	5033-0324
3050	10'	5033-0331

L = 600	2'	5034-0306
915	3'	5034-0309
1220	4'	5034-0312
1830	6'	5034-0318
2145	7'	5034-0321
2435	8'	5034-0324
3050	10'	5034-0331

**OTHER TAPER ANGLES** - P&V Taper Angles are denoted by the following Codes: 01 = 4.8° x 22 mm, 02 = 7° x 22 mm, 03 = 12° x 22 mm, 06 = 11° x 22 mm. Other Taper Angle Equipment can be ordered by substituting these Codes into the above catalogue numbers.



CARBIDE  
INSERT SIZE

FLUSHING  
SIDE FACE  
No mm No mm

DIMENSIONS  
MM FT/INS

CATALOGUE  
NUMBER

## R25 - 1" ROPE THREAD

BITS

### CROSS



W	H	SIDE	FACE
No	mm	No	mm
8	11	4 x 5	1 x 5
8	11	4 x 5	1 x 5
8	14	4 x 5	1 x 5.5
9	14	4 x 5	1 x 5.5

D	MM	FT/INS	CATALOGUE NUMBER
35	1 3/8"		4625-0335
38	1 1/2"		4625-0338
41	1 5/8"		4625-0341
45	1 3/4"		4625-0345

### BUTTON - STANDARD



GAUGE	FACE	SIDE	FACE
No mm	No mm	No mm	No mm
4 x 9	1 x 8	2 x 6	-
4 x 9	2 x 8	1 x 6	1 x 6
4 x 9	2 x 9	1 x 6	1 x 6
4 x 11	2 x 9	1 x 7	1 x 7

D	MM	FT/INS	CATALOGUE NUMBER
35	1 3/8"		4725-0935
38	1 1/2"		4725-0938
41	1 5/8"		4725-0941
45	1 3/4"		4725-0945

### BUTTON - HEAVY DUTY



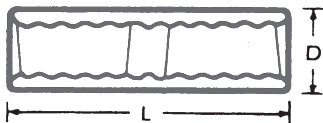
GAUGE	FACE	SIDE	FACE
No mm	No mm	No mm	No mm
4 x 10	1 x 8	2 x 6	-
5 x 9	2 x 8	2 x 5	1 x 5
5 x 9	2 x 8	2 x 5	1 x 5
5 x 10	2 x 9	2 x 6	1 x 5

D	MM	FT/INS	CATALOGUE NUMBER
35	1 3/8"		4725-2035
38	1 1/2"		4725-2038
41	1 5/8"		4725-2041
45	1 3/4"		4725-2045

COUPLING

### SEMI-BRIDGE

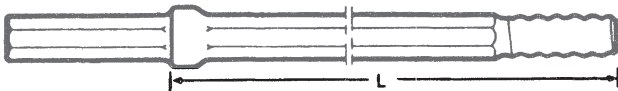
R25



D	MM	FT/INS	CATALOGUE NUMBER
35	1 3/8"		5525-0001
159	6 1/4"		

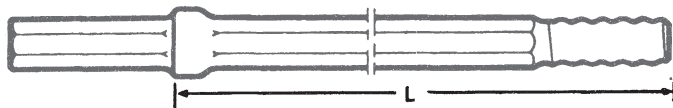
SHANKED RODS

### 108 x 22 mm (4 1/4" x 7/8") HEXAGON SHANK



L	EFFECTIVE LENGTH		CATALOGUE NUMBER
	MM	FT/INS	
610		2'	5425-2203-06
1220		4'	5425-2203-12
1830		6'	5425-2203-18
2440		8'	5425-2203-24

### 108 x 25 mm (4 1/4" x 1") HEXAGON SHANK



L	EFFECTIVE LENGTH		CATALOGUE NUMBER
	MM	FT/INS	
610		2'	5425-2503-06
1220		4'	5425-2503-12
1830		6'	5425-2503-18
2440		8'	5425-2503-24
3050		10'	5425-2503-31

**R25 THREAD - TUNNELLING & DRIFTING EQUIPMENT, Continued**

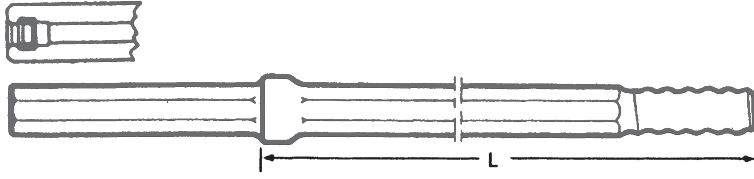
EFFECTIVE LENGTH  
MM FT/INS

CATALOGUE  
NUMBER

SHANKED RODS

**159 x 25 mm (6 1/4" x 1") HEXAGON SHANK**

WITH 8 mm (5/16") SEAL



L = 2400	7' 10"	<b>5425-2505-24</b>
2800	9' 2"	<b>5425-2505-28</b>
3200	10' 6"	<b>5425-2505-32</b>
3600	11' 10"	<b>5425-2505-36</b>
4000	13' 1"	<b>5425-2505-40</b>

TUNNELLING RODS

**25 mm (1") HEXAGON BODY**

R32 TO R25

FLUSHING HOLE SIZE 9 mm (1 1/32")



L = 2480	8' 1 1/2"	<b>5732-2525-25</b>
3090	10' 1 1/2"	<b>5732-2525-31</b>
3700	12' 1 1/2"	<b>5732-2525-37</b>

\* Shank Adaptors - see pages 26-38

## R28 - 1 1/8" ROPE THREAD

### CROSS - HEAVY DUTY



W	H	FLUSHING SIDE		FACE
mm	mm	No	mm	No mm
8	11	4	6.5	1 x 5
8	14	4	6.5	1 x 5.5
9	14	4	6.5	1 x 5.5
9	14	4	6.5	1 x 5.5

D	mm	FT/INS	CATALOGUE NUMBER
38	1 1/2"		4628-0838
41	1 5/8"		4628-0841
45	1 3/4"		4628-0845
48	1 7/8"		4628-0848

### BUTTON - STANDARD



GAUGE No	mm	FACE No mm		
		mm	mm	mm
4 x 9		2 x 8	2 x 6	-
4 x 9		2 x 9	1 x 6	1 x 6
4 x 10		2 x 9	2 x 6	1 x 5
4 x 10		2 x 9	2 x 6	1 x 5

D	mm	FT/INS	CATALOGUE NUMBER
38	1 1/2"		4728-0938
41	1 5/8"		4728-0941
45	1 3/4"		4728-0945
48	1 7/8"		4728-0948

### BUTTON - HEAVY DUTY

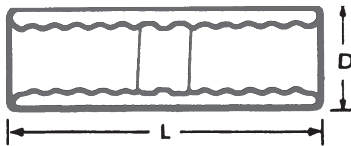


GAUGE No	mm	FACE No mm		
		mm	mm	mm
5 x 9		2 x 8	3 x 5	1 x 5
5 x 9		2 x 8	2 x 6	1 x 4
5 x 10		2 x 8	2 x 7	1 x 5
5 x 10		2 x 9	2 x 7	1 x 5

D	mm	FT/INS	CATALOGUE NUMBER
38	1 1/2"		4728-2038
41	1 5/8"		4728-2041
45	1 3/4"		4728-2045
48	1 7/8"		4728-2048

### SEMI BRIDGE

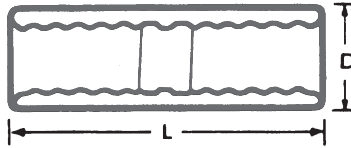
R32



D	mm	FT/INS	CATALOGUE NUMBER
45	1 3/4"		5532-0001
L = 159	6 1/4"		

### SEMI BRIDGE

R38



D	mm	FT/INS	CATALOGUE NUMBER
55	2 1/8"		5538-0001
L = 175	6 7/8"		

### 28 mm (1 1/4") HEXAGON BODY

R32 TO R28

FLUSHING HOLE SIZE 9 mm (11/32")

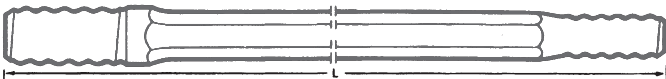


L	mm	FT/INS	CATALOGUE NUMBER
2480	8' 1 1/2"		5732-2828-25
3090	10' 1 1/2"		5732-2828-31
3700	12' 1 1/2"		5732-2828-37
4300	14' 1 1/2"		5732-2828-43

### 28 mm (1 1/4") HEXAGON BODY

R38 TO R28

FLUSHING HOLE SIZE 9 mm (11/32")



L	mm	FT/INS	CATALOGUE NUMBER
3090	10' 1 1/2"		5738-2828-31
3700	12' 1 1/2"		5738-2828-37
4300	14' 1 1/2"		5738-2828-43

### 32 mm (1 1/4") HEXAGON BODY

R32 TO R28

FLUSHING HOLE SIZE 9 mm (11/32")



L	mm	FT/INS	CATALOGUE NUMBER
3090	10' 1 1/2"		5732-3228-31
3700	12' 1 1/2"		5732-3228-37
4000	13' 1 1/2"		5732-3228-40
4300	14' 1 1/2"		5732-3228-43

### 32 mm (1 1/4") HEXAGON BODY

R38 TO R28

FLUSHING HOLE SIZE 9 mm (11/32")



L	mm	FT/INS	CATALOGUE NUMBER
3100	10' 1 1/2"		5738-3228-31
3700	12' 1 1/2"		5738-3228-37
4300	14' 1 1/2"		5738-3228-43

BITS

COUPLINGS

TUNNELLING RODS

# R32 - 1 1/4" ROPE THREAD

## CROSS - HEAVY DUTY



W = 9	H = 17	4 x 6.5	1 x 5.5
9	17	4 x 6.5	1 x 5.5
9	17	4 x 6.5	1 x 5.5
11	19	4 x 6.5	1 x 5.5

D = 43	-	4632-0843
45	1 3/4"	4632-0845
48	1 7/8"	4632-0848
51	2"	4632-0851

## BUTTON - STANDARD



GAUGE		FACE	
No	mm	No	mm
4 x 10	2 x 8	2 x 7	-
4 x 10	2 x 9	2 x 7	1 x 5
4 x 10	2 x 9	2 x 7	1 x 5

D = 43	-	4732-0943
45	1 3/4"	4732-0945
48	1 7/8"	4732-0948



5 x 10	2 x 10	1 x 7	1 x 7
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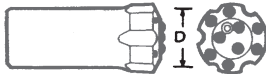
D = 51	2"	4732-0951
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## BUTTON - HEAVY DUTY



GAUGE		FACE	
No	mm	No	mm
5 x 10	2 x 8	2 x 7	1 x 5
5 x 10	2 x 9	2 x 7	1 x 5
5 x 10	2 x 9	2 x 7	1 x 5

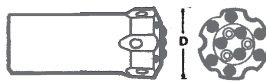
D = 43	-	4732-2043
45	1 3/4"	4732-2045
48	1 7/8"	4732-2048



6 x 10	3 x 9	3 x 7	1 x 6
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D = 51	2"	4732-2051
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## BUTTON - PARABOLOID

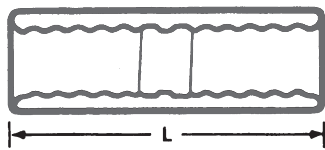


GAUGE		FACE	
No	mm	No	mm
6 x 9	3 x 9	1 x 6	3 x 5
6 x 10	3 x 9	1 x 6	3 x 5
6 x 10	3 x 9	-	3 x 6

D = 45	1 3/4"	4732-3445
48	1 7/8"	4732-3448
51	2"	4732-3451

## SEMI-BRIDGE

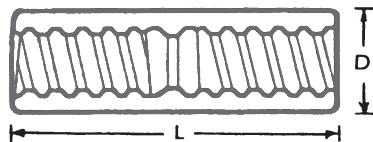
R38



D = 55	2 5/32"	5538-0001
L = 180	7 1/16"	

## SEMI-BRIDGE

P38



D = 55	2 5/32"	5588-0001
L = 190	7 1/2"	

## 32 mm (1 1/4") HEXAGON BODY

R38 TO R32

FLUSHING HOLE SIZE 9 mm (11/32")

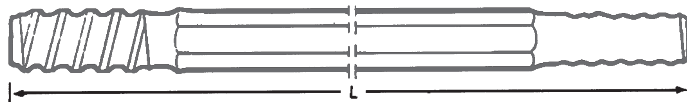


L = 3090	10'1 1/2"	5738-3232-31
3700	12'1 1/2"	5738-3232-37
4000	13'1 1/2"	5738-3232-40
4300	14'1 1/2"	5738-3232-43
4610	15'1 1/2"	5738-3232-46
4915	16'1 1/2"	5738-3232-49

## 32 mm (1 1/4") HEXAGON BODY

P38 TO R32

FLUSHING HOLE SIZE 9 mm (11/32")



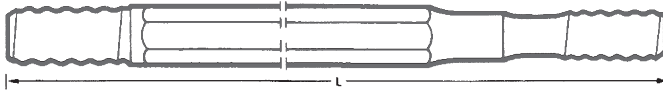
L = 3090	10'1 1/2"	5788-3232-31
3700	12'1 1/2"	5788-3232-37
4000	13'1 1/2"	5788-3232-40
4300	14'1 1/2"	5788-3232-43
4610	15'1 1/2"	5788-3232-46
4915	16'1 1/2"	5788-3232-49

**R32 THREAD - TUNNELLING & DRIFTING EQUIPMENT, Continued**

**35 mm (1 3/8") HEXAGON BODY**

R38 TO R32

FLUSHING HOLE SIZE 9 mm (11/32")

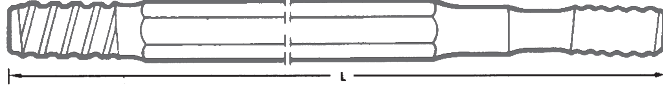


L =	DIMENSIONS		CATALOGUE NUMBER
	MM	FT/INS	
3090	10'1 1/2"	5738-3532-31	
3700	12'1 1/2"	5738-3532-37	
4300	14'1 1/2"	5738-3532-43	
4915	16'1 1/2"	5738-3532-49	
5525	18'1 1/2"	5738-3532-55	

**35 mm (1 3/8") HEXAGON BODY**

P38 TO R32

FLUSHING HOLE SIZE 9 mm (11/32")

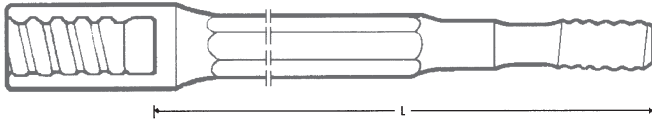


3090	10'1 1/2"	5788-3532-31
3700	12'1 1/2"	5788-3532-37
4300	14'1 1/2"	5788-3532-43
4915	16'1 1/2"	5788-3532-49
5525	18'1 1/2"	5788-3532-55

**35 mm (1 3/8") HEXAGON BODY**

P38 FEMALE TO R32 MALE

FLUSHING HOLE SIZE 9 mm (11/32")

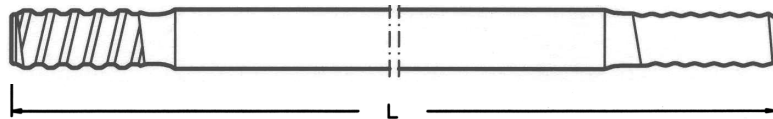


3700	12'1 1/2"	5788-3532-37MF
4300	14'1 1/2"	5788-3532-43MF
4915	16'1 1/2"	5788-3532-49MF
5525	18'1 1/2"	5788-3532-55MF

**39 mm (1 7/8") ROUND BODY**

P38 TO R32

FLUSHING HOLE SIZE 10 mm (3/8")



4305	14'1 1/2"	5688-3932-43
4915	16'1 1/2"	5688-3932-49
5525	18'1 1/2"	5688-3932-55
6135	20'1 1/2"	5688-3932-61

**39 mm (1 7/8") ROUND BODY**

P38 FEMALE TO R32 MALE

FLUSHING HOLE SIZE 10 mm (3/8")



4305	14'1 1/2"	5888-3932-43MF
4915	16'1 1/2"	5888-3932-49MF
5525	18'1 1/2"	5888-3932-55MF
6135	20'1 1/2"	5888-3932-61MF

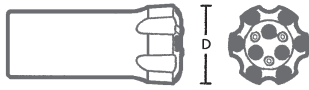
\* Shank Adaptors - see pages 26-38

\* Reaming Equipment - see page 12

BITS

### R35 - 1 3/8" ROPE THREAD

**BUTTON - HEAVY DUTY**



GAUGE		FACE		FLUSHING	
No	mm	No	mm	SIDE	FACE
6 x 10	3 x 9	1 x 5	3 x 5		
6 x 10	3 x 10	1 x 5	3 x 6		

D = 48	1 7/8"	4735-2048
51	2"	4735-2051

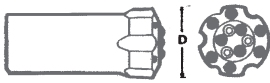
**BUTTON - DROP CENTRE HEAVY DUTY**



GAUGE		FACE		FLUSHING	
No	mm	No	mm	SIDE	FACE
6 x 10	3 x 9	-	3 x 5		
6 x 10	3 x 10	-	3 x 6		

D = 48	1 7/8"	4735-1948
51	2"	4735-1951

**BUTTON - PARABOLOID**

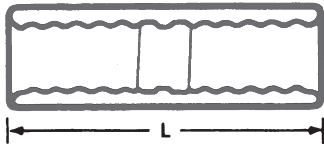


GAUGE		FACE		FLUSHING	
No	mm	No	mm	SIDE	FACE
6 x 10	3 x 9	-	3 x 5		
6 x 10	3 x 10	-	3 x 6		

D = 48	1 7/8"	4735-3448
51	2"	4735-3451

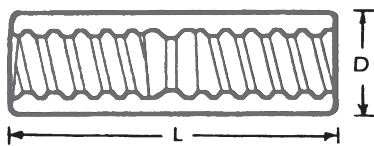
COUPLINGS

**SEMI-BRIDGE  
R38**



D = 55	2 5/32"	5538-0001
L = 180	7 1/8"	

**SEMI-BRIDGE  
P38**

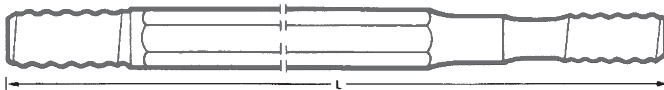


D = 55	2 5/32"	5588-0001
L = 190	7 1/2"	

TUNNELLING RODS

**35 mm (1 1/8") HEXAGON BODY**

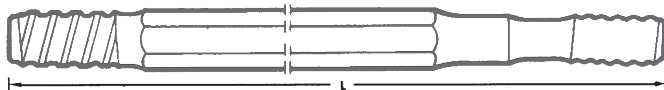
R38 TO R35  
FLUSHING HOLE SIZE 9 mm (11/32")



L = 4305	14'1 1/2"	5738-3535-43
4915	16'1 1/2"	5738-3535-49
5525	18'1 1/2"	5738-3535-55
6135	20'1 1/2"	5738-3535-61

**35 mm (1 1/8") HEXAGON BODY**

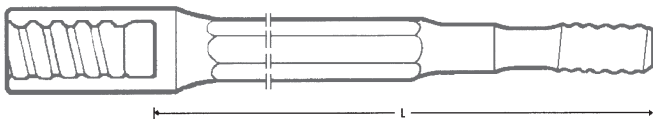
P38 TO R35  
FLUSHING HOLE SIZE 9 mm (11/32")



L = 4305	14'1 1/2"	5788-3535-43
4915	16'1 1/2"	5788-3535-49
5525	18'1 1/2"	5788-3535-55
6135	20'1 1/2"	5788-3535-61

**35 mm (1 1/8") HEXAGON BODY**

P38 FEMALE TO R35 MALE  
FLUSHING HOLE SIZE 10 mm (3/8")



L = 4305	14'1 1/2"	5788-3535-43MF
4915	16'1 1/2"	5788-3535-49MF
5525	18'1 1/2"	5788-3535-55MF
6135	20'1 1/2"	5788-3535-61MF

R35 THREAD - TUNNELLING & DRIFTING EQUIPMENT, Continued

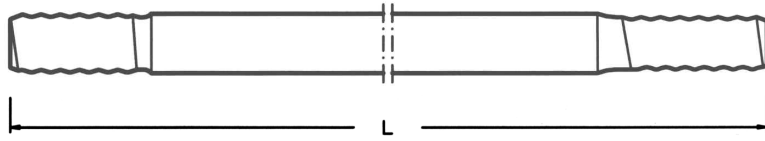
DIMENSIONS  
MM FT/INS

CATALOGUE  
NUMBER

**39 mm (1 1/32") ROUND BODY**

R38 TO R35

FLUSHING HOLE SIZE 10 mm (3/8")

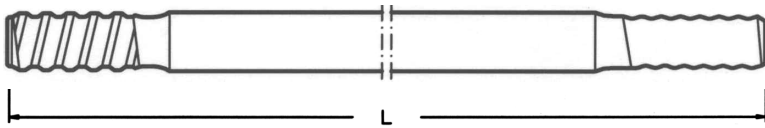


L = 4305	14'1 1/2"	<b>5638-3935-43</b>
4915	16'1 1/2"	<b>5638-3935-49</b>
5525	18'1 1/2"	<b>5638-3935-55</b>
6135	20'1 1/2"	<b>5638-3935-61</b>

**39 mm (1 1/32") ROUND BODY**

P38 TO R35

FLUSHING HOLE SIZE 10 mm (3/8")

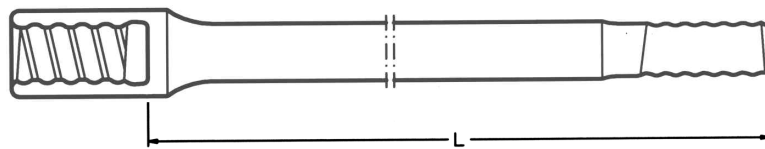


L = 4305	14'1 1/2"	<b>5888-3935-43</b>
4915	16'1 1/2"	<b>5888-3935-49</b>
5525	18'1 1/2"	<b>5888-3935-55</b>
6135	20'1 1/2"	<b>5888-3935-61</b>

**39 mm (1 1/32") ROUND BODY**

P38 FEMALE TO R35 MALE

FLUSHING HOLE SIZE 10 mm (3/8")



L = 4305	14'1 1/2"	<b>5888-3935-43MF</b>
4915	16'1 1/2"	<b>5888-3935-49MF</b>
5525	18'1 1/2"	<b>5888-3935-55MF</b>
6135	20'1 1/2"	<b>5888-3935-61MF</b>

# REAMING EQUIPMENT

FOR USE WITH TUNNELLING & DRIFTING EQUIPMENT



DIMENSIONS  
MM FT/INS

CATALOGUE  
NUMBER

TAPER ATTACHMENTS

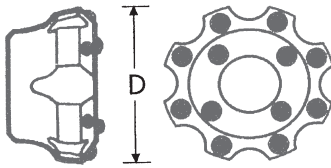
## PILOT ADAPTORS T.C. TIPPED HEAD DIA. 26 mm (1 1/32"), 6° TAPER



THREAD  
R25  
R28  
R32

D =	26	1 1/32"	4250-2526
	26	1 1/32"	4250-2826
	26	1 1/32"	4250-3226

## REAMING BITS - BUTTON, 6° TAPER



CARBIDE INSERT SIZE GAUGE	FACE
8 x 11	4 x 10
8 x 12	4 x 12

D =	64	2 1/2"	4700-1364
	76	3"	4700-1376
	89	3 1/2"	4700-1389

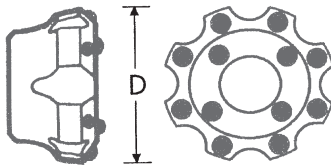
## PILOT ADAPTORS T.C. TIPPED HEAD DIA. 40 mm (1 9/16"), 12° TAPER



THREAD  
R32

D =	40	1 9/16"	4250-3240
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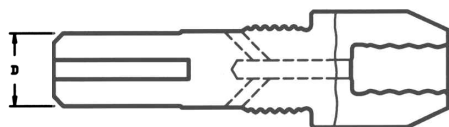
## REAMING BITS - 12° TAPER



CARBIDE INSERT SIZE GAUGE	FACE
8 x 12	4 x 11
10 x 12	6 x 12

D =	89	3 1/2"	4700-1689
	102	4"	4700-1602
	127	5"	4700-1627

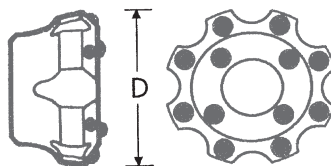
## PILOT ADAPTORS FOR 48MM PILOT HOLE



THREAD  
R32  
P38

D =	48	1 7/8"	4250-3257-48
			4250-8857-48

## REAMING BITS



CARBIDE INSERT SIZE GAUGE	FACE
10 x 14	10 x 12

D =	127	5"	4700-5727
	152	6"	4700-5752

THREADED ATTACHMENTS



# R25 THREAD

1" ROPE



CARBIDE  
INSERT SIZE

FLUSHING

SIDE  
No mm

FACE  
No mm

DIMENSIONS  
MM FT/INS

CATALOGUE  
NUMBER

## EXTENSION DRILLING EQUIPMENT

BITS

### CROSS - STANDARD



W	H	SIDE	FACE
No	mm	No	mm
8	11	4 x 5	1 x 5
8	11	4 x 5	1 x 5
8	14	4 x 5	1 x 6
9	14	4 x 5	1 x 6
9	14	4 x 5	1 x 6
9	17	4 x 5	1 x 6

D	MM	FT/INS	CATALOGUE NUMBER
35	1 3/8"		4625 - 0335
38	1 1/2"		4625 - 0338
41	1 5/8"		4625 - 0341
45	1 3/4"		4625 - 0345
48	1 7/8"		4625 - 0348
51	2"		4625 - 0351

### BUTTON - STANDARD



GAUGE	FACE	SIDE	FACE
No mm	No mm	No mm	No mm
4 x 9	1 x 8	2 x 6	-
4 x 9	2 x 8	1 x 6	1 x 6
4 x 9	2 x 9	1 x 6	1 x 6
4 x 11	2 x 9	1 x 7	1 x 7
4 x 11	2 x 9	1 x 7	1 x 7

D = 35	1 3/8"	4725 - 0935
38	1 1/2"	4725 - 0938
41	1 5/8"	4725 - 0941
45	1 3/4"	4725 - 0945
48	1 7/8"	4725 - 0948



5 x 11	2 x 9	1 x 7	1 x 7
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D = 51	2"	4725 - 0951
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### BUTTON - HEAVY DUTY

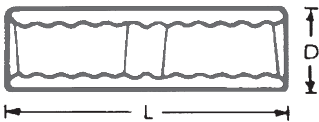


GAUGE	FACE	SIDE	FACE
No mm	No mm	No mm	No mm
4 x 10	1 x 8	2 x 6	-
5 x 9	2 x 8	2 x 5	1 x 5
5 x 9	2 x 8	2 x 5	1 x 5
5 x 10	2 x 8	2 x 6	1 x 5
5 x 10	2 x 9	2 x 6	1 x 5
6 x 10	3 x 8	2 x 6	1 x 6

D = 35	1 3/8"	4725 - 2035
38	1 1/2"	4725 - 2038
41	1 5/8"	4725 - 2041
45	1 3/4"	4725 - 2045
48	1 7/8"	4725 - 2048
D = 51	2"	4725 - 2051

COUPLING

### SEMI-BRIDGE



D = 35	1 3/8"	5525 - 0001
L = 159	6 1/4"	

EXTENSION RODS

### 25 mm (1") HEXAGON

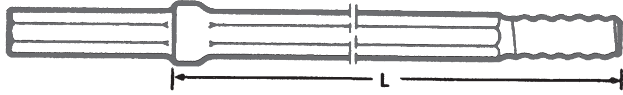
FLUSHING HOLE SIZE 9 mm (11/32")



L = 610	2'	5725 - 2506
915	3'	5725 - 2509
1220	4'	5725 - 2512
1525	5'	5725 - 2515
1830	6'	5725 - 2518
3050	10'	5725 - 2531
3660	12'	5725 - 2536

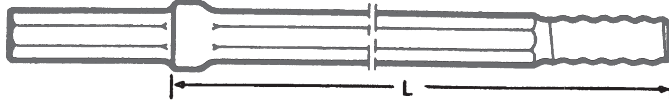
**R25 THREAD, Continued**

**108 x 22 mm (4 1/4" x 7/8") HEXAGON SHANK**



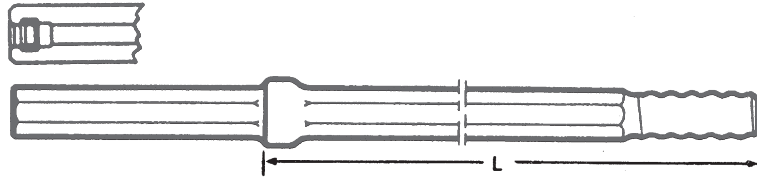
L =	DIMENSIONS		CATALOGUE NUMBER
	MM	FT/INS	
255	-	10"	5425-2203-03
610		2'	5425-2203-06
1220		4'	5425-2203-12
1830		6'	5425-2203-18
2440		8'	5425-2203-24

**108 x 25 mm (4 1/4" x 1") HEXAGON SHANK**



L = 255	-	10"	5425-2503-03
610		2'	5425-2503-06
1220		4'	5425-2503-12
1830		6'	5425-2503-18
2440		8'	5425-2503-24
3050		10'	5425-2503-31

**159 x 25 mm (6 1/4" x 1") HEXAGON SHANK  
WITH 8 mm (5/16") SEAL**



L = 255	-	10"	5425-2505-03
2400		7'10"	5425-2505-24
2800		9'2"	5425-2505-28
3200		10'6"	5425-2505-32
3600		11'10"	5425-2505-36
4000		13'1"	5425-2505-40

\* Shank Adaptors - see pages 26-38

## EXTENSION DRILLING EQUIPMENT

BITS

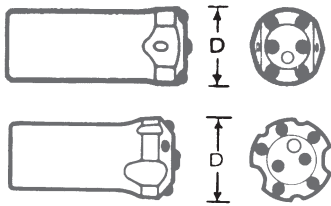
### CROSS - HEAVY DUTY



W	H	SIDE	FACE
=9	=17	4 x 6.5	1 x 5.5
9	17	4 x 6.5	1 x 5.5
11	19	4 x 6.5	1 x 5.5
11	19	4 x 6.5	1 x 5.5
11	19	4 x 6.5	1 x 5.5
11	19	4 x 6.5	1 x 5.5

D	MM	FT/INS	CATALOGUE NUMBER
45	1 3/4"		4632-0845
48	1 7/8"		4632-0848
51	2"		4632-0851
57	2 1/4"		4632-0857
64	2 1/2"		4632-0864
76	3"		4632-0876

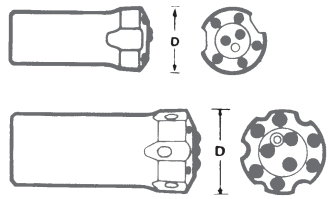
### BUTTON - STANDARD



GAUGE	FACE		
No mm	No mm		
4 x 10	2 x 9	2 x 7	1 x 5
4 x 10	2 x 9	2 x 7	1 x 5
5 x 10	2 x 10	1 x 7	1 x 6
5 x 12	2 x 11	1 x 8	1 x 8
5 x 12	3 x 11	1 x 9.5	1 x 9.5
6 x 12	5 x 11	1 x 9.5	1 x 9.5

D	MM	FT/INS	CATALOGUE NUMBER
45	1 3/4"		4732-0945
48	1 7/8"		4732-0948
51	2"		4732-0951
57	2 1/4"		4732-0957
64	2 1/2"		4732-0964
76	3"		4732-0976

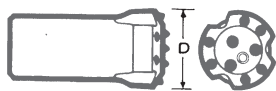
### BUTTON - HEAVY DUTY



GAUGE	FACE		
No mm	No mm		
5 x 10	2 x 9	2 x 7	1 x 5
5 x 10	2 x 9	2 x 7	1 x 5
6 x 10	3 x 9	3 x 7	1 x 6
6 x 10	4 x 9	1 x 8	1 x 8
6 x 12	3 x 10	1 x 9	1 x 8
8 x 10	5 x 10	1 x 8	1 x 8

D	MM	FT/INS	CATALOGUE NUMBER
45	1 3/4"		4732-2045
48	1 7/8"		4732-2048
51	2"		4732-2051
57	2 1/4"		4732-2057
64	2 1/2"		4732-2064
76	3"		4732-2076

### BUTTON - BALLISTIC



GAUGE	FACE		
No mm	No mm		
6 x 9	2 x 9	2 x 5	2 x 5.5
6 x 9	2 x 9	2 x 5	2 x 6
6 x 10	2 x 9	-	2 x 6
6 x 11	4 x 11	1 x 8	1 x 8

D	MM	FT/INS	CATALOGUE NUMBER
45	1 3/4"		4732-2545
48	1 7/8"		4732-2548
51	2"		4732-2551
64	2 1/2"		4732-2564

### BUTTON - PARABOLOID



GAUGE	FACE		
No mm	No mm		
6 x 9	3 x 9	1 x 6	3 x 5
6 x 10	3 x 9	1 x 6	3 x 5
6 x 10	3 x 9	-	3 x 6
6 x 11	4 x 11	1 x 8	1 x 8

D	MM	FT/INS	CATALOGUE NUMBER
45	1 3/4"		4732-3445
48	1 7/8"		4732-3448
51	2"		4732-3451
64	2 1/2"		4732-3464

### BUTTON - RETRAC



GAUGE	FACE		
No mm	No mm		
6 x 10	3 x 9	3 x 7	1 x 6
6 x 11	4 x 11	2 x 6	1 x 8

D	MM	FT/INS	CATALOGUE NUMBER
51	2"		4732-1851
64	2 1/2"		4732-1864

### BUTTON - DROP CENTRE HEAVY DUTY

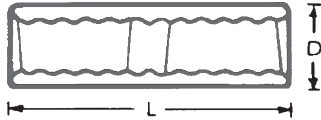


GAUGE	FACE		
No mm	No mm		
6 x 9	3 x 9	-	3 x 5
6 x 10	3 x 9	-	3 x 5
6 x 10	3 x 9	-	3 x 6

D	MM	FT/INS	CATALOGUE NUMBER
45	1 3/4"		4732-1945
48	1 7/8"		4732-1948
51	2"		4732-1951

**R32 THREAD, Continued**

**SEMI-BRIDGE**



	DIMENSIONS		CATALOGUE NUMBER
	MM	FT/INS	
D =	45	1 3/4"	<b>5532-0001</b>
L =	159	6 1/4"	

**25 mm (1") HEXAGON**

FLUSHING HOLE SIZE 9 mm (7/32")



L =	1220	4'	<b>5732-2512</b>
	1525	5'	<b>5732-2515</b>
	1830	6'	<b>5732-2518</b>
	2435	8'	<b>5732-2524</b>
	3050	10'	<b>5732-2531</b>
	3660	12'	<b>5732-2536</b>

**32 mm (1 1/4") ROUND - CARBURISED**

FLUSHING HOLE SIZE 11 mm (7/16")



L =	1220	4'	<b>5632-3212C</b>
	1525	5'	<b>5632-3215C</b>
	1830	6'	<b>5632-3218C</b>
	2435	8'	<b>5632-3224C</b>
	3050	10'	<b>5632-3231C</b>
	3660	12'	<b>5632-3236C</b>

**32 mm (1 1/4") ROUND - SURFACE HARDENED**

FLUSHING HOLE SIZE 11 mm (7/16")



L =	3050	10'	<b>5632-3231SH</b>
	3660	12'	<b>5632-3236SH</b>
	4270	14'	<b>5632-3243SH</b>

**MALE/FEMALE SPEEDRODS 32 mm (1 1/4") ROUND**

FLUSHING HOLE SIZE 11 mm (7/16")



L =	1220	4'	<b>5832-3212MF</b>
	1525	5'	<b>5832-3215MF</b>
	1830	6'	<b>5832-3218MF</b>
	2435	8'	<b>5832-3224MF</b>
	3050	10'	<b>5832-3231MF</b>
	3660	12'	<b>5832-3236MF</b>
	4270	14'	<b>5832-3243MF</b>

**GUIDE TUBES**



D = mm  
44  
44  
44

L =	1220	4'	<b>5632-4412</b>
	1830	6'	<b>5632-4418</b>
	3050	8'	<b>5632-4431</b>

\* Shank Adaptors - see pages 26-38

\* Spanner flats are standard on above round rods.

# R38 THREAD

1 1/2" ROPE



CARBIDE  
INSERT SIZE

FLUSHING  
SIDE FACE  
No mm No mm

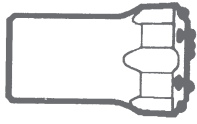
DIMENSIONS  
MM FT/INS

CATALOGUE  
NUMBER

## EXTENSION DRILLING EQUIPMENT

BITS

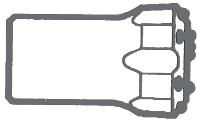
### BUTTON - STANDARD



GAUGE		FACE		FLUSHING	
No	mm	No	mm	SIDE	FACE
8 x 10		4 x 10		-	2 x 9
8 x 11		4 x 11		-	2 x 12
9 x 11		6 x 11		-	2 x 12
8 x 12		7 x 12		-	2 x 12

D =			
64	2 1/2"	4738-0964	
76	3"	4738-0976	
89	3 1/2"	4738-0989	
102	4"	4738-0902	

### BUTTON - HEAVY DUTY

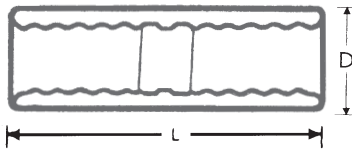


GAUGE		FACE		FLUSHING	
No	mm	No	mm	SIDE	FACE
6 x 12		3 x 11		1 x 9	1 x 9
8 x 12		4 x 10		2 x 9	2 x 12
8 x 12		6 x 12		2 x 9	2 x 12
8 x 14		7 x 12		2 x 9	2 x 12

D =			
64	2 1/2"	4738-2064	
76	3"	4738-2076	
89	3 1/2"	4738-2089	
102	4"	4738-2002	

COUPLING

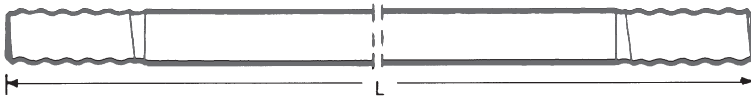
### SEMI-BRIDGE



D = 55	2 3/32"	5538-0001
L = 175	6 7/8"	

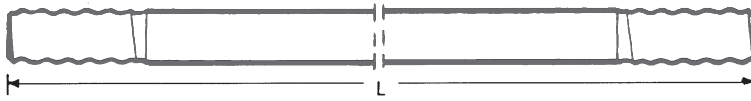
EXTENSION RODS

### 39 mm (1 7/32") ROUND - CARBURISED FLUSHING HOLE SIZE 14 mm (9/16")



L = 1830	6'	5638-3818C
2435	8'	5638-3824C
3050	10'	5638-3831C
3660	12'	5638-3836C

### 39 mm (1 7/32") ROUND - SURFACE HARDENED FLUSHING HOLE SIZE 16 mm (5/8")



L = 3050	10'	5638-3831SH
3660	12'	5638-3836SH

### MALE/FEMALE SPEEDRODS 38 mm (1 1/2") ROUND FLUSHING HOLE SIZE 14 mm (9/16")



L = 1830	6'	5838-3818MF
3050	10'	5838-3831MF
3660	12'	5838-3836MF

\* Above rods do not have Spanner Flats. If required add **SF** at end of catalogue no. e.g. 5638-3831 SHSF

CARBIDE  
INSERT SIZE

FLUSHING  
SIDE FACE  
No mm No mm

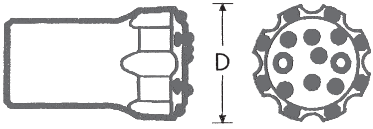
DIMENSIONS  
MM FT/IN

CATALOGUE  
NUMBER

## EXTENSION DRILLING EQUIPMENT

BITS

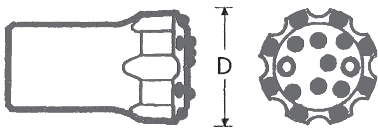
### BUTTON - STANDARD



GAUGE		FACE			
No	mm	No	mm	No	mm
8 x 10		4 x 10		-	2 x 9
8 x 11		4 x 11		-	2 x 12
9 x 11		6 x 11		-	2 x 12
8 x 12		7 x 12		-	2 x 12

D	MM	FT/IN	CATALOGUE NUMBER
64		2½"	4788-0964
76		3"	4788-0976
89		3½"	4788-0989
102		4"	4788-0902

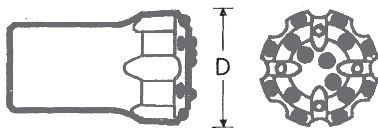
### BUTTON - HEAVY DUTY



GAUGE		FACE			
No	mm	No	mm	No	mm
6 x 12		3 x 11		1 x 9	1 x 9
8 x 12		4 x 10		2 x 9	2 x 12
8 x 12		6 x 12		2 x 9	2 x 12
8 x 14		7 x 12		2 x 9	2 x 12

D	MM	FT/IN	CATALOGUE NUMBER
64		2½"	4788-2064
76		3"	4788-2076
89		3½"	4788-2089
102		4"	4788-2002

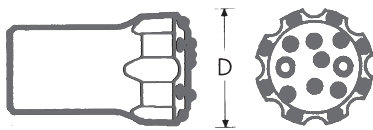
### BUTTON - DROP CENTRE



GAUGE		FACE			
No	mm	No	mm	No	mm
6 x 11		4 x 9		-	3 x 8
8 x 11		4 x 11		-	4 x 9
8 x 12		6 x 11		-	4 x 9
8 x 12		7 x 12		-	4 x 9

D	MM	FT/IN	CATALOGUE NUMBER
64		2½"	4788-1964
76		3"	4788-1976
89		3½"	4788-1989
102		4"	4788-1902

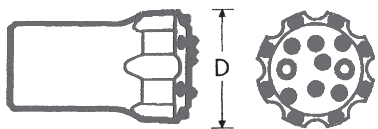
### BUTTON - BALLISTIC



GAUGE		FACE			
No	mm	No	mm	No	mm
8 x 10		4 x 10		-	2 x 9
8 x 11		4 x 11		-	2 x 12
8 x 12		6 x 12		-	2 x 12
8 x 12		7 x 12		-	2 x 12

D	MM	FT/IN	CATALOGUE NUMBER
64		2½"	4788-2564
76		3"	4788-2576
89		3½"	4788-2589
102		4"	4788-2502

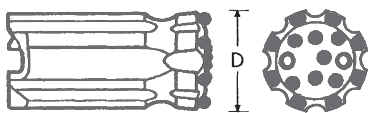
### BUTTON - PARABOLOID



GAUGE		FACE			
No	mm	No	mm	No	mm
6 x 12		3 x 10		2 x 8	1 x 10
8 x 11		4 x 11		-	2 x 12
8 x 12		6 x 12		-	2 x 12
8 x 12		7 x 12		-	2 x 12

D	MM	FT/IN	CATALOGUE NUMBER
64		2½"	4788-3464
76		3"	4788-3476
89		3½"	4788-3489
102		4"	4788-3402

### BUTTON - RETRAC



GAUGE		FACE			
No	mm	No	mm	No	mm
6 x 12		4 x 10		1 x 9.5	2 x 6.5
8 x 12		4 x 10		2 x 6	1 x 12
8 x 12		6 x 12		2 x 9	2 x 12
8 x 12		7 x 12		2 x 9	2 x 11

D	MM	FT/IN	CATALOGUE NUMBER
64		2½"	4788-1864
76		3"	4788-1876
89		3½"	4788-1889
102		4"	4788-1802

### BUTTON - RETRAC DROP CENTRE PARABOLOID

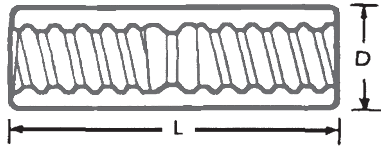


GAUGE		FACE			
No	mm	No	mm	No	mm
6 x 11		4 x 9		-	3 x 8
8 x 11		4 x 10		-	4 x 8
8 x 12		6 x 11		-	4 x 9

D	MM	FT/IN	CATALOGUE NUMBER
64		2½"	4788-3964
76		3"	4788-3976
89		3½"	4788-3989

**P38 THREAD, Continued**

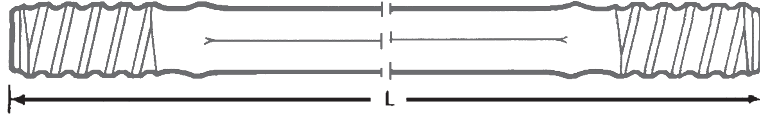
**SEMI-BRIDGE**



DIMENSIONS		CATALOGUE NUMBER
MM	FT/INS	
D = 55	2 <sup>5</sup> / <sub>32</sub> "	<b>5588-0001</b>
L = 190	7 <sup>1</sup> / <sub>2</sub> "	

**32 mm (1<sup>1</sup>/<sub>4</sub>" ) HEXAGON**

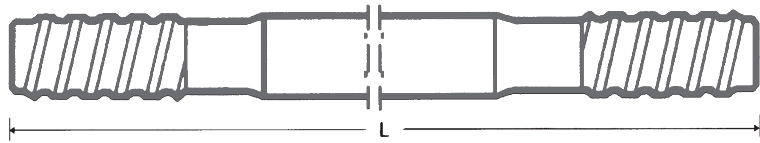
FLUSHING HOLE SIZE 12 mm (1/2")



L = 3050	10'	<b>5788-3231</b>
3660	12'	<b>5788-3236</b>

**39 mm (1<sup>7</sup>/<sub>32</sub>" ) ROUND - CARBURISED**

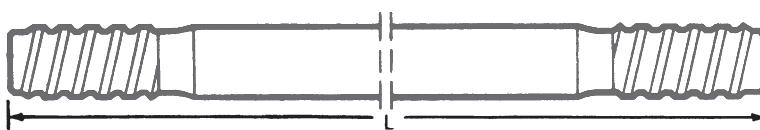
FLUSHING HOLE SIZE 14 mm (9/16")



L = 1220	4'	<b>5688-3812C</b>
1525	5'	<b>5688-3815C</b>
1830	6'	<b>5688-3818C</b>
3050	10'	<b>5688-3831C</b>
3660	12'	<b>5688-3836C</b>
4265	14'	<b>5688-3843C</b>

**39 mm (1<sup>7</sup>/<sub>32</sub>" ) ROUND - SURFACE HARDENED**

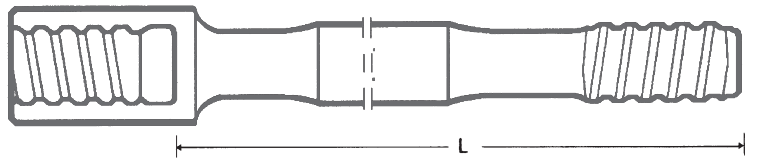
FLUSHING HOLE SIZE 14 mm (9/16")



L = 3050	10'	<b>5688-3831SH</b>
3660	12'	<b>5688-3836SH</b>
4625	14'	<b>5688-3843SH</b>

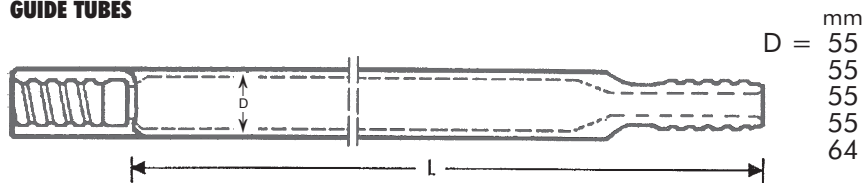
**MALE/FEMALE SPEEDRODS 39 mm (1<sup>7</sup>/<sub>32</sub>" ) ROUND**

FLUSHING HOLE SIZE 14 mm (9/16")



L = 1220	4'	<b>5888-3812MF</b>
1525	5'	<b>5888-3815MF</b>
1830	6'	<b>5888-3818MF</b>
3050	10'	<b>5888-3831MF</b>
3660	12'	<b>5888-3836MF</b>
4265	14'	<b>5888-3843MF</b>

**GUIDE TUBES**



L = 1220	4'	<b>5688-5512</b>
1830	6'	<b>5688-5518</b>
3050	10'	<b>5688-5531</b>
3660	12'	<b>5688-5536</b>
3660	12'	<b>5688-6436</b>

\* Shank Adaptors - see pages 26-38

\* Above rods do not have Spanner Flats. If required add SF at end of catalogue no. e.g. 5888-3831 MFSE

CARBIDE  
INSERT SIZE

FLUSHING  
SIDE FACE  
No mm No mm

DIMENSIONS  
MM FT/INS

CATALOGUE  
NUMBER

## EXTENSION DRILLING EQUIPMENT

BITS

### BUTTON - STANDARD



GAUGE		FACE		FLUSHING	
No	mm	No	mm	SIDE	FACE
8 x 11		4 x 11		-	2 x 12
9 x 11		6 x 11		-	2 x 12
8 x 12		7 x 12		-	2 x 12
8 x 12		7 x 12		-	2 x 12

D	MM	FT/INS	CATALOGUE NUMBER
76		3"	4795-0976
89		3½"	4795-0989
102		4"	4795-0902
115		4½"	4795-0915

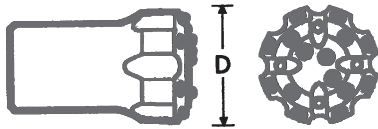
### BUTTON - HEAVY DUTY



GAUGE		FACE		FLUSHING	
No	mm	No	mm	SIDE	FACE
8 x 12		4 x 10		2 x 9	2 x 12
8 x 12		6 x 12		2 x 9	2 x 12
8 x 14		7 x 12		2 x 9	2 x 12
7 x 14		7 x 12		2 x 9.5	2 x 9

D	MM	FT/INS	CATALOGUE NUMBER
76		3"	4795-2076
89		3½"	4795-2089
102		4"	4795-2002
115		4½"	4795-2015

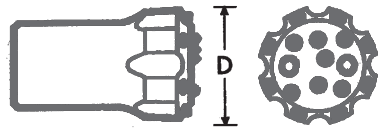
### BUTTON - DROP CENTRE



GAUGE		FACE		FLUSHING	
No	mm	No	mm	SIDE	FACE
8 x 11		4 x 11/2 x 9		-	4 x 8
8 x 12		6 x 11		-	4 x 9
8 x 12		7 x 12		-	4 x 9

D	MM	FT/INS	CATALOGUE NUMBER
76		3"	4795-1976
89		3½"	4795-1989
102		4"	4795-1902

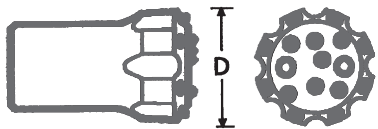
### BUTTON - BALLISTIC



GAUGE		FACE		FLUSHING	
No	mm	No	mm	SIDE	FACE
8 x 11		4 x 11		-	2 x 12
8 x 12		6 x 12		-	2 x 12
8 x 12		7 x 12		-	2 x 12

D	MM	FT/INS	CATALOGUE NUMBER
76		3"	4795-2576
89		3½"	4795-2589
102		4"	4795-2502

### BUTTON - PARABOLOID



GAUGE		FACE		FLUSHING	
No	mm	No	mm	SIDE	FACE
8 x 11		4 x 11		-	2 x 12
8 x 12		6 x 12		-	2 x 12
8 x 12		7 x 12		-	2 x 12

D	MM	FT/INS	CATALOGUE NUMBER
76		3"	4795-3476
89		3½"	4795-3489
102		4"	4795-3402

### BUTTON - RETRAC



GAUGE		FACE		FLUSHING	
No	mm	No	mm	SIDE	FACE
8 x 12		4 x 10		2 x 6	2 x 12
8 x 12		6 x 12		2 x 9	2 x 12
8 x 12		7 x 12		2 x 9	2 x 12

D	MM	FT/INS	CATALOGUE NUMBER
76		3"	4795-1876
89		3½"	4795-1889
102		4"	4795-1802

### BUTTON - RETRAC DROP CENTRE PARABOLOID



GAUGE		FACE		FLUSHING	
No	mm	No	mm	SIDE	FACE
8 x 11		4 x 10		-	4 x 8
8 x 12		6 x 11		-	4 x 9
8 x 12		7 x 12		-	4 x 9

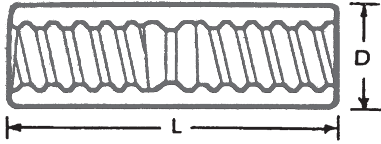
D	MM	FT/INS	CATALOGUE NUMBER
76		3"	4795-3976
89		3½"	4795-3989
102		4"	4795-3902



**P45 THREAD, Continued**

**COUPLING**

**SEMI-BRIDGE**

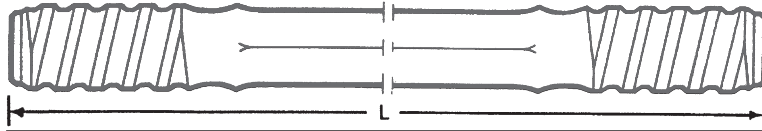


DIMENSIONS		CATALOGUE NUMBER
MM	FT/INS	
D = 63	2½"	<b>5595-0001</b>
L = 207	8 <sup>5</sup> / <sub>32</sub> "	

**EXTENSION RODS**

**38 mm (1½") HEXAGON**

FLUSHING HOLE SIZE 16 mm (5/8")



L = 3050	10'	<b>5795-3831</b>
3660	12'	<b>5795-3836</b>

**45 mm (1¾") ROUND - CARBURISED**

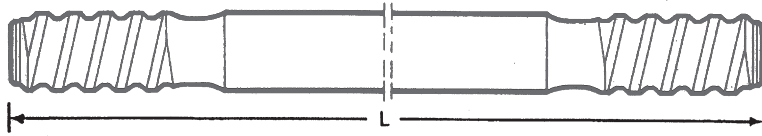
FLUSHING HOLE SIZE 16 mm (5/8")



L = 1525	5'	<b>5695-4515C</b>
1830	6'	<b>5695-4518C</b>
3050	10'	<b>5695-4531C</b>
3660	12'	<b>5695-4536C</b>
4265	14'	<b>5695-4543C</b>
6095	20'	<b>5695-4561C</b>

**45 mm (1¾") ROUND - SURFACE HARDENED**

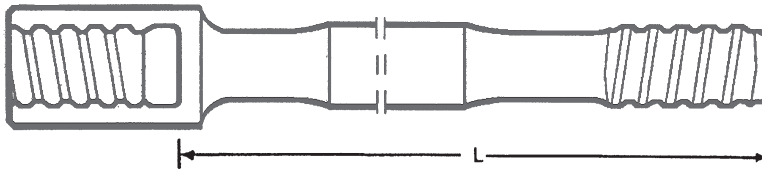
FLUSHING HOLE SIZE 16 mm (5/8")



L = 3050	10'	<b>5695-4531SH</b>
3660	12'	<b>5695-4536SH</b>
4265	14'	<b>5695-4543SH</b>
6095	20'	<b>5695-4561SH</b>

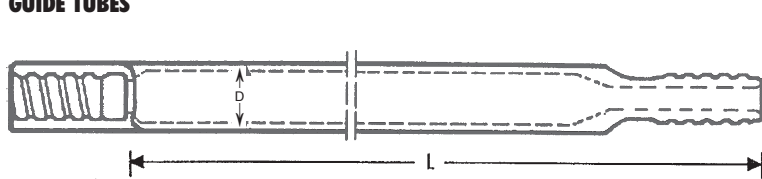
**MALE/FEMALE SPEEDRODS 45 mm (1¾") ROUND**

FLUSHING HOLE SIZE 16 mm (5/8")



L = 1525	5'	<b>5895-4515MF</b>
1830	6'	<b>5895-4518MF</b>
3050	10'	<b>5895-4531MF</b>
3660	12'	<b>5895-4536MF</b>
4265	14'	<b>5895-4543MF</b>
6095	20'	<b>5895-4561MF</b>

**GUIDE TUBES**



D = 64	L = 1525	5'	<b>5695-6415</b>
64	1830	6'	<b>5695-6418</b>
64	3660	10'	<b>5695-6436</b>
76	1830	6'	<b>5695-7618</b>
76	3660	12'	<b>5695-7636</b>

\* Shank Adaptors - see pages 26-38

\* Above rods do not have Spanner Flats. If required add SF at end of catalogue no. e.g. 5695-4531 SHSE

CARBIDE  
INSERT SIZE

FLUSHING  
SIDE FACE  
No mm No mm

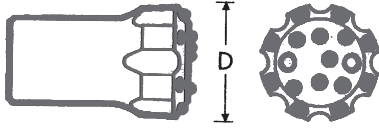
DIMENSIONS  
MM FT/INS

CATALOGUE  
NUMBER

## EXTENSION DRILLING EQUIPMENT

BITS

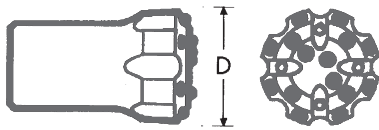
### BUTTON - HEAVY DUTY



GAUGE		FACE	
No	mm	No	mm
8 x 12	6 x 12	2 x 9	2 x 12
8 x 14	7 x 12	2 x 9	2 x 12
9 x 14	8 x 12	2 x 9	2 x 12
8 x 14	7 x 14	2 x 11	2 x 12

D = 89	3 1/2"	4799 - 2089
102	4"	4799 - 2002
115	4 1/2"	4799 - 2015
127	5"	4799 - 2027

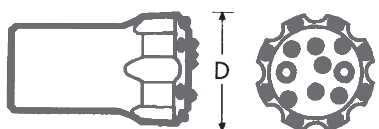
### BUTTON - DROP CENTRE



GAUGE		FACE	
No	mm	No	mm
8 x 12	6 x 11	-	4 x 9
8 x 12	7 x 12	-	4 x 9
8 x 14	8 x 12	-	4 x 11

D = 89	3 1/2"	4799 - 1989
102	4"	4799 - 2002
115	4 1/2"	4799 - 1902
115	4 1/2"	4799 - 1915

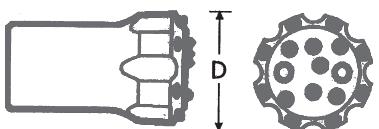
### BUTTON - BALLISTIC



GAUGE		FACE	
No	mm	No	mm
8 x 12	6 x 12	-	2 x 12
8 x 12	7 x 12	-	2 x 12
8 x 14	8 x 12	-	2 x 14

D = 89	3 1/2"	4799 - 2589
102	4"	4799 - 2502
115	4 1/2"	4799 - 2515

### BUTTON - PARABOLOID



GAUGE		FACE	
No	mm	No	mm
8 x 12	6 x 12	-	2 x 12
8 x 12	7 x 12	-	2 x 12
8 x 14	8 x 12	-	2 x 14

D = 89	3 1/2"	4799 - 3489
102	4"	4799 - 3402
115	4 1/2"	4799 - 3415

### BUTTON - RETRAC



GAUGE		FACE	
No	mm	No	mm
8 x 12	6 x 12	2 x 9	2 x 12
8 x 12	7 x 12	2 x 9	2 x 12
9 x 14	8 x 12	2 x 9	2 x 12

D = 89	3 1/2"	4799 - 1889
102	4"	4799 - 1802
115	4 1/2"	4799 - 1815

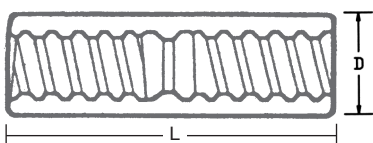
### BUTTON - RETRAC DROP CENTRE PARABOLOID



GAUGE		FACE	
No	mm	No	mm
8 x 12	6 x 11	-	4 x 9
8 x 12	7 x 12	-	4 x 9
8 x 14	8 x 12	-	4 x 11

D = 89	3 1/2"	4799 - 3989
102	4"	4799 - 3902
115	4 1/2"	4799 - 3915

### SEMI-BRIDGE



**STANDARD**

D = 72	2 13/16"	5599 - 0001
L = 234	9 7/32"	

**HEAVY DUTY**

D = 76	3"	5599 - 0003
L = 234	9 7/32"	

COUPLING

**P51 THREAD, Continued**

**51 mm (2") ROUND - CARBURISED**

FLUSHING HOLE SIZE 19 mm (3/4")



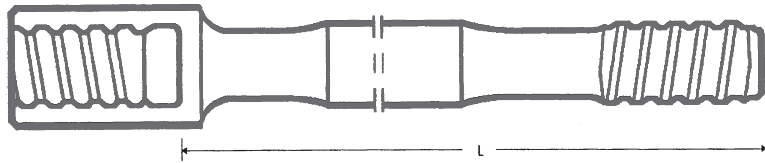
**51 mm (2") ROUND - SURFACED HARDENED**

FLUSHING HOLE SIZE 19 mm (3/4")



**MALE/FEMALE SPEEDRODS 51 mm (2") ROUND**

FLUSHING HOLE SIZE 19 mm (3/4")



**GUIDE TUBES**



mm  
D = 76  
76  
87  
87

DIMENSIONS  
MM FT/INS

CATALOGUE  
NUMBER

L = 1830	6'	<b>5699-5118C</b>
3050	10'	<b>5699-5131C</b>
3660	12'	<b>5699-5136C</b>
4265	14'	<b>5699-5143C</b>
6095	20'	<b>5699-5161C</b>

L = 3050	10'	<b>5699-5131SH</b>
3660	12'	<b>5699-5136SH</b>
4265	14'	<b>5699-5143SH</b>
6095	20'	<b>5699-5161SH</b>

L = 1830	6'	<b>5899-5118MF</b>
3050	10'	<b>5899-5131MF</b>
3660	12'	<b>5899-5136MF</b>
4265	14'	<b>5899-5143MF</b>
6095	20'	<b>5899-5161MF</b>

L = 1830	6'	<b>5699-7618</b>
3660	12'	<b>5699-7636</b>
1830	6'	<b>5699-8718</b>
3660	12'	<b>5699-8736</b>

\* Shank Adaptors - see pages 26-38

\* Above rods do not have Spanner Flats. If required add SF at end of catalogue no. e.g. 5699-5131 SHSF

CARBIDE  
INSERT SIZE

FLUSHING  
SIDE FACE  
No mm No mm

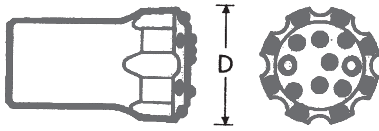
DIMENSIONS  
MM FT/INS

CATALOGUE  
NUMBER

## EXTENSION DRILLING EQUIPMENT

BITS

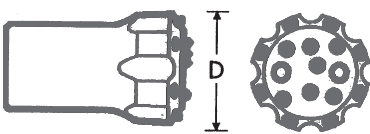
### BUTTON - HEAVY DUTY



GAUGE		FACE		FLUSHING	
No	mm	No	mm	SIDE	FACE
				No	mm
8 x 12		6 x 12		2 x 9	2 x 12
8 x 14		7 x 12		2 x 9	2 x 12
9 x 14		8 x 12		2 x 9	2 x 12
9 x 16		6 x 14		-	3 x 14

D=	93	3 <sup>21</sup> / <sub>32</sub> "	<b>4760-2093</b>
	106	4 <sup>11</sup> / <sub>64</sub> "	<b>4760-2006</b>
	115	4 <sup>1</sup> / <sub>2</sub> "	<b>4760-2015</b>
	127	5"	<b>4760-2027</b>

### BUTTON - PARABOLOID



GAUGE		FACE		FLUSHING	
No	mm	No	mm	SIDE	FACE
				No	mm
8 x 12		6 x 12		2 x 9	2 x 12
8 x 14		7 x 12		2 x 9	2 x 12
9 x 14		8 x 12		2 x 9	2 x 12
10 x 14		8 x 14		-	3 x 14

D=	93	3 <sup>21</sup> / <sub>32</sub> "	<b>4760-3493</b>
	106	4 <sup>11</sup> / <sub>64</sub> "	<b>4760-3406</b>
	115	4 <sup>1</sup> / <sub>2</sub> "	<b>4760-3415</b>
	127	5"	<b>4760-3427</b>

### BUTTON - RETRAC



GAUGE		FACE		FLUSHING	
No	mm	No	mm	SIDE	FACE
				No	mm
8 x 12		6 x 12		2 x 9	2 x 12
8 x 14		7 x 12		2 x 9	2 x 12
9 x 14		8 x 12		2 x 9	2 x 12
9 x 16		6 x 14		-	3 x 14

D=	93	3 <sup>21</sup> / <sub>32</sub> "	<b>4760-1893</b>
	106	4 <sup>11</sup> / <sub>64</sub> "	<b>4760-1806</b>
	115	4 <sup>1</sup> / <sub>2</sub> "	<b>4760-1815</b>
	127	5"	<b>4760-1827</b>

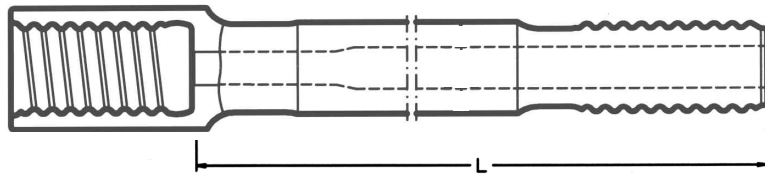
### BUTTON - RETRAC DROP CENTRE PARABOLOID



GAUGE		FACE		FLUSHING	
No	mm	No	mm	SIDE	FACE
				No	mm
8 x 12		7 x 11		-	4 x 9
8 x 12		7 x 12		-	4 x 9
8 x 14		8 x 12		-	4 x 11
8 x 16		7 x 14		-	4 x 11

D=	93	3 <sup>21</sup> / <sub>32</sub> "	<b>4760-3993</b>
	106	4 <sup>11</sup> / <sub>64</sub> "	<b>4760-3906</b>
	115	4 <sup>1</sup> / <sub>2</sub> "	<b>4760-3915</b>
	127	5"	<b>4760-3927</b>

### MALE/FEMALE RODS ROUND 61mm FLUSHING HOLE SIZE 22 mm (7/8")

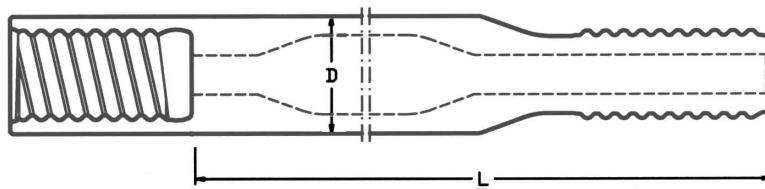


L =	3660	12'	<b>5860-6136MF</b>
	4265	14'	<b>5860-6143MF</b>
	6100	20'	<b>5860-6161MF</b>

### GUIDE TUBES

P60 MALE/FEMALE

mm  
D = 76  
87



L =	3660	12'	<b>5660-7636</b>
	4265	14'	<b>5660-8743</b>

EXTENSION RODS

CARBIDE  
INSERT SIZE

FLUSHING  
SIDE FACE  
No mm No mm

DIMENSIONS  
MM FT/INS

CATALOGUE  
NUMBER

## P58 THREAD

BITS

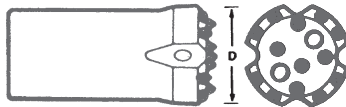
### BUTTON - HEAVY DUTY



GAUGE		FACE		SIDE		FACE	
No	mm	No	mm	No	mm	No	mm
8 x 12		6 x 12		2 x 9		2 x 12	
8 x 14		7 x 12		2 x 9		2 x 12	
9 x 14		8 x 12		2 x 9		2 x 12	

D = 89	3 1/2"	4758-2089
102	4"	4758-2002
115	4 1/2"	4758-2015

### BUTTON - BALLISTIC



GAUGE		FACE		SIDE		FACE	
No	mm	No	mm	No	mm	No	mm
8 x 12		6 x 12		-		2 x 12	
8 x 14		7 x 12		-		2 x 12	
9 x 14		8 x 12		-		2 x 12	

D = 89	3 1/2"	4758-2589
102	4"	4758-2502
115	4 1/2"	4758-2515

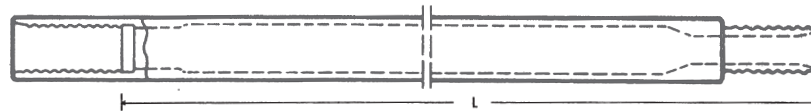
### BUTTON - RETRAC



GAUGE		FACE		SIDE		FACE	
No	mm	No	mm	No	mm	No	mm
8 x 12		6 x 12		2 x 9		2 x 12	
8 x 14		7 x 12		2 x 9		2 x 12	
9 x 14		8 x 12		2 x 9		2 x 12	

D = 89	3 1/2"	4758-1889
102	4"	4758-1802
115	4 1/2"	4758-1815

### 76mm DIAMETER



L = 1525	5'	5658-7615
1830	6'	5658-7618
3660	12'	5658-7636
6095	20'	5658-7661

TUBES

## P68 THREAD

BITS

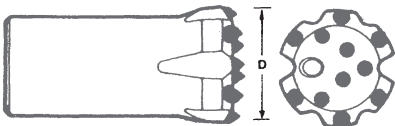
### BUTTON - HEAVY DUTY



CARBIDE INSERT SIZE		FACE		FLUSHING SIDE		FACE	
No	mm	No	mm	No	mm	No	mm
8 x 14		7 x 12		2 x 9		2 x 12	
9 x 14		8 x 12		2 x 9		2 x 12	
9 x 14		8 x 14		2 x 9		2 x 12	

D = 102	4"	4768-2002
115	4 1/2"	4768-2015
127	5"	4768-2027

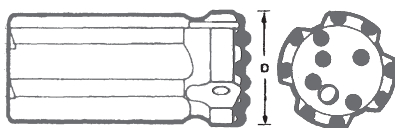
### BUTTON - BALLISTIC



GAUGE		FACE		SIDE		FACE	
No	mm	No	mm	No	mm	No	mm
8 x 12		7 x 12		-		2 x 12	
9 x 14		8 x 12		-		2 x 12	
9 x 14		8 x 14		-		2 x 12	

D = 102	4"	4768-2502
115	4 1/2"	4768-2515
127	5"	4768-2527

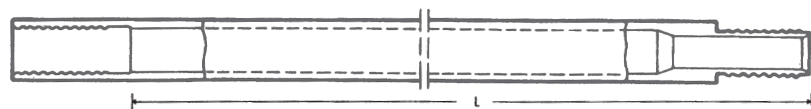
### BUTTON - RETRAC



GAUGE		FACE		SIDE		FACE	
No	mm	No	mm	No	mm	No	mm
8 x 14		7 x 12		2 x 9		2 x 12	
9 x 14		8 x 12		2 x 9		2 x 12	
9 x 14		8 x 14		2 x 9		2 x 12	

D = 102	4"	4768-1802
115	4 1/2"	4768-1815
127	5"	4768-1827

### 87 mm DIAMETER



L = 1525	5'	5668-8715
1830	6'	5668-8718
3660	12'	5668-8736
6095	20'	5668-8761

TUBES

\* See page 26-38 for Shank Adaptors.

# SHANK ADAPTORS

MACHINE REFERENCE TABLE



Machine	FIGURE NUMBER	Machine	FIGURE NUMBER	Machine	FIGURE NUMBER
<b>ATLAS COPCO</b>		<b>FURUKAWA</b>		<b>MONTABERT (continued)</b>	
BBC41	4	M120	6	HC150R	61
BBC43	4	MD200	6	HC160	62
BBC45	4	PD200	6,29	HC170	62
BBC 51	5	HD90	30	HC200A	63
BBC52	5	HD150	31		
BBC54	5	HD180	32	<b>SECOMA</b>	
BBC100	4	HD190	33	HYDROSTAR 200	64
BBC120	5	HD200	6	HYDROSTAR 300	64
BBE57	7,8	HD300	34	HYDROSTAR 200 FEMALE	65
COP115	9	HD500	35,36		
COP125	10	HD609	37		
COP130	10	HD612	39	<b>SIG</b>	
COP131	10	HD609QED	38	HBM50	66,69
COP131EB	11	HD612QED	40	HBM100	66
COP932MC	9	HD615QED	42	HBM120	66
COP932FS	13	HD615	41	HBM150	66
COP932MS	12	HD712	43	HBM160	66
COP938MC	9	HD712QED	44		
COP938FS	13			<b>TAMROCK</b>	
COP938MS	12	<b>GARDNER-DENVER</b>		L400	69
COP1028HB	14	D93L	4	L410	69
COP1032HB	15	DH99	4	L500	69
COP1032HD	15	PR123	6	L510	69
COP1032HD FEMALE	16			L550	69,70
COP1032LE	15	HPR1	45	L750	6
COP1036	17,18	HPR1H	46	HLR438	70
COP1036HB	20	HPR2	47	HL438TS	71
COP1038	17,18,19			HL538	71,72
COP1038HB	17,18,20	<b>INGERSOLL-RAND</b>		HL300	68
COP1038HD	17	DA35	4	HL300S	67
COP1038HL	22	URD475	6	HL500 (38)	73
COP1238	17,18,19,20	URD550	6	HL500 (45)	74
COP1238ME/HF	17	VL120	6	HL500 FEMALE	75
COP1238ME/LP	17	VL130	6	HL550 SUPER/92	76
COP1440	21,22	VL140	6	HL600, 600S (45)	78
COP1550EX	23	YD90M	48	HL600 (52)	79
COP1550	21,22	YH60,60A	7	HL700 (45)	80
COP1838EX	23	YH65,70,75,80	49	HL700 (52)	81
COP1850, COP1840	24	YH65RPS, 75RPS, 80RPS	50	HL800 (45)	80
COP1838	22	YH95, 100	52	HL800 (52)	81
		YH95RPS, 100RPS	53	HL850	82,83
<b>BOART</b>		YH80A	51	HL1000 (52)	84
HD65	25	YH110V	54	HL1000EX (52)	87
HE65	31	YH110VRP	55	HL1000EX (60)	88
HD125	26,27			HL1000 (60)	85
HE125	26,27	<b>JOY</b>		HL1000 (80)	86
HD150	26,27	TM400	4	HL1000PE	92
HE150	26,27			HL1500 (52)	89
HD150 FEMALE	27	<b>MONTABERT</b>		HL1500 (60)	90
		H40	5	HL1500 (80)	91
<b>BOHLER</b>		H50	5	HL1500PE	92
HS432	69	H60	5	HL1560T	92
HS448	28	H100	7	HLX 5	77
		HC40	56,57		
<b>COMPAIR/HOLMAN</b>		HC80	58	<b>TOYO</b>	
115R	6	HC80R	60	PR220	6
		HC120	59		
<b>DEMAG</b>		HC120R	60,61		
RD500	6	HC150	59		

# SHANK ADAPTORS

Figure No.

## Shank/Machine Type

THREAD

TUBE SIZE  
MM

LENGTH  
MM

CATALOGUE  
NUMBER

1

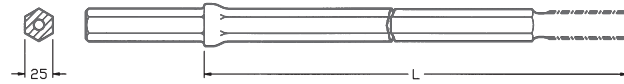
**108 x 22 mm (4 1/4" x 7/8") HEXAGON**



R25 5 255 5425-2203-03

2

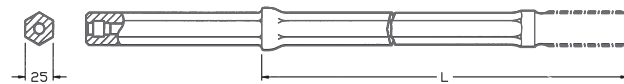
**108 x 25 mm (4 1/4" x 1") HEXAGON**



R25 5 255 5425-2503-03

3

**159 x 25 mm (6 1/4" x 1") HEXAGON**



R25 8 255 5425-2505-03

R32 8 255 5432-2505-03

4

**32 mm (1 1/4") LEYNER LUG**

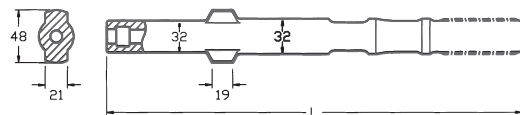
GARDNER-DENVER D93L, DH99

ATLAS COPCO BBC41

INGERSOLL-RAND DA35

JOY TM400

ATLAS COPCO BBC43, 45, 100



R25 8 381 5425-1501-08

R32 8 381 5432-1501-08

R25 10 381 5425-1501-10

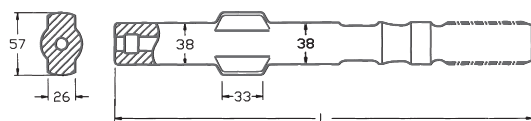
R32 10 381 5432-1501-10

5

**38 mm (1 1/2") LEYNER LUG**

ATLAS COPCO BBC51, 52, 54, 120

MONTABERT H40, H50, H60



R32 10 381 5432-1503-10

R38 10 381 5438-1503-10

P38 10 381 5488-1503-10

6

**45 mm (1 3/4") 4 SPLINE**

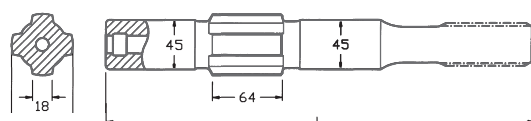
GARDNER-DENVER PR123

INGERSOLL-RAND URD 475, 550, VL120, 130, 140

HOLMAN 115R

TAMROCK L750

DEMAG RD500



R32 14 356 5432-1417-14

R38 14 356 5438-1417-14

P38 14 356 5488-1417-14

P45 14 356 5495-1417-14

FURUKAWA M120, MD200, PD200, HD200

TOYO PR220

R32 14 380 5432-1517-14

R38 14 380 5438-1517-14

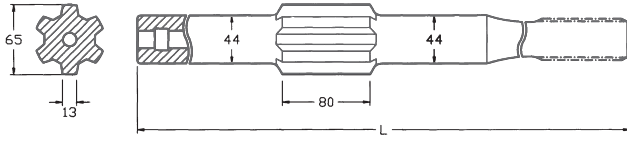
P38 14 380 5488-1517-14

P45 14 380 5495-1517-14

**SHANK ADAPTORS, Continued**

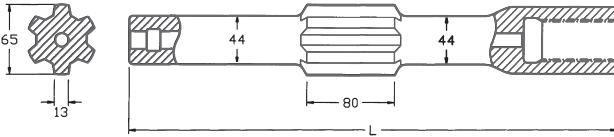
**7**

**ATLAS COPCO BBE57  
MONTABERT H100  
INGERSOLL RAND YH60, YH60A**



**8**

**ATLAS COPCO BBE57 FEMALE**



**9**

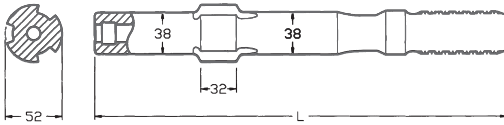
**ATLAS COPCO COP115, COP932MC**



**ATLAS COPCO COP938MC**

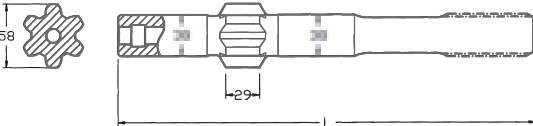
**10**

**ATLAS COPCO COP125, 130, 131**



**11**

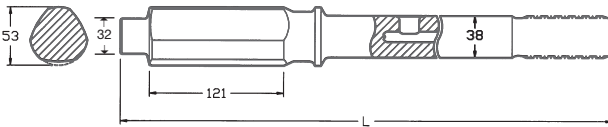
**ATLAS COPCO COP131EB**



**12**

**ATLAS COPCO COP932MS**

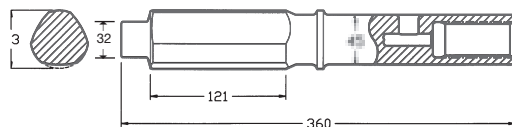
**ATLAS COPCO COP938MS**



**13**

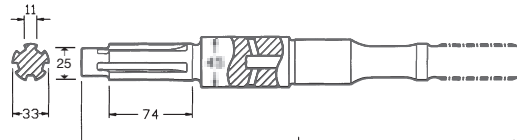
**ATLAS COPCO COP932FS FEMALE**

**ATLAS COPCO COP938FS FEMALE**



**14**

**ATLAS COPCO 1028HB**



THREAD	TUBE SIZE MM	LENGTH MM	CATALOGUE NUMBER
R38	14	489	5438-1908-14
P38	14	537	5488-2108-14
P45	14	537	5495-2108-14

R38	14	447	5438-1858-14
P38	14	447	5488-1858-14

R28	10	370	5428-1549-10
R32	10	370	5432-1549-10
P38	10	370	5488-1549-10

R32	14	405	5432-1618-14
R38	14	381	5438-1518-14
P38	14	381	5488-1518-14

P38	14	381	5488-15118-14
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R32	510	5432-2050-00
R38	510	5438-2050-00
P38	510	5488-2050-00

R32	360	5432-1451-00
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R28	400	5428-1655-00
R32	400	5432-1655-00

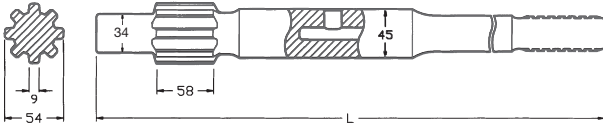


**SHANK ADAPTORS, Continued**

**15**

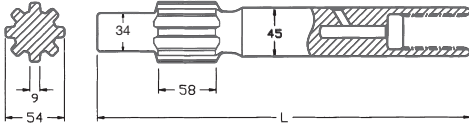
**ATLAS COPCO COP1032LE, HB**

**ATLAS COPCO COP1032HD**



**16**

**ATLAS COPCO COP1032HD FEMALE**



**17**

**ATLAS COPCO COP1036, 1038HB, COP1238ME/LP**

**ATLAS COPCO COP1038HD, COP1238ME/HF**

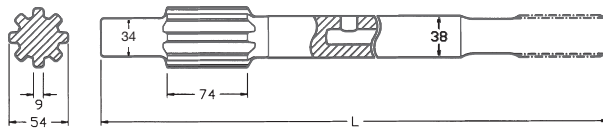
**ATLAS COPCO COP1038HD, COP1238ME/HF**

**ATLAS COPCO COP1038HD, COP1238**

**ATLAS COPCO COP1036, COP1038HB, COP1238ME/LP**

**ATLAS COPCO COP1038, COP1238**

**ATLAS COPCO COP1036, COP1038, COP1238**

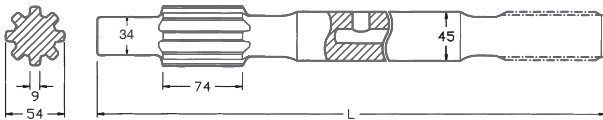


**18**

**ATLAS COPCO COP1036, COP1038HB, COP1238**

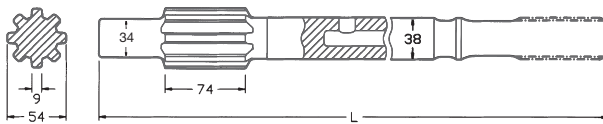
**ATLAS COPCO COP1038, COP1238**

**ATLAS COPCO COP1038, COP1238**



**19**

**ATLAS COPCO COP1038, COP1238**

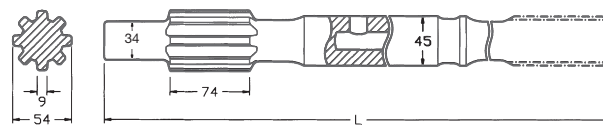


**20**

**ATLAS COPCO COP1036HB, COP1038HB, COP1238**

**ATLAS COPCO COP1038HL, COP1238**

**ATLAS COPCO COP1036HB, COP1038HB, COP1238**

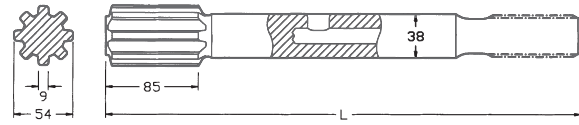


THREAD	TUBE SIZE MM	LENGTH MM	CATALOGUE NUMBER
R32		550	5432-2270-00
R32		625	5432-2570-00
R32		340	5432-1370-00
R32		500	5432-2029-00
R32		575	5432-2329-00
R38		485	5438-1929-00
P38		485	5488-1929-00
P38		500	5488-2029-00
P38		575	5488-2329-00
P38		590	5488-2429-00
P45		500	5495-2029-00
P45		575	5495-2329-00
P45		590	5495-2429-00
R32		575	5432-2386-00
P38		575	5488-2386-00
R32		575	5432-2376-00
R38		575	5438-2376-00
P38		575	5488-2376-00
P45		575	5495-2376-00

**SHANK ADAPTORS, Continued**

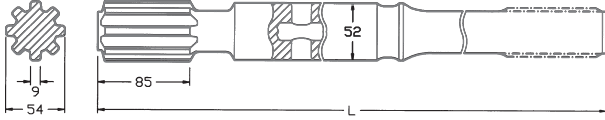
**21**

**ATLAS COPCO COP1440, COP1550, COP1838**



**22**

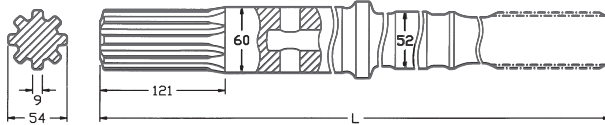
**ATLAS COPCO COP1440, COP1550, COP1838**



**23**

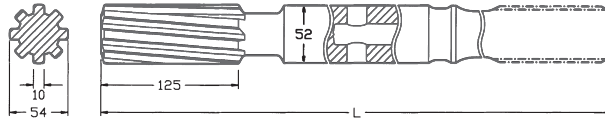
**ATLAS COPCO COP1838EX**

**ATLAS COPCO COP1550 EX**



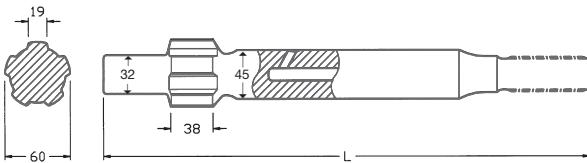
**24**

**ATLAS COPCO COP1850, COP1840**



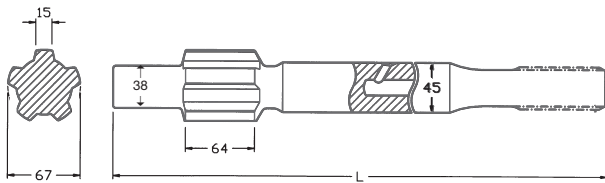
**25**

**BOART HD65**



**26**

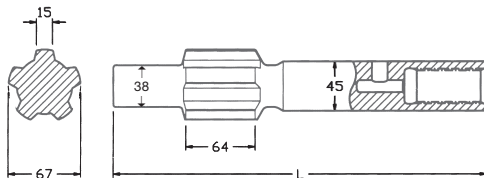
**BOART HD125, HD150**



**BOART HE125, HE150**

**27**

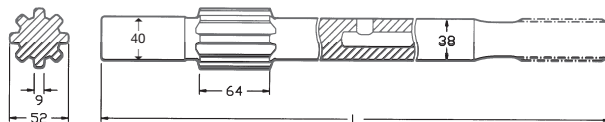
**BOART HD125, HD150 FEMALE**



**BOART HE125, HE150**

**28**

**BOHLER HS448**

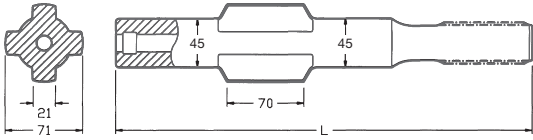


THREAD	TUBE SIZE MM	LENGTH MM	CATALOGUE NUMBER
R38		435	5438-1762-00
P38		435	5488-1762-00
P38		525	5488-2162-00
P45		525	5495-2163-00
P45		540	5495-2263-00
P51		525	5499-2163-00
P51		540	5499-2263-00
P45		730	5495-29126-00
P51		730	5499-29126-00
P45		565	5495-22127-00
P51		565	5499-22127-00
R25		445	5425-1868-00
R28		445	5428-1868-00
R32		445	5432-1868-00
R28		495	5428-2048-00
R32		495	5432-2048-00
R38		495	5438-2048-00
P38		495	5488-2048-00
R32		572	5432-2348-00
P38		572	5488-2348-00
R28		343	5428-1448-00
R32		343	5432-1448-00
R32		428	5432-1748-00
R32		500	5432-20105-00
R38		500	5438-20105-00
P38		500	5488-20105-00

**SHANK ADAPTORS, Continued**

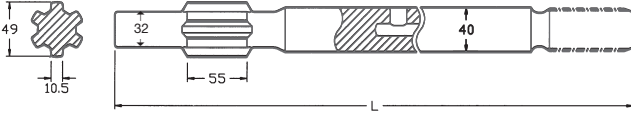
**29**

**FURUKAWA PD200 (HEAVY DUTY CHUCK)**



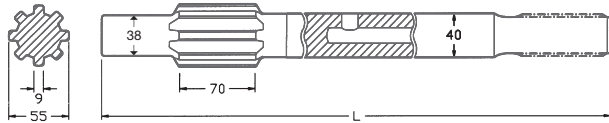
**30**

**FURUKAWA HD90**



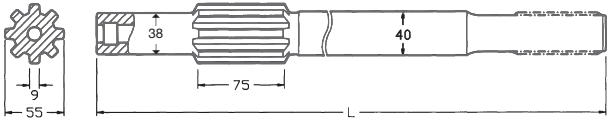
**31**

**FURUKAWA HD150**



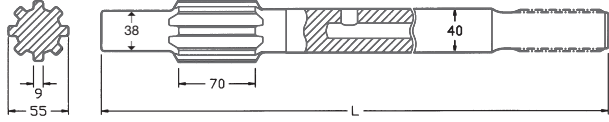
**32**

**FURUKAWA HD180**



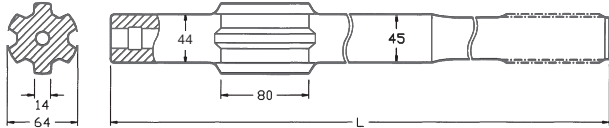
**33**

**FURUKAWA HD190**



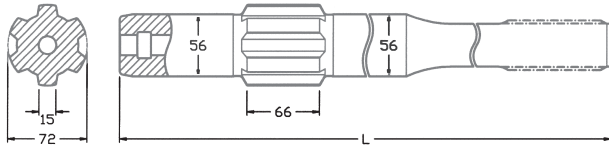
**34**

**FURUKAWA HD300**



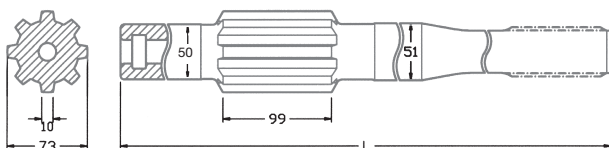
**35**

**FURUKAWA HD500 (Old 6 spline)**



**36**

**FURUKAWA HD500 (New 8 spline)**



THREAD	TUBE SIZE MM	LENGTH MM	CATALOGUE NUMBER
R38	14	381	5438-1514-14
P38	14	381	5488-1514-14
P38	14	485	5488-1914-14
P45	14	381	5495-1514-14

R38		500	5438-20107-00
P38		500	5488-20107-00

R38		520	5438-21117-00
P38		520	5488-21117-00

P38	14	455	5488-1809-14
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R38		480	5438-19109-00
P38		480	5488-19109-00

P45	16	655	5495-2620-16
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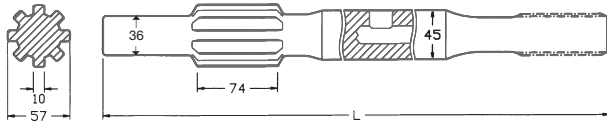
P45	16	625	5495-25148-16
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P45	19	710	5495-28149-19
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**SHANK ADAPTORS, Continued**

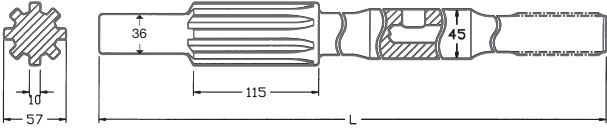
**37**

**FURUKAWA HD609**



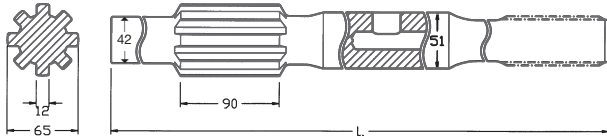
**38**

**FURUKAWA HD609QED**



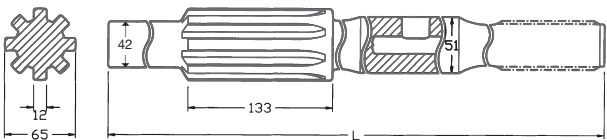
**39**

**FURUKAWA HD612**



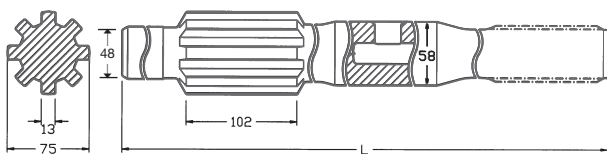
**40**

**FURUKAWA HD612QED**



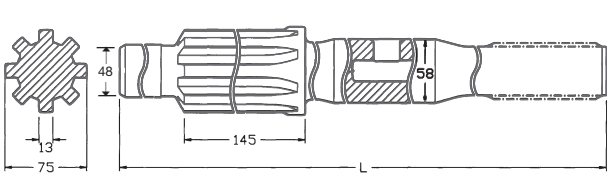
**41**

**FURUKAWA HD615**



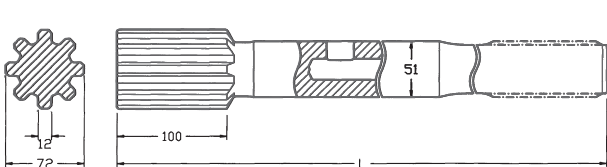
**42**

**FURUKAWA HD615QED**



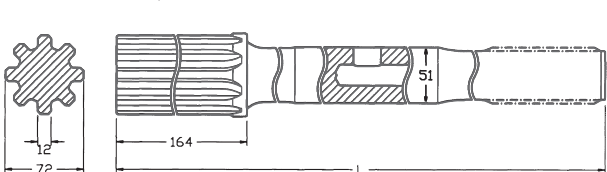
**43**

**FURUKAWA HD712**



**44**

**FURUKAWA HD712QED**



THREAD	TUBE SIZE MM	LENGTH MM	CATALOGUE NUMBER
P38		620	5488-2490-00
P38		690	5488-2790-00
P45		620	5495-2490-00
P45		690	5495-2790-00

P38		860	5488-34132-00
P45		860	5495-34132-00

P45		710	5495-28112-00
P51		710	5499-28112-00

P45		900	5495-36134-00
P51		900	5499-36134-00

P51		860	5499-35136-00
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P51		880	5499-35139-00
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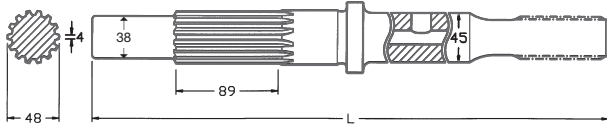
P51		590	5499-23161-00
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P51		880	5499-35164-00
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**SHANK ADAPTORS, Continued**

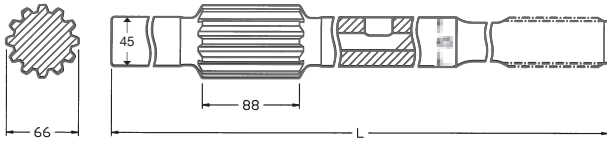
**45**

**GARDNER-DENVER HPR1**



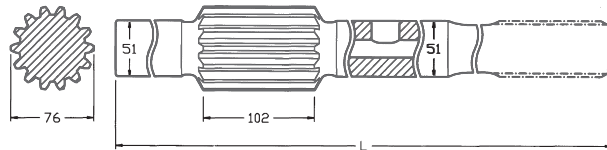
**46**

**GARDNER-DENVER HPR1H**



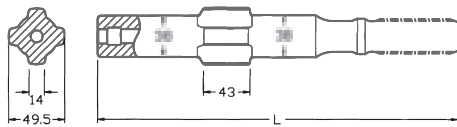
**47**

**GARDNER-DENVER HPR2**



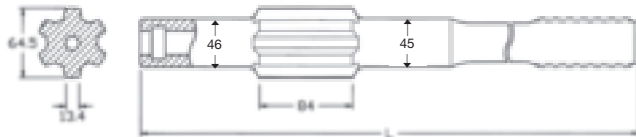
**48**

**INGERSOLL-RAND YD90M**



**49**

**INGERSOLL-RAND YH65, YH70, YH75, YH80**



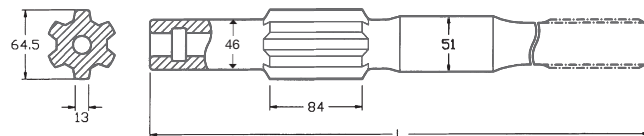
**50**

**INGERSOLL-RAND YH65RPS, YH75RPS, YH80RPS**



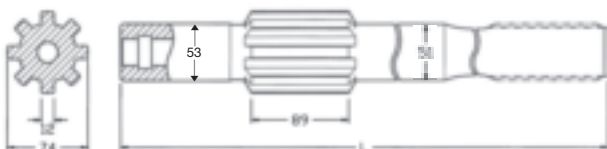
**51**

**INGERSOLL-RAND YH80A**



**52**

**INGERSOLL-RAND YH95, YH100**

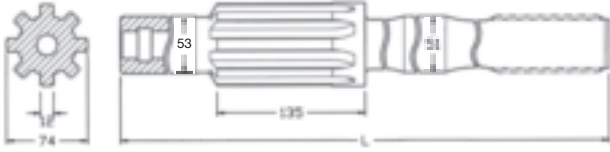


THREAD	TUBE SIZE MM	LENGTH MM	CATALOGUE NUMBER
R32		591	5432-2341-00
R38		591	5438-2341-00
P38		591	5488-2341-00
P45		591	5495-2341-00
R32		724	5432-2943-00
R38		724	5438-2943-00
P38		724	5488-2943-00
P45		724	5495-2943-00
P45		914	5495-3642-00
P51		914	5499-3642-00
R32	10	330	5432-1333-10
P38	19	495	5488-2083-19
P45	19	495	5495-2083-19
P38	19	700	5488-2892-19
P45	19	700	5495-2892-19
P45	19	500	5495-20114-19
P45	22	622	5495-2584-22
P51	22	622	5499-2584-22

**SHANK ADAPTORS, Continued**

**53**

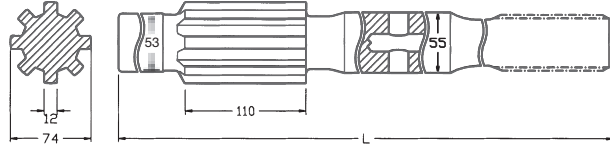
**INGERSOLL-RAND YH95RPS, YH100RPS**



THREAD	TUBE SIZE MM	LENGTH MM	CATALOGUE NUMBER
P45	25	840	5495-3393-25
P51	25	840	5499-3393-25

**54**

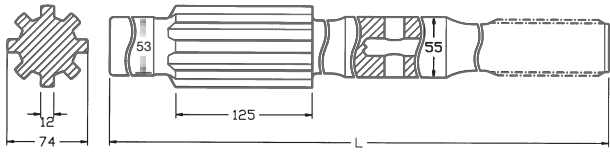
**INGERSOLL-RAND YH110V**



P51		730	5499-29119-00
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**55**

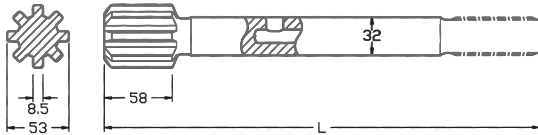
**INGERSOLL-RAND YH110VRP**



P51		900	5499-35104-00
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**56**

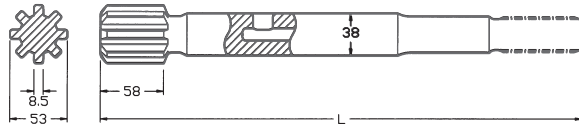
**MONTABERT HC40 - 32 mm BODY**



R28		371	5428-1545-00
R32		371	5432-1545-00

**57**

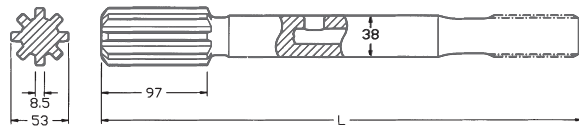
**MONTABERT HC40 - 38 mm BODY**



R32		438	5432-1764-00
R38		438	5438-1764-00
P38		438	5488-1764-00

**58**

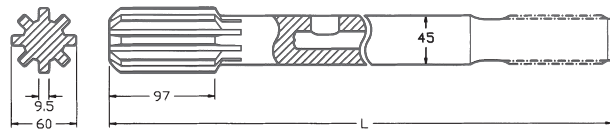
**MONTABERT HC80**



R38		440	5438-1756-00
P38		440	5488-1756-00

**59**

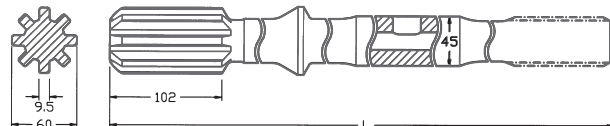
**MONTABERT HC120, 150**



P45		490	5495-1957-00
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**60**

**MONTABERT HC80R, 120R**

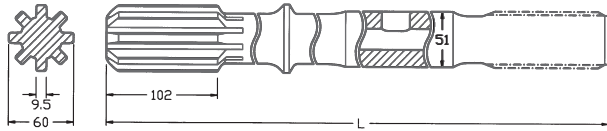


P45		670	5495-2795-00
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**SHANK ADAPTORS, Continued**

**61**

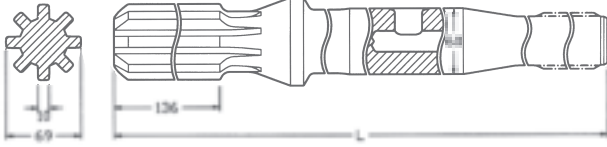
**MONTABERT HC120R, 150R**



THREAD	TUBE SIZE MM	LENGTH MM	CATALOGUE NUMBER
P45		670	5495-27131-00
P51		670	5499-27131-00

**62**

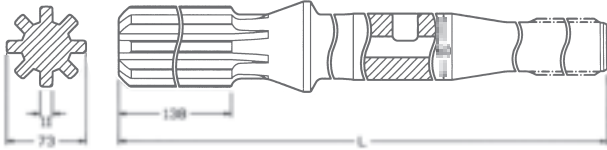
**MONTABERT HC160, 170**



P51		810	5499-32152-00
P60		810	5460-32152-00

**63**

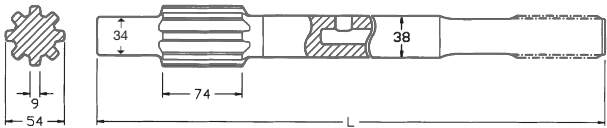
**MONTABERT HC200A**



P51		840	5499-33133-00
P60		840	5460-33133-00

**64**

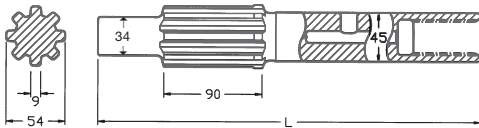
**SECOMA HYDRASTAR 200, 300**



R32		485	5432-1929-00
R38		485	5438-1929-00
P38		485	5488-1929-00

**65**

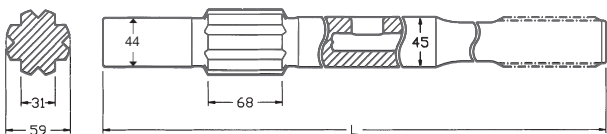
**SECOMA HYDRASTAR 200 FEMALE**



R32		351	5432-1469-00
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**66**

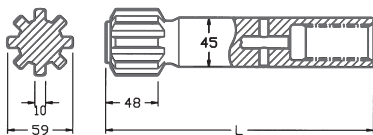
**SIG HBM50, 100, 120, 150, 160**



R32		500	5432-2052-00
R38		500	5438-2052-00
P38		500	5488-2052-00

**67**

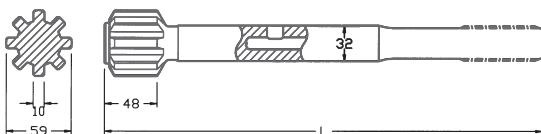
**TAMROCK HL300S FEMALE**



R32		245	5432-1096-00
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**68**

**TAMROCK HL300**

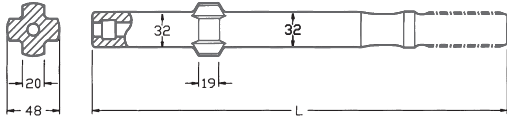


R32		400	5432-1612-00
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**SHANK ADAPTORS, Continued**

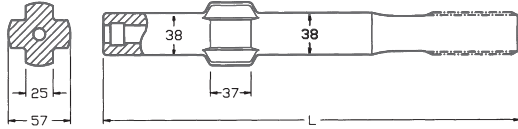
**69**

**TAMROCK L400, L410, L500, L510, L550**  
**BOHLER HS432**  
**SIG HBM50**



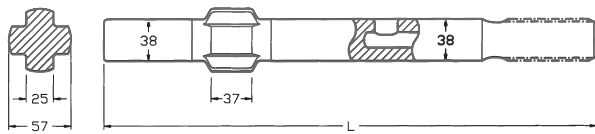
**70**

**TAMROCK HLR438, L550**



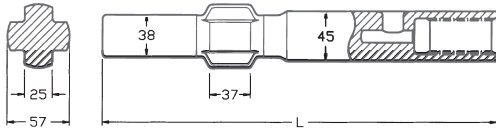
**71**

**TAMROCK HL438TS, HL538**



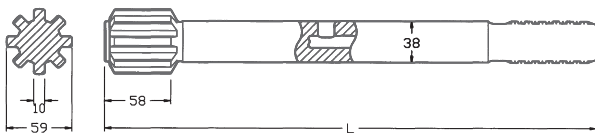
**72**

**TAMROCK HL538 FEMALE**



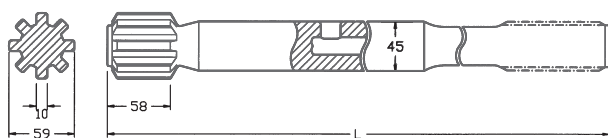
**73**

**TAMROCK HL500 - 38 mm BODY**



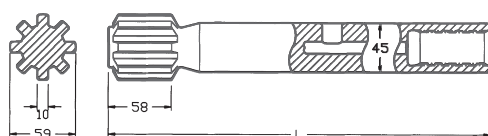
**74**

**TAMROCK HL500 - 45 mm BODY**



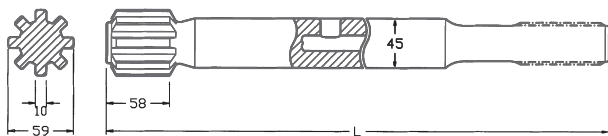
**75**

**TAMROCK HL500 - FEMALE**



**76**

**TAMROCK HL550 SUPER/92**



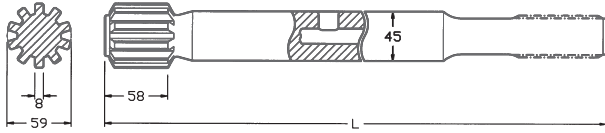
THREAD	TUBE SIZE MM	LENGTH MM	CATALOGUE NUMBER
R28	10	381	5428-1519-10
R32	10	381	5432-1519-10
R32	10	381	5432-1535-10
R32	12	381	5432-1535-12
R38	12	381	5438-1535-12
P38	12	381	5488-1535-12
R32		440	5432-1835-00
R38		450	5438-1835-00
P38		450	5488-1835-00
P38		495	5488-2035-00
P38		545	5488-2135-00
R32		360	5432-14100-00
R32		450	5432-1881-00
R38		450	5438-1881-00
P38		450	5488-1881-00
P38		550	5488-2281-00
R32		550	5432-22128-00
R38		550	5438-22128-00
P38		550	5488-22128-00
P45		550	5495-22128-00
R32		350	5432-1481-00
R38		500	5438-2082-00
P38		500	5488-2082-00



**SHANK ADAPTORS, Continued**

**77**

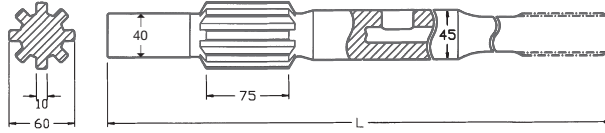
**TAMROCK HLX5**



THREAD	TUBE SIZE MM	LENGTH MM	CATALOGUE NUMBER
P32		500	5432-20150-00
R38		500	5438-20150-00
P38		500	5488-20150-00

**78**

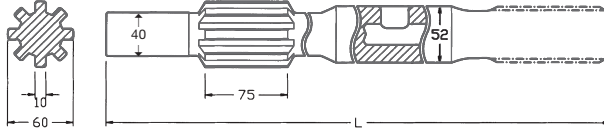
**TAMROCK HL600, 600S - 45 mm BODY**



R32		600	5432-2467-00
P38		525	5488-2167-00
P38		600	5488-2467-00
P45		525	5495-2167-00
P45		600	5495-2467-00

**79**

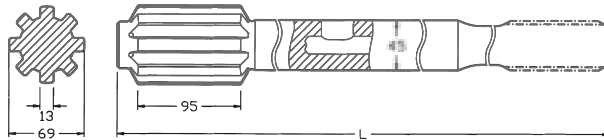
**TAMROCK HL600 - 52 mm BODY**



P45		650	5495-2697-00
P51		650	5499-2697-00

**80**

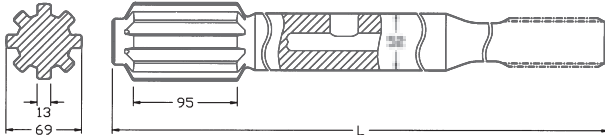
**TAMROCK HL700, HL800 - 45 mm BODY**



P38		600	5488-24120-00
P45		600	5495-24120-00

**81**

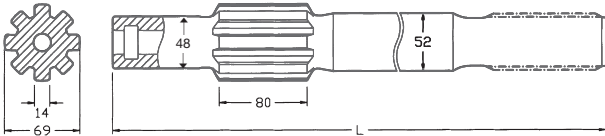
**TAMROCK HL700, HL800 - 52 mm BODY**



P38		600	5488-24125-00
P45		600	5495-24125-00
P51		600	5499-24125-00

**82**

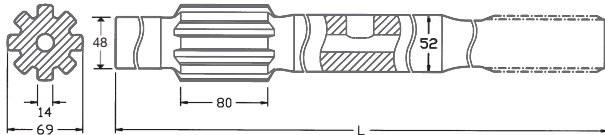
**TAMROCK HL850**



P45	19	500	5495-2034-19
P45	19	590	5495-2334-19
P51	19	500	5499-2034-19
P51	19	590	5499-2334-19

**83**

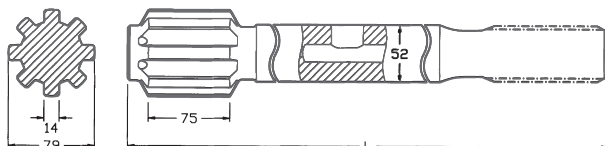
**TAMROCK HL850**



P38		670	5488-2634-00
P45		670	5495-2634-00
P51		670	5499-2634-00

**84**

**TAMROCK HL1000 - 52mm BODY**

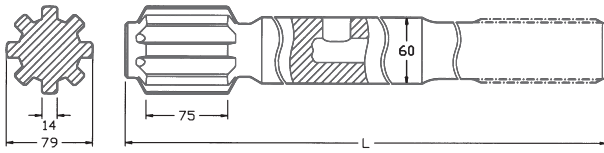


P45		590	5495-2360-00
P51		590	5499-2360-00
P51		670	5499-2660-00

**SHANK ADAPTORS, Continued**

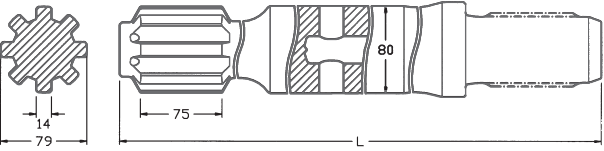
**85**

**TAMROCK HL1000 - 60 mm BODY**



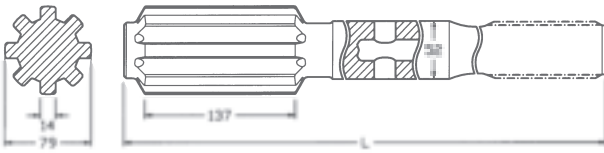
**86**

**TAMROCK HL1000 - 80 mm BODY**



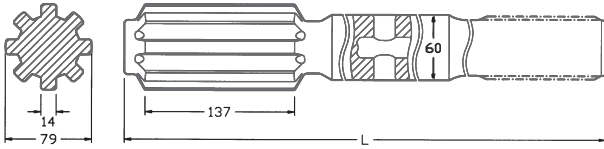
**87**

**TAMROCK HL1000 EXTRACTOR - 52 mm BODY**



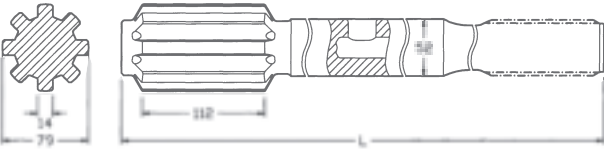
**88**

**TAMROCK HL1000 EXTRACTOR - 60 mm BODY**



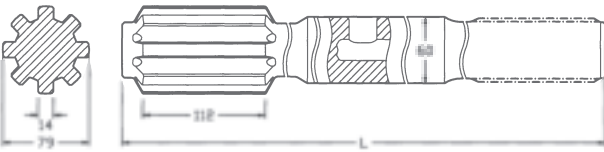
**89**

**TAMROCK HL1500 - 52 mm BODY**



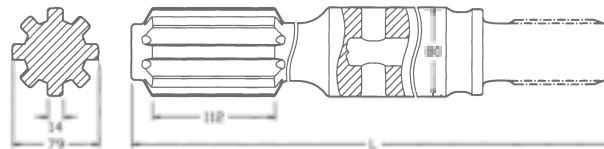
**90**

**TAMROCK HL1500 - 60 mm BODY**



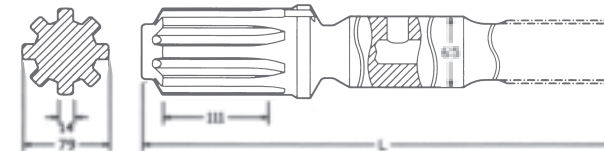
**91**

**TAMROCK HL1500 - 80 mm BODY**



**92**

**TAMROCK HL1500PE, HL1000PE, HL1560T**



THREAD	TUBE SIZE MM	LENGTH MM	CATALOGUE NUMBER
P60		670	5460-26162-00

P58		640	5458-25110-00
P68		640	5468-25110-00

P51		840	5499-33101-00
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P60		840	5460-33163-00
-----	--	-----	---------------

P51		710	5499-28155-00
-----	--	-----	---------------

P60		710	5460-28140-00
-----	--	-----	---------------

P58		635	5458-25158-00
P68		635	5468-25158-00

P51		760	5499-30166-00
P60		760	5460-30166-00

# CONVERSION COUPLINGS & BIT ADAPTORS



## CONVERSION COUPLINGS

**R25 - R32**

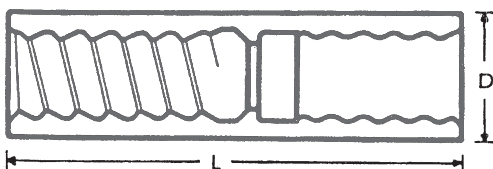
**R32 - R38**

**R32 - P38**

**P38 - R38**

**P38 - P45**

**P45 - P51**



DIMENSIONS  
MM INS

CATALOGUE  
NUMBER

D = 45	1 3/4"	<b>5525 - 3200</b>
L = 159	6 1/4"	
D = 54	2 1/8"	<b>5532 - 3800</b>
L = 159	6 1/4"	
D = 54	2 1/8"	<b>5532 - 8800</b>
L = 159	6 1/4"	
D = 55	2 5/32"	<b>5588 - 3800</b>
L = 194	7 5/8"	
D = 63.5	2 1/2"	<b>5588 - 9500</b>
L = 199	7 27/32"	
D = 72	2 13/16"	<b>5595 - 9900</b>
L = 234	9 7/32"	

## BIT ADAPTORS

**FEMALE/MALE  
R32 - R25**

**R38 - R32**

**P45 - P38**

**P51 - P45**

**P60 - P51**

**R25 - R32**

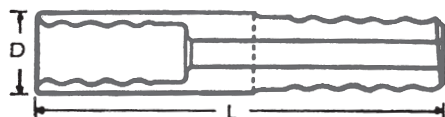
**R32 - R38**

**R32 - P38**

**P38 - P45**

**P45 - P51**

**P51 - P60**



D = 45	1 3/4"	<b>5500 - 3225</b>
L = 187	7 3/8"	
D = 54	2 1/8"	<b>5500 - 3832</b>
L = 203	8"	
D = 63.5	2 1/2"	<b>5500 - 9588</b>
L = 238	9 3/8"	
D = 64	2 1/2"	<b>5500 - 9995</b>
L = 280	11"	
D = 80	3 1/8"	<b>5500 - 6099</b>
L = 330	13"	
D = 39	1 1/2"	<b>5500 - 2532</b>
L = 187	7 3/8"	
D = 45	1 3/4"	<b>5500 - 3238</b>
L = 216	8 1/2"	
D = 45	1 3/4"	<b>5500 - 3288</b>
L = 216	8 1/2"	
D = 55	2 1/8"	<b>5500 - 8895</b>
L = 280	11"	
D = 64	2 1/2"	<b>5500 - 9599</b>
L = 280	11"	
D = 76	3"	<b>5500 - 9960</b>
L = 280	12"	

### COUPLING RECOVERY



### ROD RECOVERY



### BIT GRINDING GAUGE



### BUTTON BIT GRINDING GAUGE



COUPLING THREAD	OUTSIDE DIA. OF TOOLS		FOR USE WITH RODS	CATALOGUE NUMBER
	MM	INS		
R25	41	1 5/8"	25 mm (1") Hexagon	5910-2501
R32	52.4	2 1/16"	25 mm (1") Hexagon or (1 1/4") Round	5910-3201
R38	63.5	2 1/2"	32 mm (1 1/4") Hexagon or (1 1/2") Round	5910-3801
P38	63.5	2 1/2"	32 mm (1 1/4") Hexagon or (1 1/2") Round	5910-8801
P45	73	2 7/8"	38 mm (1 1/2") Hexagon or (1 3/4") Round	5910-9501
P51	86	3 3/8"	51 mm (2") Round	5910-9901
R25	38	1 1/2"	25 mm (1") Hexagon	5910-2502
R32	49	1 15/16"	25 mm (1") Hexagon or 32 mm (1 1/4") Round	5910-3202
R38	57	2 1/4"	32 mm (1 1/4") Hexagon or 38 mm (1 1/2") Round	5910-3802
P38	59	2 5/16"	32 mm (1 1/4") Hexagon or 38 mm (1 1/2") Round	5910-8802
P45	62	2 7/16"	38 mm (1 1/2") Hexagon or 45 mm (1 3/4") Round	5910-9502
P51	76	3"	51 mm (2") Round	5910-9902

### CROSS, 'X' BITS AND TIPPED STEMS

5940-1100

5940-0900

ROD SPANNERS



RODS

25 mm (1") Hexagon	<b>5930 - 0250</b>
32 mm (1 1/4") Hexagon and 38 mm (1 1/2") Diameter	<b>5930 - 0320</b>
38 mm (1 1/2") Hexagon	<b>5930 - 0380</b>

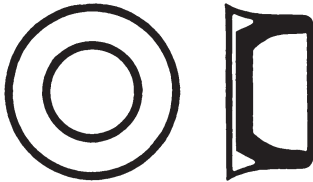
THREAD LUBRICANT

This is a high temperature grease which is recommended for all P&V threaded extensions rods, when drilling with air flushing. The grease prevents scuffing of the threads, which can occur if heat builds up in the junction between coupling and rod. Uncoupling of the drill string is simpler with this grease and the life of the equipment is extended. The recommended method of applying this is with a brush, sparingly to the rod thread as each rod is added to the drill string. Care should be taken to store this grease away from the drilling dust.

1 Kg	<b>59KK - 0001</b>
5 Kg	<b>59KK - 0005</b>

SEALS

REPLACEMENT SEALS FOR SHANK  
ADAPTORS



TUBE SIZE		CATALOGUE NUMBER
MM	INS	
8	5/16"	<b>5970 - 0800</b>
10	3/8"	<b>5970 - 1000</b>
11	7/16"	<b>5970 - 1100</b>
12	1/2"	<b>5970 - 1200</b>
14	9/16"	<b>5970 - 1400</b>
16	5/8"	<b>5970 - 1600</b>
19	3/4"	<b>5970 - 1900</b>
22	7/8"	<b>5970 - 2200</b>
25	1"	<b>5970 - 2500</b>
32	1 1/4"	<b>5970 - 3200</b>

# WEIGHTS



Catalogue Number	Weight		Page	Fig. No.	Catalogue Number	Weight		Page	Fig. No.	Catalogue Number	Weight		Page	Fig. No.
	kg	lb				kg	lb				kg	lb		
<b>4202</b> -0332	0.3	0.7	4		<b>4725</b> -2041	0.7	1.5	5,13		<b>4760</b> -3493	4.0	8.8	24	
0335	0.3	0.7	4		2045	0.8	1.8	5,13		3406	5.2	11.5	24	
0338	0.4	0.9	4		2048	0.9	2.0	13		3415	6.4	14.1	24	
0341	0.4	0.9	4		2051	1.0	2.2	13		3427	7.8	17.2	24	
0345	0.5	1.1	4							1893	4.8	10.6	24	
0348	0.6	1.3	4		<b>4728</b> -0938	0.5	1.1	7		1806	6.2	13.7	24	
0351	0.6	1.3	4		0941	0.6	1.3	7		1815	7.7	17.0	24	
					0945	0.7	1.5	7		1827	9.2	20.3	24	
<b>4203</b> -0332	0.3	0.7	4		0948	0.8	1.8	7		3993	4.8	10.6	24	
0335	0.3	0.7	4		2038	0.5	1.1	8		3906	6.2	13.7	24	
0338	0.4	0.9	4		2041	0.7	1.5	8		3915	7.7	17.0	24	
0341	0.4	0.9	4		2045	0.8	1.8	8		3927	9.2	20.3	24	
0345	0.5	1.1	4		2048	0.9	2.0	8						
0348	0.6	1.3	4							<b>4768</b> -1802	7.0	15.4	25	
0351	0.6	1.3	4		<b>4732</b> -0943	0.7	1.5	8		1815	8.0	17.6	25	
					0945	0.7	1.5	8,15		1827	9.0	19.8	25	
<b>4250</b> -2526	1.9	4.1	12		0948	0.8	1.8	8,15		2002	5.5	12.1	25	
2826	1.9	4.1	12		0951	0.9	2.0	8,15		2015	6.2	13.6	25	
3226	1.9	4.1	12		0957	1.4	3.1	15		2027	6.2	13.6	25	
3240	2.4	5.2	12		0964	1.6	3.5	15		2502	5.5	12.1	25	
3257-48	4.6	10.2	12		0976	2.2	4.8	15		2515	6.2	13.6	25	
8857-48	4.4	9.7	12		1851	1.2	2.6	15		2527	7.0	15.4	25	
					1864	1.8	4.0	15						
<b>4625</b> -0335	0.4	0.9	5,13		1945	0.7	1.5	15		<b>4788</b> -0902	3.2	7.0	18	
0338	0.4	0.9	5,13		1948	0.8	1.8	15		0964	1.4	3.0	18	
0341	0.5	1.1	5,13		1951	1.0	2.2	15		0976	1.9	4.2	18	
0345	0.7	1.5	5,13		2043	0.7	1.5	8		0989	2.6	5.7	18	
0348	0.9	2.0	13		2045	0.7	1.5	8,15		1802	4.0	8.8	18	
0351	1.1	2.4	13		2048	0.8	1.8	8,15		1864	2.0	4.4	18	
					2051	1.0	2.2	8,15		1876	2.8	6.1	18	
<b>4628</b> -0838	0.4	0.9	7		2057	1.4	3.1	15		1889	3.4	7.4	18	
0841	0.5	1.2	7		2064	1.5	3.3	15		1902	3.3	7.3	18	
0845	0.7	1.5	7		2076	2.2	4.8	15		1964	1.4	3.0	18	
0848	0.9	2.0	7		2545	0.7	1.5	15		1976	2.0	4.3	18	
					2548	0.8	1.8	15		1989	3.0	6.6	18	
<b>4632</b> -0843	0.6	1.3	8		2551	1.0	2.2	15		2002	3.3	7.2	18	
0845	0.7	1.5	8,15		2564	1.5	3.3	15		2064	1.5	3.3	18	
0848	0.9	2.0	8,15		3445	0.7	1.5	8,15		2076	2.0	4.4	18	
0851	1.0	2.2	8,15		3448	0.8	1.8	8,15		2089	2.7	5.9	18	
0857	1.3	2.9	15		3451	1.0	2.2	8,15		2502	3.3	7.3	18	
0864	1.5	3.3	15		3464	1.5	3.3	15		2564	1.5	3.3	18	
0876	2.2	4.8	15							2576	2.0	4.3	18	
					<b>4735</b> -2048	0.9	2.0	10		2589	2.7	5.9	18	
<b>4700</b> -1364	0.9	2.0	11		2051	1.0	2.2	10		3402	3.3	7.3	18	
1376	1.2	2.6	11		1948	0.9	2.0	10		3464	1.5	3.3	18	
1389	1.7	3.7	11		1951	1.0	2.2	10		3476	2.0	4.4	18	
1602	2.6	5.7	12		3448	0.9	2.0	10		3489	2.7	5.9	18	
1627	3.5	7.7	12		3451	1.0	2.2	10		3964	2.0	4.4	18	
1689	1.7	3.7	12							3976	2.8	6.2	18	
5727	5.2	11.5	12		<b>4738</b> -0902	3.3	7.3	17		3989	3.4	7.5	18	
5752	6.5	14.4	12		0964	1.5	3.3	17						
					0976	2.0	4.4	17		<b>4795</b> -0902	5.1	11.2	20	
<b>4702</b> -0932	0.3	0.7	4		0989	2.7	5.9	17		0915	6.3	13.8	20	
0935	0.3	0.7	4		2002	3.3	7.3	17		0976	2.7	5.9	20	
0938	0.4	0.9	4		2064	1.5	3.3	17		0989	4.0	8.8	20	
0941	0.4	0.9	4		2076	2.0	4.4	17		1802	6.1	13.4	20	
0945	0.5	1.1	4		2089	2.7	5.9	17		1876	3.5	7.7	20	
										1889	4.9	10.7	20	
<b>4703</b> -0932	0.3	0.7	4		<b>4758</b> -1802	6.3	13.9	25		1902	4.9	10.7	20	
0935	0.3	0.7	4		1815	7.5	16.5	25		1976	2.7	5.9	20	
0938	0.4	0.9	4		1889	5.0	11.0	25		1989	4.0	8.8	20	
0941	0.4	0.9	4		2002	5.2	11.4	25		2002	5.2	11.4	20	
0945	0.5	1.1	4		2015	6.0	13.2	25		2015	6.4	14.0	20	
					2089	4.5	9.9	25		2076	2.8	6.1	20	
<b>4725</b> -0935	0.4	0.9	5,13		2502	5.2	11.4	25		2089	4.1	9.0	20	
0938	0.6	1.3	5,13		2515	6.0	13.2	25		2502	5.2	11.4	20	
0941	0.7	1.5	5,13		2589	4.5	9.9	25		2576	2.8	6.1	20	
0945	0.8	1.8	5,13							2589	4.1	9.0	20	
0948	0.8	1.8	13		<b>4760</b> -2093	4.0	8.8	24		3402	5.2	11.4	20	
0951	0.9	2.0	13		2006	5.2	11.5	24		3476	2.8	6.2	20	
2035	0.5	1.1	5,13		2015	6.4	14.1	24		3489	4.1	9.0	20	
2038	0.6	1.3	5,13		2027	7.8	17.2	24		3976	3.5	7.7	20	







**WEIGHTS Continued**

Catalogue Number	Weight		Page	Fig. No.	Catalogue Number	Weight		Page	Fig. No.
	kg	lb				kg	lb		
<b>5725</b> -2506	1.6	3.6	13		<b>5832</b> -3212MF	7.6	16.7	16	
2509	2.9	6.4	13		3215MF	9.2	20.3	16	
2512	4.4	9.7	13		3218MF	10.9	24.0	16	
2515	5.5	12.2	13		3224MF	14.2	31.3	16	
2518	6.7	14.7	13		3231MF	17.7	39.0	16	
2531	11.0	24.4	13		3236MF	21.2	46.7	16	
2536	13.0	28.6	13		3243MF	24.7	54.3	16	
<b>5732</b> -2512	4.8	10.6	16		<b>5838</b> -3818MF	16.3	36.0	17	
2515	6.1	13.4	16		3831MF	26.1	57.7	17	
2518	7.3	16.2	16		3836MF	31.0	68.5	17	
2524	9.8	21.6	16		<b>5860</b> -6136MF	63.0	139.2	24	
2525-25	10.2	22.4	6		6143MF	78.0	172.4	24	
2525-31	12.2	26.8	6		6161MF	112.0	247.5	24	
2525-37	14.6	32.3	6		<b>5888</b> -3812MF	11.4	25.1	19	
2531	12.3	27.1	16		3815MF	13.8	30.4	19	
2536	14.8	32.6	16		3818MF	16.3	35.9	19	
2828-25	12.7	27.9	7		3831MF	26.1	57.5	19	
2828-31	15.5	34.1	7		3836MF	31.0	68.3	19	
2828-37	18.6	40.9	7		3932-43MF	35.0	77.4	9	
2828-43	21.4	47.0	7		3932-49MF	40.0	88.4	9	
3228-31	19.0	41.9	7		3932-55MF	45.0	99.5	9	
3228-37	23.4	51.4	7		3932-61MF	50.0	110.5	9	
3228-40	25.3	55.6	7		3935-43MF	35.4	78.2	11	
3228-43	27.2	59.8	7		3935-49MF	40.4	89.3	11	
<b>5738</b> -2828-31	16.2	35.6	7		3935-55MF	45.4	100.3	11	
2828-37	19.3	42	7		3935-61MF	50.4	111.4	11	
2828-43	22.1	48.6	7		<b>5895</b> -4515MF	19.0	42.0	21	
3228-31	19.0	41.9	7		4518MF	22.3	49.0	21	
3228-37	22.5	49.6	7		4531MF	35.5	78.0	21	
3228-43	26.5	58.4	7		4536MF	42.3	93.0	21	
3232-31	19.8	43.6	8		4543MF	47.5	105.0	21	
3232-37	23.2	51.8	8		4561MF	68.5	150.7	21	
3232-40	25.0	55.0	8		<b>5899</b> -5118MF	30.0	66.0	23	
3232-43	26.8	58.5	8		5131MF	50.0	110.0	23	
3232-46	29.3	64.5	8		5136MF	60.0	132.0	23	
3232-49	31.2	68.8	8		5161MF	97.0	213.4	23	
3532-31	23.1	50.9	9		<b>5910</b> -2501	1.0	2.2	40	
3532-37	29.1	64.2	9		2502	0.7	1.5	40	
3532-43	33.0	72.8	9		3201	1.7	3.7	40	
3532-49	38.0	83.8	9		3202	1.0	2.2	40	
3532-55	42.5	93.5	9		3801	2.5	5.5	40	
3535-43	33.1	73.2	10		3802	1.7	3.7	40	
3535-49	37.9	83.8	10		8801	2.5	5.5	40	
3535-55	42.6	94.1	10		8802	1.7	3.7	40	
3535-61	47.4	104.8	10		9501	4.0	8.8	40	
<b>5788</b> -3231	19.3	42.5	19		9502	2.5	5.5	40	
3232-31	19.8	43.6	8		9901	5.0	11.0	40	
3232-37	23.2	51.8	8		9902	4.0	8.8	40	
3232-40	25.0	55.0	8						
3232-43	26.8	58.5	8						
3232-46	29.3	64.5	8						
3232-49	31.2	68.8	8						
3236	23.0	50.7	19						
3532-31	23.1	50.9	9						
3532-37	27.5	62.0	9						
3532-37MF	29.3	64.5	9						
3532-43	32.5	71.5	9						
3532-43MF	33.0	73.0	9						
3532-49	37.5	82.5	9						
3532-49MF	38.0	84.0	9						
3532-55	42.5	93.5	9						
3532-55MF	43.0	95.0	9						
3535-43	33.1	73.2	10						
3535-49	37.9	83.8	10						
3535-55	42.6	94.1	10						
3535-61	47.4	104.8	10						
3535-43MF	34.4	76.0	10						
3535-49MF	39.2	86.6	10						
3535-55MF	43.9	97.0	10						
3535-61MF	48.7	107.6	10						
<b>5795</b> -3831	26.8	59.1	21						
3836	30.6	67.5	21						





