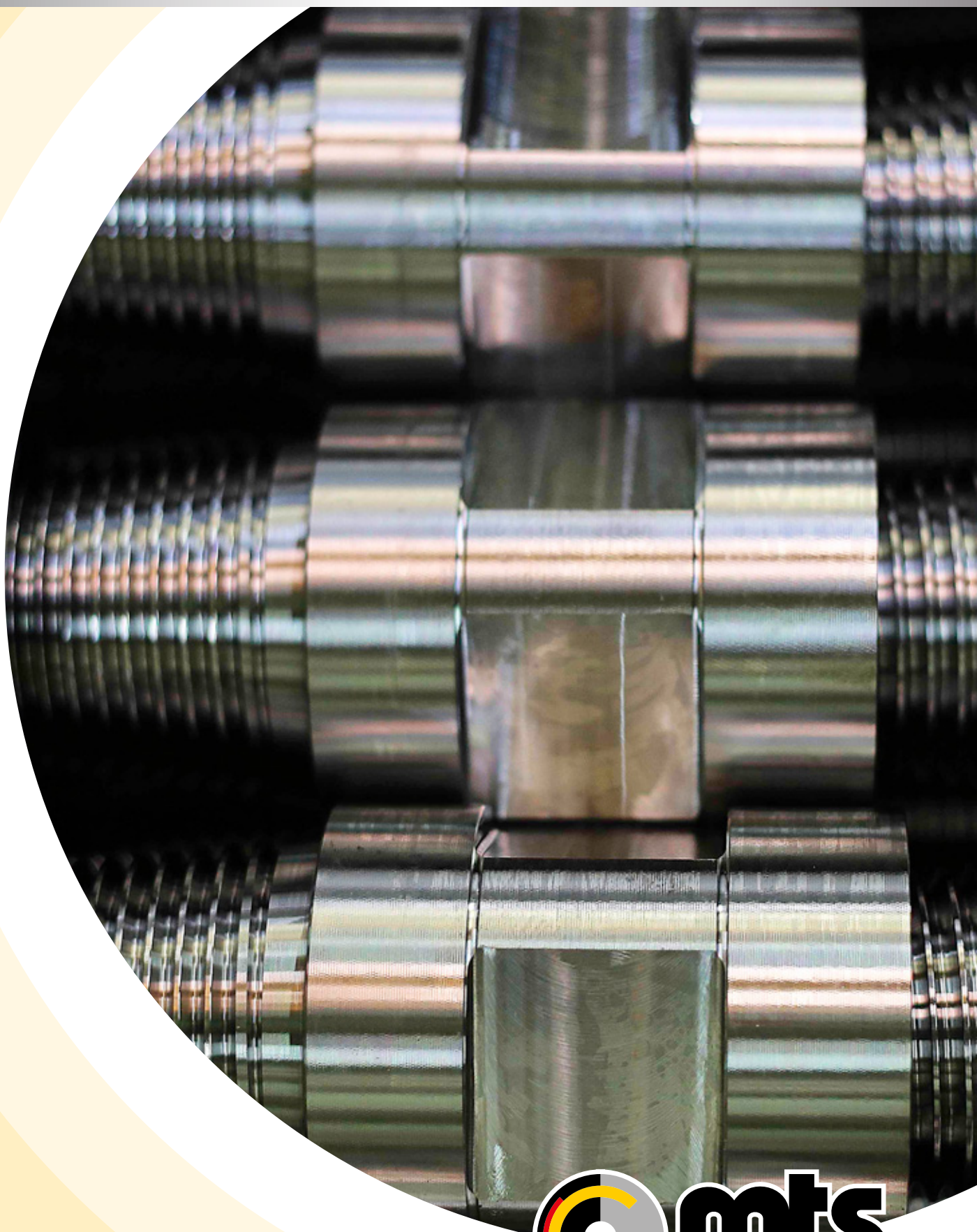


# Drilling Tools

Mineral Exploration • Water Well • Blast hole • Geothermal



- 4  Company Profile | Unternehmensprofil
- 5  Product Portfolio | Produkt-Portfolio
- 6  Rotary Drilling Tools for Mineral Exploration, Water Well, blast hole and Geothermal drilling
- 8  Drill Pipes - with square flats on both sides  
Drehbohrstangen - beidseitig mit Vierkant-Schlüsselflächen
- 15  Drill Pipes - with long tool joints | Drehbohrstangen - mit langen Verbindern
- 16  Drill Pipes - without flats | Drehbohrstangen - ohne Schlüsselflächen
- 17  Drill Pipes - with flats pin side  
Drehbohrstangen - mit Schlüsselflächen nippelseitig
- 18  Drill Pipes - with flats box side  
Drehbohrstangen - mit Schlüsselflächen muffenseitig
- 19  Water Well Drill Pipes | Brunnenbohrgestänge
- 20  Reverse Circulation Drill Pipes | Lufthebestangen
- 22  Drill Pipes - special design with hex. wrench flats | Drehbohrstangen
- 24  Drill Collars | Schwerstangen
- 25  Stabilizers | Stabilisatoren
- 26  DTH - Hammers and Bits | DTH - Hämmer und Kronen
- 27  DTH - Hammer Unlock Unit | DTH - Hammer Brechvorrichtung
- 28  Bits | Bohrschneiden und -meißel
- 29  Fishing Tools | Fangwerkzeuge
- 30  Subs | Übergangsstücke
- 32  Hoisting Equipment | Hebewerkzeuge
- 34  Certificates | Zertifikate





**mts Perforator - tradition meets latest technology**

mts Perforator is continuing the 100 years old tradition of the Schmidt, Kranz Group (SK) which began building mining technique and tunneling systems in the 19th century. mts Perforator is part of this efficient and well-established Group together with various other manufacturing companies. mts Perforator combines proven tradition with continuous innovation, and offers a wide range of high-quality products. In addition, the cooperation within the SK Group enables all of the participating parties to benefit from synergies within the Group: an advantage that mts Perforator passes directly on to its customers.



Johann-Christian von Behr

**Quality made in Germany**

Diligence and precision are characteristics of mts Perforator technology and machines. The experienced team continuously improves the quality and operation mode of the systems, as well as developing completely new solutions for changing circumstances and surroundings.

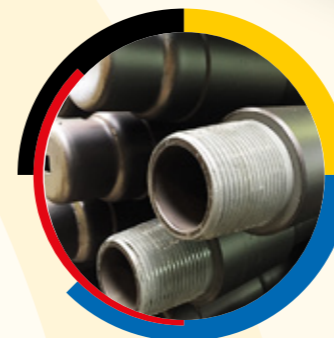
mts Perforator combines flexibility and cost efficiency with the highest service quality. Furthermore mts Perforator highly values every customer's wishes and strongly focuses on personal assistance to establish a satisfied long-term relationship. This is achieved by a small hierarchy, lean structures, 180 qualified employees and an efficient management.

**Your solution**

The main objective of mts Perforator is to find a balance between customer requirements and the requirements of nature and the environment. The technologically advanced products of mts Perforator allow to simplify people's life worldwide and use trenchless technology to conserve resources and focus on sustainability. If you are looking for a partner who offers the latest technology adapted to your individual requirements and actively supports you by planning and executing your projects, then is mts Perforator the right choice for optimal product solutions.



Gilbert Kimpel



**Drill Pipes and Drilling Tools**

- OCTG drill pipes for oil and gas field
- Drill pipes and tools for DTH, rotary drilling and RC drilling
- Drill pipes and accessories for horizontal directional drilling

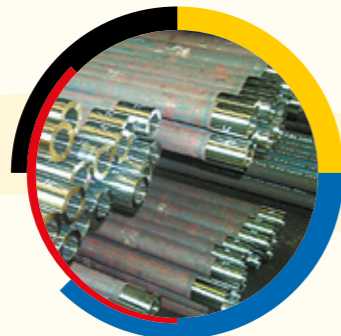


# Rotary Drilling Tools for Mineral Exploration, Water Well, blast hole and Geothermal drilling

- ✓ DIN EN ISO 9001  
APPROVED / GEPRÜFT
- ✓ MATERIAL PIPE / ROHR S355J2H (ST 52), N80,  
GRADE E, X, G, S AND OTHER
- ✓ MATERIAL TOOL JOINT / VERBINDER  
42CrMo4V QUENCHED AND  
TEMPERED / VERGÜTET
- ✓ FRICTION WELDING / REIBSCHWEIßUNG  
MAX. PIPE / ROHR Ø 6 5/8
- ✓ HARD FACING / AUFTRAGSSCHWEIßUNG



1. Engineering



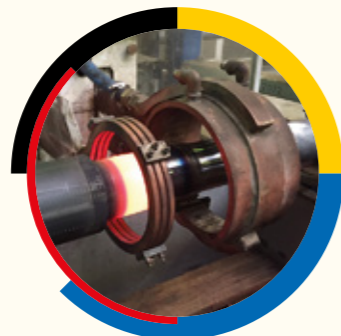
2. Pipes



3. Hardbanding



4. Friction Welding



5. Heat Treatment



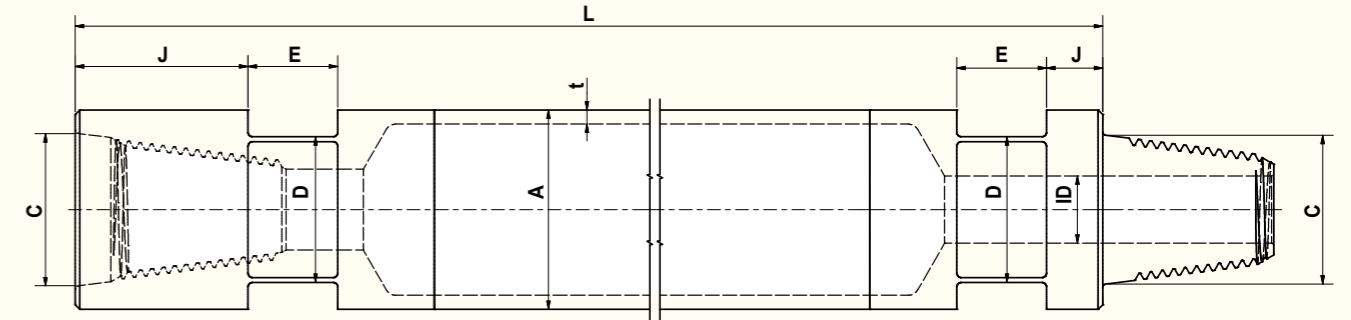
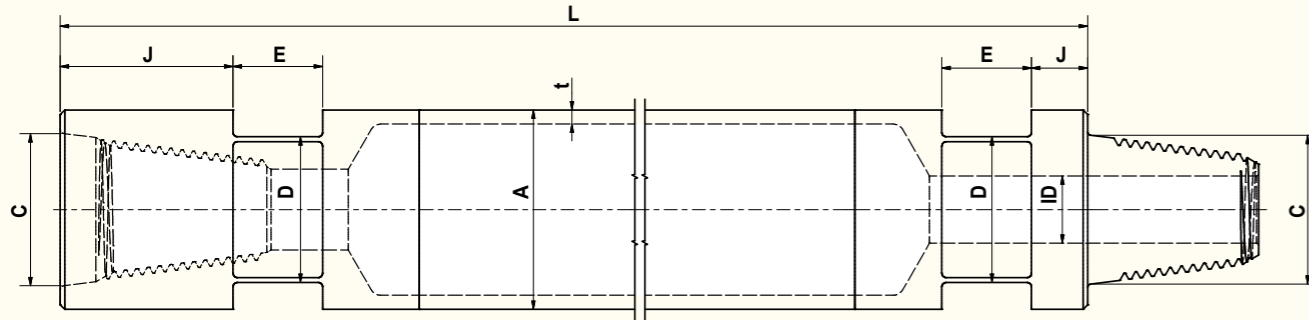
6. Inspection



# Drill Pipes - with square flats on both sides

## Drehbohrstangen - beidseitig Vierkant-Schlüsselflächen

Drill Pipes listed are for all types of applications. They are to be used for rotary drilling and suitable for down the hole drilling.



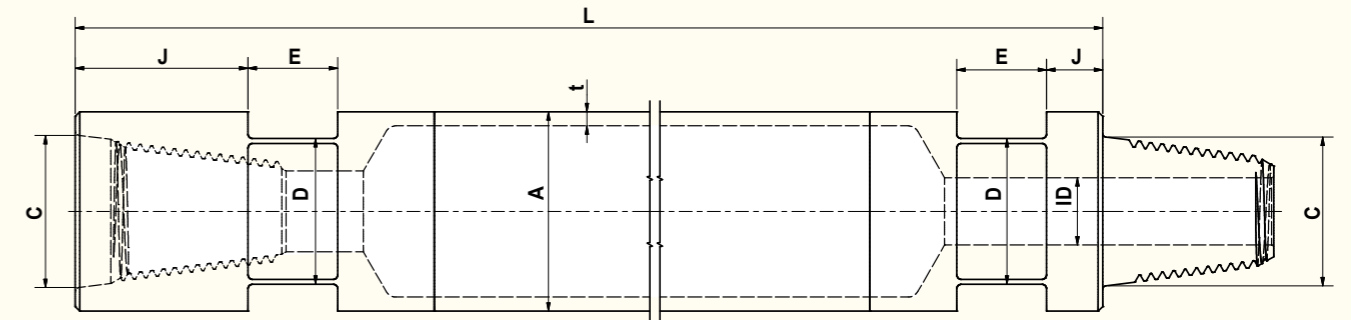
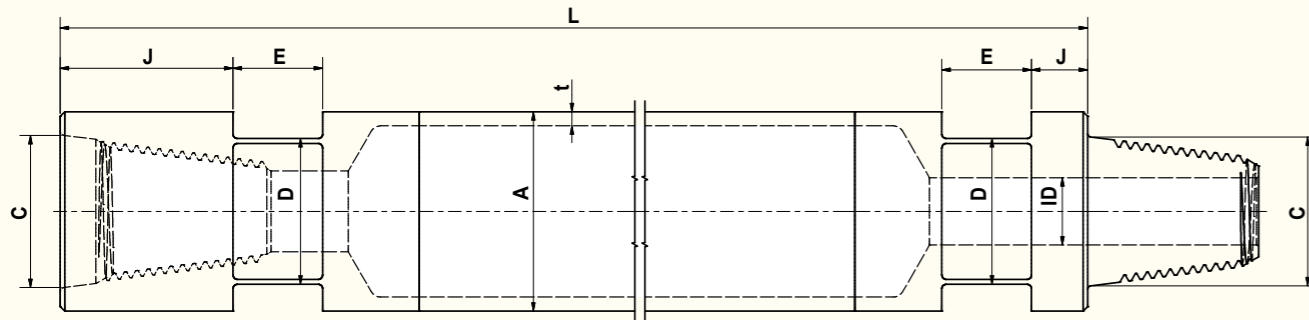
A	t	C	ID	D	E	J	L	appr. weight	drawing no.	part no.
OD	wall	tool joints connection	mm	square flat mm	mm	length pin/box mm	mm	kg		
70	4	Rd 50x1/6"	25	50	40	60/15	1000	9	VB 1092.00.00	6100.0051
70	4	Rd 50x1/6"	25	50	40	60/15	1500	12	VB 1092.00.00	6100.0358
70	4	Rd 50x1/6"	25	50	40	60/15	2000	16	VB 1092.00.00	6100.0359
70	4	Rd 50x1/6"	25	50	40	60/15	3000	22	VB 1092.00.00	6100.0229
76,1	4	API 2 3/8 REG	30	65	40	25/77	1000	11	VB 3000.00.00	6143.3650
76,1	4	API 2 3/8 REG	30	65	40	25/77	1500	16	VB 3000.00.00	6143.3651
76,1	4	API 2 3/8 REG	30	65	40	25/77	2000	19	VB 3000.00.00	6100.0032
76,1	4	API 2 3/8 REG	30	65	40	25/77	3000	29	VB 3000.00.00	6143.6167
76,1	4	API 2 3/8 REG	30	65	40	25/77	4000	38	VB 3000.00.00	6143.3454
76,1	4	API 2 3/8 REG	30	65	40	25/77	5000	47	VB 3000.00.00	6100.0217
76,1	4	API 2 3/8 REG	30	65	40	25/77	6000	55	VB 3000.00.00	6143.3453
76,1	4	PG 76	40	65	40	25/85	1000	11	VB 1190.00.00	
76,1	4	PG 76	40	65	40	25/85	1500	16	VB 1190.00.00	
76,1	4	PG 76	40	65	40	25/85	2000	19	VB 1190.00.00	
76,1	4	PG 76	40	65	40	25/85	3000	26	VB 1190.00.00	6100.0547
76,1	4	PG 76	40	65	40	25/85	4000	33	VB 1190.00.00	
76,1	4	PG 76	40	65	40	25/85	5000	40	VB 1190.00.00	
76,1	4	PG 76	40	65	40	25/85	6000	47	VB 1190.00.00	
76,1	6,3	API 2 3/8 REG	30	65	40	25/77	1000	15	VB 3000.00.00	6143.0170
76,1	6,3	API 2 3/8 REG	30	65	40	25/77	1500	23	VB 3000.00.00	6143.0150
76,1	6,3	API 2 3/8 REG	30	65	40	25/77	2000	26	VB 3000.00.00	6143.0157
76,1	6,3	API 2 3/8 REG	30	65	40	25/77	3000	37	VB 3000.00.00	6143.0143

A	t	C	ID	D	E	J	L	appr. weight	drawing no.	part no.
OD	wall	tool joints connection	mm	square flat mm	mm	length pin/box mm	mm	kg		
76,1	6,3	API 2 3/8 REG	30	65	40	25/77	4000	48	VB 3000.00.00	6143.0155
76,1	6,3	API 2 3/8 REG	30	65	40	25/77	5000	59	VB 3000.00.00	6143.0169
76,1	6,3	API 2 3/8 REG	30	65	40	25/77	6000	69	VB 3000.00.00	6143.0171
76,1	6,3	PG 76	40	65	40	25/85	1000	15	VB 1190.00.00	
76,1	6,3	PG 76	40	65	40	25/85	1500	23	VB 1190.00.00	
76,1	6,3	PG 76	40	65	40	25/85	2000	26	VB 1190.00.00	
76,1	6,3	PG 76	40	65	40	25/85	3000	37	VB 1190.00.00	
76,1	6,3	PG 76	40	65	40	25/85	4000	48	VB 1190.00.00	
76,1	6,3	PG 76	40	65	40	25/85	5000	59	VB 1190.00.00	
76,1	6,3	PG 76	40	65	40	25/85	6000	69	VB 1190.00.00	
88,9	4	API 2 3/8 REG	30	65	40	25/77	1000	16	VB 3001.00.00	6149.6169
88,9	4	API 2 3/8 REG	30	65	40	25/77	1500	21	VB 3001.00.00	6149.6170
88,9	4	API 2 3/8 REG	30	65	40	25/77	2000	25	VB 3001.00.00	6149.6171
88,9	4	API 2 3/8 REG	30	65	40	25/77	3000	33	VB 3001.00.00	6149.6172
88,9	4	API 2 3/8 REG	30	65	40	25/77	4000	41	VB 3001.00.00	6149.6182
88,9	4	API 2 3/8 REG	30	65	40	25/77	5000	50	VB 3001.00.00	
88,9	4	API 2 3/8 REG	30	65	40	25/77	6000	58	VB 3001.00.00	6149.6174
88,9	6,3	API 2 3/8 REG	30	65	40	25/77	1000	20	VB 3001.00.00	6149.6176
88,9	6,3	API 2 3/8 REG	30	65	40	25/77	1500	25	VB 3001.00.00	6149.6177
88,9	6,3	API 2 3/8 REG	30	65	40	25/77	2000	32	VB 3001.00.00	6149.6178
88,9	6,3	API 2 3/8 REG	30	65	40	25/77	3000	45	VB 3001.00.00	6149.6179
88,9	6,3	API 2 3/8 REG	30	65	40	25/77	4000	58	VB 3001.00.00	6149.3408

# Drill Pipes - with square flats on both sides

## Drehbohrstangen - beidseitig Vierkant-Schlüsselflächen

Drill Pipes listed are for all types of applications. They are to be used for rotary drilling and suitable for down the hole drilling.



A	t	C	ID	D	E	J	L	appr. weight	drawing no.	part no.
OD	wall	tool joints connection	mm	square flat mm	mm	length pin/box mm	mm	kg		
88,9	6,3	API 2 3/8 REG	30	65	40	25/77	5000	71	VB 3001.00.00	6149.0139
88,9	6,3	API 2 3/8 REG	30	65	40	25/77	6000	84	VB 3001.00.00	6149.6181
88,9	6,3	API 2 3/8 IF	44,5	65	40	12,5/100	1000	18	VB 1077.00.00	6100.0242
88,9	6,3	API 2 3/8 IF	44,5	65	40	12,5/100	1500	23	VB 1077.00.00	6100.0243
88,9	6,3	API 2 3/8 IF	44,5	65	40	12,5/100	2000	30	VB 1077.00.00	6349.4004
88,9	6,3	API 2 3/8 IF	44,5	65	40	12,5/100	3000	43	VB 1077.00.00	6349.4002
88,9	6,3	API 2 3/8 IF	44,5	65	40	12,5/100	4000	56	VB 1077.00.00	
88,9	6,3	API 2 3/8 IF	44,5	65	40	12,5/100	5000	69	VB 1077.00.00	
88,9	6,3	API 2 3/8 IF	44,5	65	40	12,5/100	6000	82	VB 1077.00.00	6100.0563
88,9	8,8	API 2 3/8 REG	30	65	40	25/77	1000	23	VB 3001.00.00	6100.0091
88,9	8,8	API 2 3/8 REG	30	65	40	25/77	1500	31	VB 3001.00.00	6149.0109
88,9	8,8	API 2 3/8 REG	30	65	40	25/77	2000	40	VB 3001.00.00	6149.0103
88,9	8,8	API 2 3/8 REG	30	65	40	25/77	3000	58	VB 3001.00.00	6149.0117
88,9	8,8	API 2 3/8 REG	30	65	40	25/77	4000	75	VB 3001.00.00	
88,9	8,8	API 2 3/8 REG	30	65	40	25/77	5000	90	VB 3001.00.00	
88,9	8,8	API 2 3/8 REG	30	65	40	25/77	6000	110	VB 3001.00.00	
88,9	8,8	API 2 3/8 IF	44,5	65	40	12,5/100	1000	21	VB 1077.00.00	6100.0401
88,9	8,8	API 2 3/8 IF	44,5	65	40	12,5/100	1500	29	VB 1077.00.00	6100.1000
88,9	8,8	API 2 3/8 IF	44,5	65	40	12,5/100	2000	38	VB 1077.00.00	6100.0399
88,9	8,8	API 2 3/8 IF	44,5	65	40	12,5/100	3000	56	VB 1077.00.00	6100.0373
88,9	8,8	API 2 3/8 IF	44,5	65	40	12,5/100	4000	73	VB 1077.00.00	
88,9	8,8	API 2 3/8 IF	44,5	65	40	12,5/100	5000	88	VB 1077.00.00	

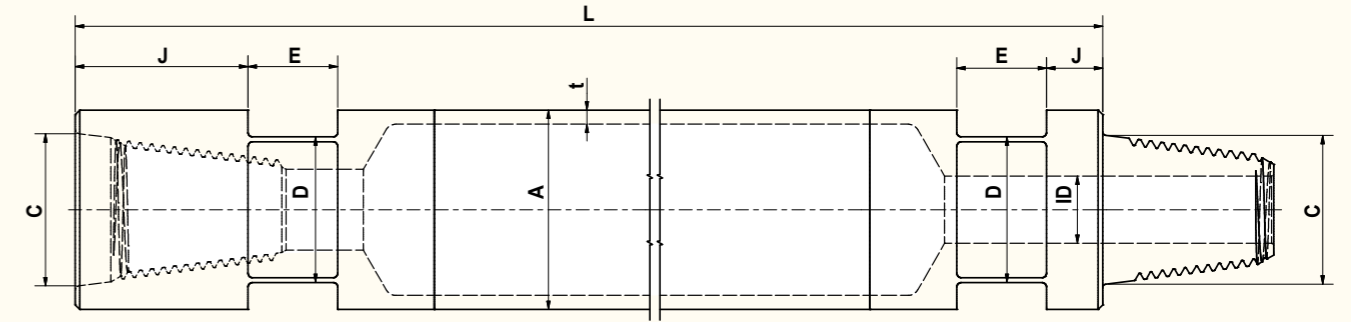
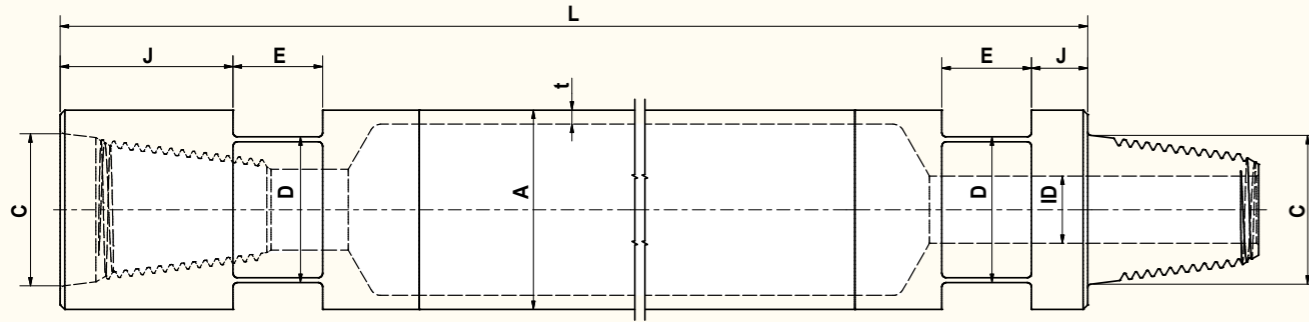
A	t	C	ID	D	E	J	L	appr. weight	drawing no.	part no.
OD	wall	tool joints connection	mm	square flat mm	mm	length pin/box mm	mm	kg		
88,9	8,8	API 2 3/8 IF	44,5	65	40	12,5/100	6000	108	VB 1077.00.00	6100.0372
114,3	6,3	API 3 1/2 REG	38	95	50	25/89	1000	29	VB 3002.00.00	6157.6146
114,3	6,3	API 3 1/2 REG	38	95	50	25/89	1500	38	VB 3002.00.00	6157.6147
114,3	6,3	API 3 1/2 REG	38	95	50	25/89	2000	46	VB 3002.00.00	6157.6148
114,3	6,3	API 3 1/2 REG	38	95	50	25/89	3000	63	VB 3002.00.00	6157.6149
114,3	6,3	API 3 1/2 REG	38	95	50	25/89	4000	80	VB 3002.00.00	6157.6152
114,3	6,3	API 3 1/2 REG	38	95	50	25/89	5000	97	VB 3002.00.00	6100.0123
114,3	6,3	API 3 1/2 REG	38	95	50	25/89	6000	114	VB 3002.00.00	6157.6151
114,3	6,3	API 3 1/2 IF	68,3	100	50	30/100	1000	26	VB 570.00.00	6157.2720
114,3	6,3	API 3 1/2 IF	68,3	100	50	30/100	1500	35	VB 570.00.00	
114,3	6,3	API 3 1/2 IF	68,3	100	50	30/100	2000	43	VB 570.00.00	6157.2721
114,3	6,3	API 3 1/2 IF	68,3	100	50	30/100	3000	60	VB 570.00.00	6157.2722
114,3	6,3	API 3 1/2 IF	68,3	100	50	30/100	4000	77	VB 570.00.00	6157.2723
114,3	6,3	API 3 1/2 IF	68,3	100	50	30/100	5000	94	VB 570.00.00	6157.2724
114,3	6,3	API 3 1/2 IF	68,3	100	50	30/100	6000	110	VB 570.00.00	6157.2725
114,3	8,8	API 3 1/2 REG	38	95	50	25/89	1000	33	VB 3002.00.00	6157.0954
114,3	8,8	API 3 1/2 REG	38	95	50	25/89	1500	45	VB 3002.00.00	6357.0122
114,3	8,8	API 3 1/2 REG	38	95	50	25/89	2000	56	VB 3002.00.00	6157.0955
114,3	8,8	API 3 1/2 REG	38	95	50	25/89	3000	79	VB 3002.00.00	6367.0105
114,3	8,8	API 3 1/2 REG	38	95	50	25/89	4000	102	VB 3002.00.00	6100.0125
114,3	8,8	API 3 1/2 REG	38	95	50	25/89	5000	125	VB 3002.00.00	6100.0126
114,3	8,8	API 3 1/2 REG	38	95	50	25/89	6000	143	VB 3002.00.00	6157.3525



# Drill Pipes - with square flats on both sides

## Drehbohrstangen - beidseitig Vierkant-Schlüsselflächen

Drill Pipes listed are for all types of applications. They are to be used for rotary drilling and suitable for down the hole drilling.



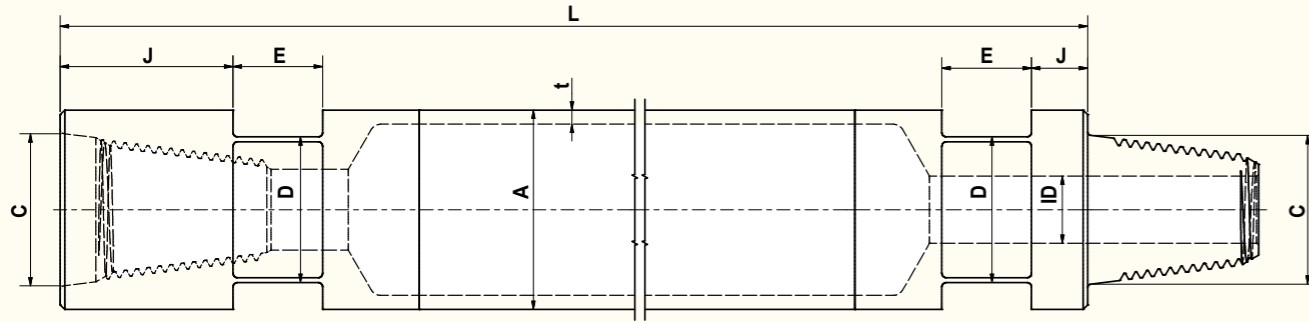
A	t	C	ID	D	E	J	L	appr. weight	drawing no.	part no.
OD	wall	tool joints connection	mm	square flat mm	mm	length pin/box mm	mm	kg		
114,3	8,8	API 3 1/2 IF	68,3	100	50	30/100	1000	30	VB 570.00.00	
114,3	8,8	API 3 1/2 IF	68,3	100	50	30/100	1500	42	VB 570.00.00	
114,3	8,8	API 3 1/2 IF	68,3	100	50	30/100	2000	53	VB 570.00.00	
114,3	8,8	API 3 1/2 IF	68,3	100	50	30/100	3000	76	VB 570.00.00	
114,3	8,8	API 3 1/2 IF	68,3	100	50	30/100	4000	100	VB 570.00.00	
114,3	8,8	API 3 1/2 IF	68,3	100	50	30/100	5000	123	VB 570.00.00	
114,3	8,8	API 3 1/2 IF	68,3	100	50	30/100	6000	145	VB 570.00.00	6157.0100
127	6,3	API 3 1/2 REG	38	110	50	20/95	1000	36	VB 3004.00.00	6159.6152
127	6,3	API 3 1/2 REG	38	110	50	20/95	1500	46	VB 3004.00.00	6159.6153
127	6,3	API 3 1/2 REG	38	110	50	20/95	2000	55	VB 3004.00.00	6159.6154
127	6,3	API 3 1/2 REG	38	110	50	20/95	3000	74	VB 3004.00.00	6159.6155
127	6,3	API 3 1/2 REG	38	110	50	20/95	4000	92	VB 3004.00.00	6159.6158
127	6,3	API 3 1/2 REG	38	110	50	20/95	5000	111	VB 3004.00.00	
127	6,3	API 3 1/2 REG	38	110	50	20/95	6000	130	VB 3004.00.00	6159.6157
127	6,3	API 3 1/2 IF	58	100	50	30/120	1000	35	VB 1089.00.00	
127	6,3	API 3 1/2 IF	58	100	50	30/120	1500	45	VB 1089.00.00	
127	6,3	API 3 1/2 IF	58	100	50	30/120	2000	53	VB 1089.00.00	
127	6,3	API 3 1/2 IF	58	100	50	30/120	3000	72	VB 1089.00.00	6100.0038
127	6,3	API 3 1/2 IF	58	100	50	30/120	4000	91	VB 1089.00.00	
127	6,3	API 3 1/2 IF	58	100	50	30/120	5000	110	VB 1089.00.00	
127	6,3	API 3 1/2 IF	58	100	50	30/120	6000	129	VB 1089.00.00	
127	8,8	API 3 1/2 REG	38	110	50	20/95	1000	41	VB 3004.00.00	6100.0130

A	t	C	ID	D	E	J	L	appr. weight	drawing no.	part no.
OD	wall	tool joints connection	mm	square flat mm	mm	length pin/box mm	mm	kg		
127	8,8	API 3 1/2 REG	38	110	50	20/95	1500	54	VB 3004.00.00	6100.0131
127	8,8	API 3 1/2 REG	38	110	50	20/95	2000	67	VB 3004.00.00	6100.0132
127	8,8	API 3 1/2 REG	38	110	50	20/95	3000	92	VB 3004.00.00	6100.0133
127	8,8	API 3 1/2 REG	38	110	50	20/95	4000	118	VB 3004.00.00	6100.0134
127	8,8	API 3 1/2 REG	38	110	50	20/95	5000	144	VB 3004.00.00	
127	8,8	API 3 1/2 REG	38	110	50	20/95	6000	169	VB 3004.00.00	6100.0136
127	8,8	API 3 1/2 IF	58	100	50	30/120	1000	40	VB 1089.00.00	
127	8,8	API 3 1/2 IF	58	100	50	30/120	1500	53	VB 1089.00.00	
127	8,8	API 3 1/2 IF	58	100	50	30/120	2000	66	VB 1089.00.00	
127	8,8	API 3 1/2 IF	58	100	50	30/120	3000	92	VB 1089.00.00	
127	8,8	API 3 1/2 IF	58	100	50	30/120	4000	118	VB 1089.00.00	
127	8,8	API 3 1/2 IF	58	100	50	30/120	5000	144	VB 1089.00.00	
127	8,8	API 3 1/2 IF	58	100	50	30/120	6000	170	VB 1089.00.00	
139,7	6,3	API 4 1/2 REG	57	115	50	20/95	1000	38	VB 3005.00.00	6163.3623
139,7	6,3	API 4 1/2 REG	57	115	50	20/95	1500	49	VB 3005.00.00	6163.3622
139,7	6,3	API 4 1/2 REG	57	115	50	20/95	2000	59	VB 3005.00.00	6163.3624
139,7	6,3	API 4 1/2 REG	57	115	50	20/95	3000	79	VB 3005.00.00	6163.3625
139,7	6,3	API 4 1/2 REG	57	115	50	20/95	4000	99	VB 3005.00.00	6163.3626
139,7	6,3	API 4 1/2 REG	57	115	50	20/95	5000	120	VB 3005.00.00	
139,7	6,3	API 4 1/2 REG	57	115	50	20/95	6000	140	VB 3005.00.00	6163.3627
139,7	6,3	API 4 FH	70	115	63	13,5/90	1000	36	VB 382.00.00	
139,7	6,3	API 4 FH	70	115	63	13,5/90	1500	48	VB 382.00.00	

# Drill Pipes - with square flats on both sides

## Drehbohrstangen - beidseitig Vierkant-Schlüsselflächen

Drill Pipes listed are for all types of applications. They are to be used for rotary drilling and suitable for down the hole drilling.

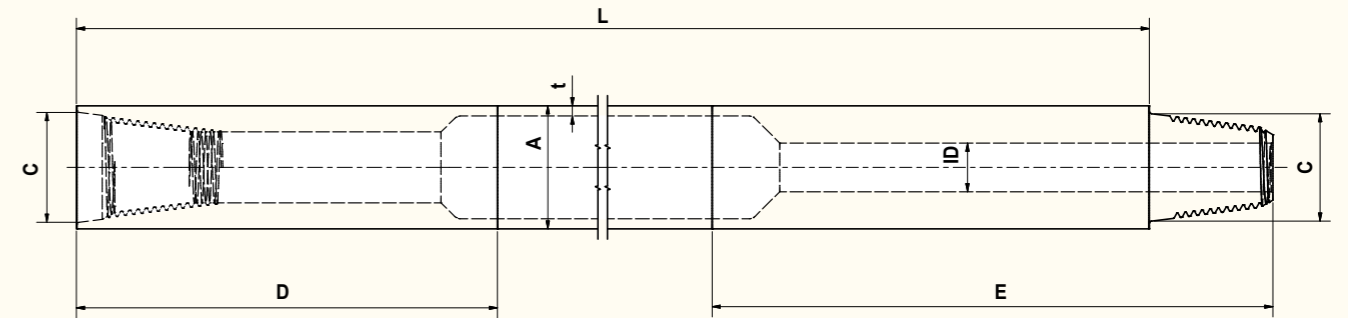


A	t	C	ID	D	E	J	L	appr. weight	drawing no.	part no.
OD	wall	tool joints connection	mm	square flat mm	mm	length pin/box mm	mm	kg		
139,7	6,3	API 4 FH	70	115	63	13,5/90	2000	57	VB 382.00.00	
139,7	6,3	API 4 FH	70	115	63	13,5/90	3000	78	VB 382.00.00	
139,7	6,3	API 4 FH	70	115	63	13,5/90	4000	99	VB 382.00.00	
139,7	6,3	API 4 FH	70	115	63	13,5/90	5000	120	VB 382.00.00	
139,7	6,3	API 4 FH	70	115	63	13,5/90	6000	141	VB 382.00.00	
139,7	8,8	API 4 1/2 REG	57	115	50	20/95	1000	45	VB 3005.00.00	6100.0577
139,7	8,8	API 4 1/2 REG	57	115	50	20/95	1500	59	VB 3005.00.00	6100.0021
139,7	8,8	API 4 1/2 REG	57	115	50	20/95	2000	73	VB 3005.00.00	
139,7	8,8	API 4 1/2 REG	57	115	50	20/95	3000	102	VB 3005.00.00	6163.3973
139,7	8,8	API 4 1/2 REG	57	115	50	20/95	4000	130	VB 3005.00.00	
139,7	8,8	API 4 1/2 REG	57	115	50	20/95	5000	158	VB 3005.00.00	6100.0037
139,7	8,8	API 4 1/2 REG	57	115	50	20/95	6000	187	VB 3005.00.00	
139,7	8,8	API 4 FH	58	115	63	13,5/90	1000	41	VB 382.00.00	6163.2047
139,7	8,8	API 4 FH	58	115	63	13,5/90	1500	56	VB 382.00.00	6163.2048
139,7	8,8	API 4 FH	58	115	63	13,5/90	2000	69	VB 382.00.00	6163.2049
139,7	8,8	API 4 FH	58	115	63	13,5/90	3000	98	VB 382.00.00	6163.2050
139,7	8,8	API 4 FH	58	115	63	13,5/90	4000	126	VB 382.00.00	6163.2051
139,7	8,8	API 4 FH	58	115	63	13,5/90	5000	154	VB 382.00.00	
139,7	8,8	API 4 FH	58	115	63	13,5/90	6000	183	VB 382.00.00	6163.2052

# Drill Pipes - with long tool joints

## Drehbohrstangen - mit langen Verbindern

Drill Pipes listed are for all types of applications. They are to be used for rotary drilling and suitable for down the hole drilling.



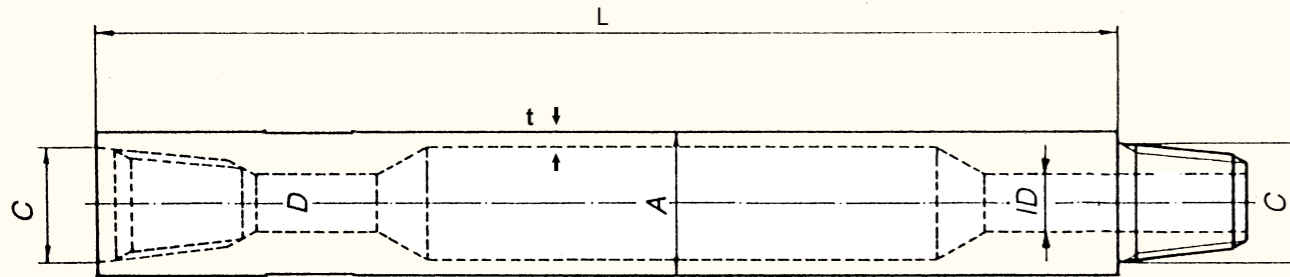
A	t	C	ID	D	E	L	appr. weight	drawing no.	part no.
OD	wall	tool joints connection	mm	length box mm	length pin mm	mm	kg		
76,1	6,3	API 2 3/8 REG	30	260	346,2	4000	51	VB 1147.00.00	6100.0410
76,1	6,3	API 2 3/8 REG	30	260	346,2	5000	62	VB 1147.00.00	6100.0414
88,9	6,3	API 2 3/8 REG	30	260	346,2	4000	64	VB 1148.00.00	6100.0470
88,9	6,3	API 2 3/8 REG	30	260	346,2	5000	77	VB 1148.00.00	6100.0411
88,9	6,3	API 2 3/8 REG	30	260	346,2	6000	89	VB 1148.00.00	6100.0415
88,9	8,8	API 2 3/8 REG	30	260	346,2	4000	80	VB 1148.00.00	
88,9	8,8	API 2 3/8 REG	30	260	346,2	5000	97	VB 1148.00.00	6100.0586
88,9	8,8	API 2 3/8 REG	30	260	346,2	6000	114	VB 1148.00.00	
101,6	6,3	API 2 7/8 REG	35,5	260	358,9	4000	77	VB 1149.00.00	
101,6	6,3	API 2 7/8 REG	35,5	260	358,9	5000	92	VB 1149.00.00	6100.0993
101,6	6,3	API 2 7/8 REG	35,5	260	358,9	6000	107	VB 1149.00.00	6100.0412
101,6	8,8	API 2 7/8 REG	35,5	260	358,9	4000	96	VB 1149.00.00	
101,6	8,8	API 2 7/8 REG	35,5	260	358,9	5000	116	VB 1149.00.00	6100.0597
101,6	8,8	API 2 7/8 REG	35,5	260	358,9	6000	136	VB 1149.00.00	
114,3	6,3	API 3 1/2 REG	44,5	260	350	5000	105	VB 1154.00.00	
114,3	6,3	API 3 1/2 REG	44,5	260	350	6000	122	VB 1154.00.00	6100.0427
114,3	8,8	API 3 1/2 REG	44,5	260	350	5000	138	VB 1154.00.00	
114,3	8,8	API 3 1/2 REG	44,5	260	350	6000	160	VB 1154.00.00	6100.0443



# Drill Pipes - without flats

## Drehbohrstangen - ohne Schlüsselflächen

Drill Pipes listed are for all types of applications. They are to be used for rotary drilling and suitable for down the hole drilling.



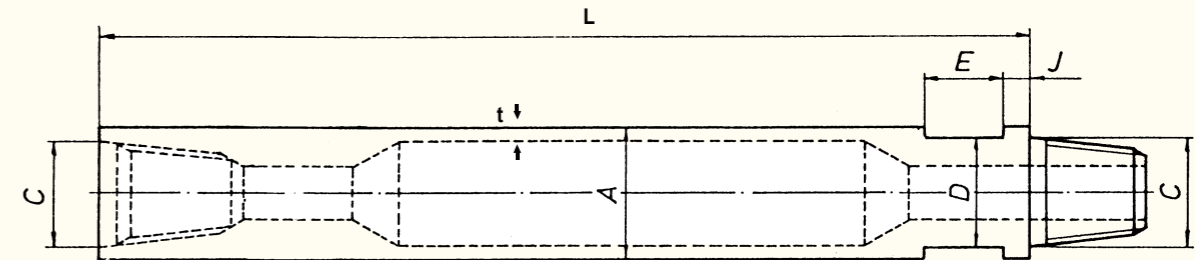
A OD mm	t* wall mm	C tool joints connection	ID mm	max. machine torque (kNm)	approx. weight for 3m length kg	drawing no.
51	8,0	W 51 (Tr 43.5 x 1/4")	22	2.5	27	VB 402.00.00
60.3	7,1	Gg 46	25	3.5	29	VB 821.00.00
63.5	6,3	W 63 (Tr 51 x 1/4")	25	3.7	30	VB 847.00.00
70	4,0	Gg 2"	38	3.2	23	VB 209.00.00
73	6,3	W 73 (Tr 63 x 1/4")	26	5.0	35	VB 753.00.00
76.1	8,8	Gg 2"	26	7.0	48	VB 790.00.00
76.1	6,3	API 2 3/8" REG	30	5.6	38	VB 180.00.00
76.1	8,8	Tr 66 x 1/4"	42	7.0	47	VB 35.00.00
76.1	8,8	W 73 (Tr 63 x 1/4")	26	7.0	45	VB 432.00.00
82.5	8,8	API 2 3/8" REG	28	8.5	55	VB 776.00.00
88.9	8,8	API 2 3/8" IF	32	10.1	60	VB 34.00.00
88.9	8,8	API 2 3/8" REG	30	10.1	58	VB 547.00.00
101.6	8,8	API 3 1/2" REG	38	13.7	65	VB 282.00.00
114.3	8,8	API 3 1/2" REG	38	17.8	78	VB 529.00.00
114.3	10,0	API 3 1/2" FH	70	19.6	85	VB 913.00.00
127	10,0	API 3 1/2" REG	38	24.9	99	VB 328.00.00
127	10,0	API 3 1/2" IF	60	24.9	99	VB 229.00.00
139.7	10,0	API 4 1/2" REG	57	30.8	115	VB 185.00.00
159	7,1	API 4 1/2" IF	95	30.8	102	VB 812.00.00

\* Available with all standard wall thicknesses | Lieferbar in allen gängigen Wandstärken.

# Drill Pipes - with flats pin side

## Drehbohrstangen - mit Schlüsselflächen nippelseitig

Drill Pipes listed are for all types of applications. They are to be used for rotary drilling and suitable for down the hole drilling.



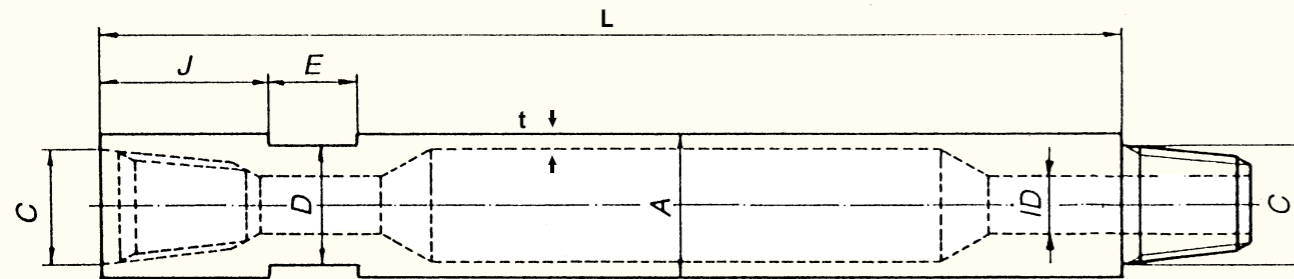
A OD mm	t* wall mm	C tool joints connection	ID mm	J length mm	D across flat mm	max. machine torque (kNm)	approx. weight for 3m length kg	flats pin	drawing no.
48.3	4,0	Gg 1 3/16"	14	10	41	1.4	27	sq	VB 706.00.00
51	6,3	Gg 1 3/16"	14	25	41	2.2	27	sq	VB 978.00.00
51	6,3	Tr 41 x 1/4"	15	15	41	2.2	30	sw	VB 438.00.00
60.3	7,0	Gg 46	25	13	50	3.5	30	sq	VB 172.00.00
60.3	7,1	Gg 46	32	15	50	3.5	30	sq	VB 516.00.00
60.3	7,1	Gg 46	25	15	50	3.5	30	sq	VB 974.00.00
68	10,0	Tr 52 x 1/6"	25	15	-	5.8	46	key	VB 849.00.00
70	8,8	Tr 54 x 1/4"	38	10	-	5.8	44	key	VB 241.00.00
76.1	8,8	Gg 2"	26	10	-	7.0	51	key	VB 691.00.00/S
76.1	8,8	API 2 3/8" REG	25	10	-	7.0	50	key	VB 904.00.00
76.1	8,8	REG 61 x 1/5"	24	10	-	7.0	50	key	VB 819.00.00
82.5	8,8	API 2 3/8" REG	25	10	-	8.5	57	key	VB 668.00.00/S
88.9	8,8	API 2 3/8" REG	25	10	-	10.1	64	key	VB 217.00.00
101.6	8,8	API 2 7/8" REG	32	10	-	13.7	77	key	VB 896.00.00
114.3	10,0	API 3 1/2" REG	40	20	95	19.6	85	sq	VB 635.00.00
127	10,0	API 3 1/2" REG	48	13	-	24.9	108	key	VB 787.00.00
139.7	11,0	API 4 1/2" REG	52	18	115	33.1	127	sw	VB 636.00.00
139.7	8,8	API 4 1/2" REG	52	10	115	27.8	105	sq	VB 178.00.00

sw = spanner flats • sq = square flats • key = key flats

\* Available with all standard wall thicknesses | Lieferbar in allen gängigen Wandstärken.

# Drill Pipes - with flats box side Drehbohrstangen - mit Schlüsselflächen muffenseitig

Drill Pipes listed are for all types of applications. They are to be used for rotary drilling and suitable for down the hole drilling.



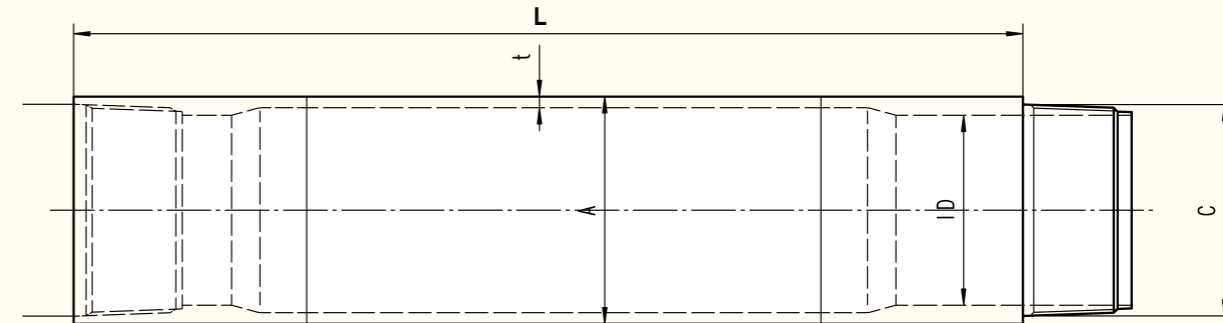
A OD mm	t* wall mm	C tool joints connection	ID mm	J length mm	D across flat mm	max. machine torque (kNm)	approx. weight for 3m length kg	flats	drawing no.
42.4	6,3	Rd 32x1/8"	5	40	32	1.4	19	sq	VB 653.00.00/1
51	6,3	Rd 40x1/6"	15	52	41	2.2	23	sq	VB 345.00.00
60.3	7,1	Gg 46	27	60	50	3.5	30	sq	VB 984.00.00
76.1	8,8	REG 61x1/5"	20	140	-	7.0	49	key	VB 365.00.00
76.1	8,8	Gg 2"	32	101	50	7.0	46	sw	VB 918.00.00
80	9,0	API 2 3/8" REG	28	105	-	8.0	56	key	VB 194.00.00
88.9	8,8	API 2 3/8" IF	32	85	67	10.1	76	sw	VB 551.00.00
88.9	8,8	API 2 3/8" REG	35	60	65	10.1	58	sq	VB 1115.00.00
88.9	8,8	API 2 3/8" IF	45	100	65	10.1	56	sq	VB 1113.00.00
127	10,0	API 3 1/2" REG	40	90	-	24.9	118	key	VB 288.00.00
127	10,0	API 3 1/2" IF	60	100	95	24.9	98	sw	VB 47.00.00
139.7	11,0	API 4 1/2" REG	57	170	115	33.1	115	sw	VB 780.00.00
146	10,0	API 3 1/2" REG	40	95	127	33.9	117	sw	VB 572.00.00

sw = spanner flats • sq = square flats • key = key flats

\* Available with all standard wall thicknesses | Lieferbar in allen gängigen Wandstärken.

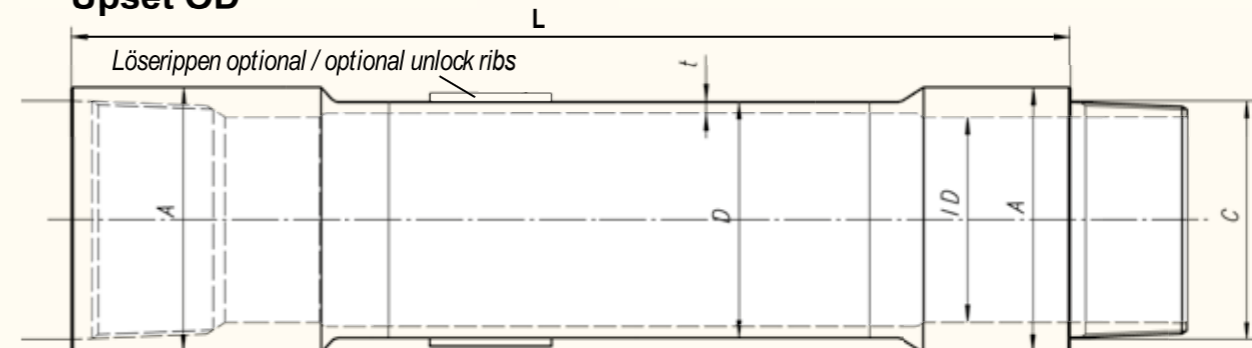
# Water Well Drill Pipes Brunnenbohrgestänge

## Flush OD



A OD mm	t* wall mm	C tool joints connection	ID mm	max. machine torque kNm	approx. weight for 3m length kg	drawing no
82,5	7,1	Tr 71,5 x 1/4"	51	7,7	29	VB 1119.00.00
95	7,1	Tr 80,6 x 1/4"	60	10,1	50	VB 976.00.00
146	7,1	Tr 136 x 1/4"	122	27,3	76	VB 1103.00.00
152,4	8	Tr 143 x 1/4"	125	33,1	91	VB 240.00.00

## Upset OD



D mm	t* wall mm	C tool joints connection	A OD mm	ID mm	max. machine torque kNm	approx. weight for 3m length kg	drawing no
76,1	6,3	Tr 71,6 x 1/4"	82,5	57,5	6,0	34	SK 10.00.00
76,1	7,1	Tr 71,5 x 1/4"	83	51	6,4	36	VB 184.00.00
82,5	6,3	Tr 84 x 1/4"	95	66	7,0	40	SK 11.00.00
101,6	4,5	Tr 94 x 1/5"	106	72	8,3	38	VB 1131.00.00
114,3	5,6	Tr 114 x 1/4"	128	81,5	13,1	54	VB 1141.00.00
114,3	4,5	Rd 138,2 x 1/4"	150	103,2	10,8	46	VB 1140.00.00
114,3	6,3	Tr 117 x 1/4"	125	98,3	14,5	55	SK 14.00.00
146	6,3	Tr 146 x 1/4"	159	127	24,6	73	SK 12.00.00
146	7,1	Tr 146 x 1/4"	164	127	27,3	85	VB 41.00.00

on request with unlock ribs welded on | Auf Kundenwunsch mit angeschweißten Löserippen

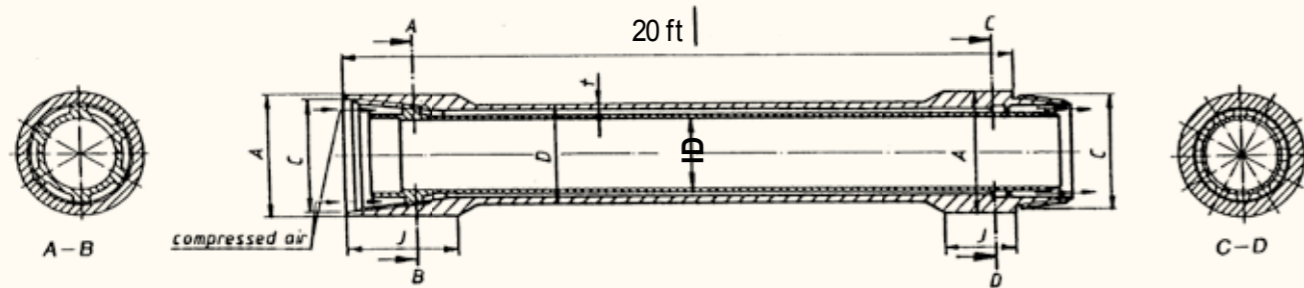
on request with spanner flats | Auf Kundenwunsch mit Schlüsselflächen

\* Sample wall thickness | Beispiel Wandstärke

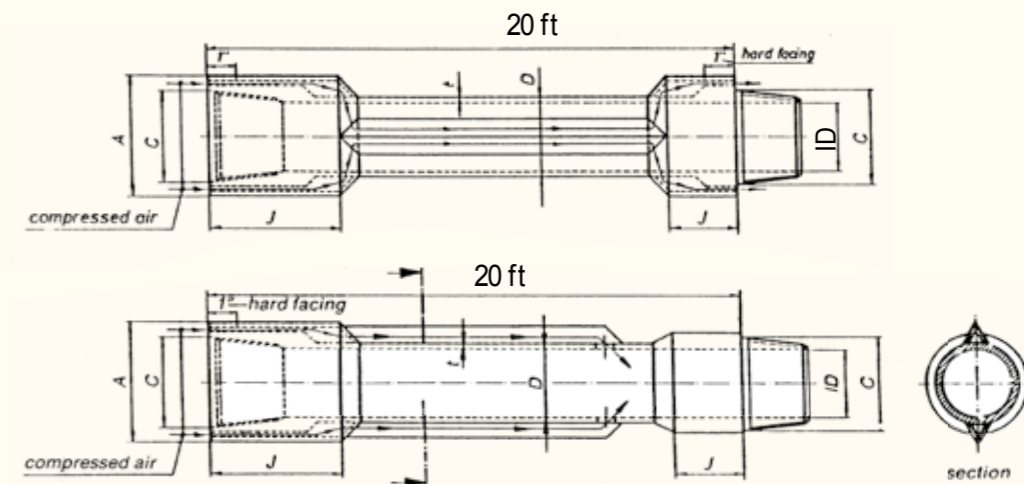


# Reverse Circulation Drill Pipes

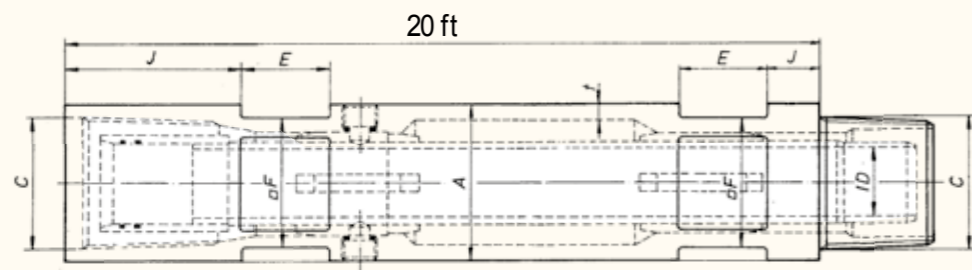
## Lufthebestangen



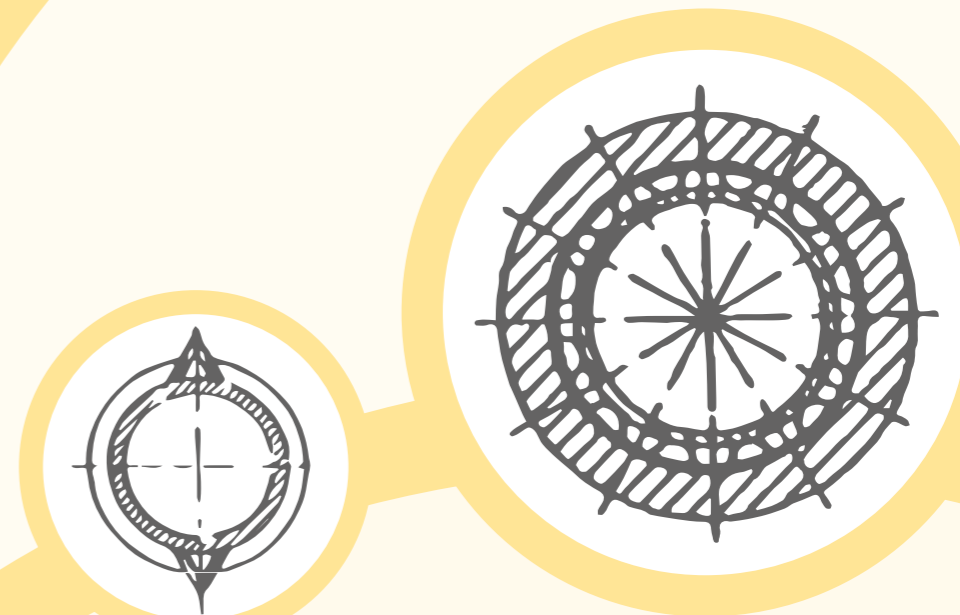
D	t	C	J	A	max.	approx.	drawing
inches	wall	tool joints	length	OD	machine	weight	no.
	inches	connection	box inches	inches	torque (kNm)	lbs	
3 1/4	0.288	API 3 1/2 IF	6	5 1/4	7.3	258	VB 93.00.00
3 1/2	0.288	API 4 FH	6	5 1/4	8.6	286	VB 115.00.00
4	0.288	API 4 IF	6	5 3/4	11.6	358	VB 135.00.00
4 1/4	0.304	API 4 1/2 IF	6	6 3/4	14.6	438	VB 100.00.00
4 1/4	0.304	API 4 1/2 FH	6	6	14.6	409	VB 116.00.00
5	0.304	API 5 1/2 FH	7	7	20.9	468	VB 117.00.00
5 1/2	0.304	API 5 1/2 IF	7	7 3/8	25.7	633	VB 101.00.00
6 1/4	0.288	API 6 5/8 FH-short	7 7/8	7 5/16	30.7	638	VB 239.00.00
6 1/4	0.288	API 6 5/8 FH-short	8 1/4	6 1/4	30.7	598	VB 620.00.00



D	t	C	J	A	max.	approx.	drawing
inches	wall	tool joints	length	OD	machine	weight	no.
	inches	connection	box inches	inches	torque (kNm)	lbs	
4	0.248	Tr 108.8 x 1/4"	3 15/16	6 1/2	10.5	273	VB 458.00.00
4 1/2	0.248	Tr 108.8 x 1/4"	3 15/16	6 1/2	13.6	343	VB 464.00.00
5 1/2	0.394	API 5 1/2 IF	10 1/4	8 3/4	30.8	598	VB 24.00.00
6 1/4	0.315	Tr 180.15 x 1/4"	10 1/4	8 3/4	34.0	682	VB 233.00.00
8 5/8	0.347	API-S5 9/4 x 1/4"	12 1/2	11 1/2	44.0	950	VB 323.00.00



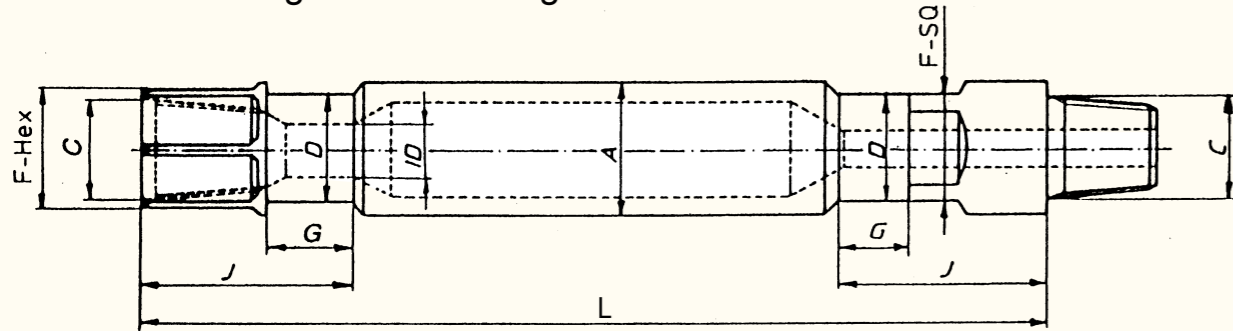
D	t	C	J	F	max.	approx.	drawing
inches	wall	tool joints	length	OD	machine	weight	no.
	inches	connection	box inches	inches	torque (kNm)	lbs	
3 1/2	0.37	Tr 76 x 1/4"	3 15/16	2 15/16	11.0	323	VB 574.00.00
4 1/2	0.37	API 3 1/2 IF	3 15/16	3 15/16	19.6	391	VB 575.00.00
4 1/2	0.37	Tr 102 x 1/4"	3 15/16	3 15/16	19.6	391	VB 582.00.00



# Drill Pipes - special design with hex. wrench flats

## Drehbohrstangen

For use with Ingersoll Rand Rigs



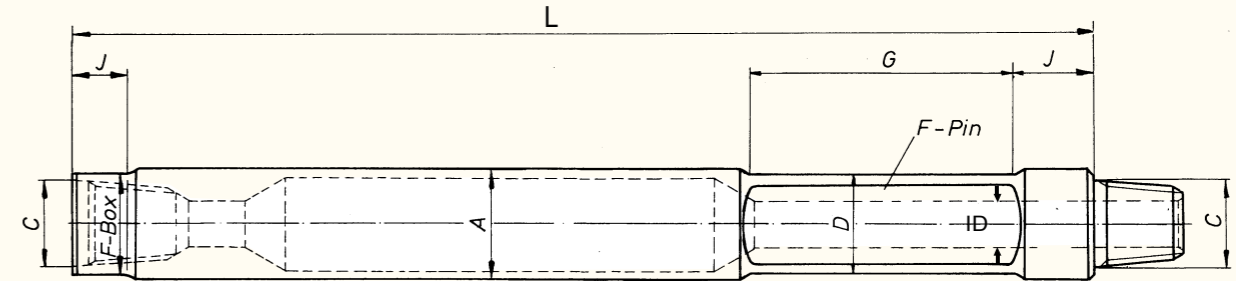
A	C	J	F-Hex	F-SQ	D	G	drawing		
OD	wall*	tool joints	ID	length shoulder to flat	inches	inches	box	pin	no.
inches	inches	connection	max.	pin box	inches	inches	inches	inches	
3 1/2	0.346	API 2 3/8 REG	1 1/8	8 7/8 8 1/2	3	2 1/2	2 1/2	2 1/2	VB 794.00.00
4 1/2	0.346	API 2 7/8 IF	2 1/8	8 7/8 8 1/16	4	3 1/2	3 1/2	3 1/2	VB 77.00.00
4 1/2	0.346	API 3 1/2 REG	1 3/4	8 3/8 8 1/16	4	3 1/2	3 1/2	3 1/4	VB 104.00.00
4 1/2	0.346	API 3 1/2 REG	1 3/4	8 3/8 8 1/16	4	3 1/2	3 1/2	3	VB 383.00.00
4 1/2	0.346	API 2 7/8 REG	1 1/4	8 3/8 8 1/16	4	3 1/2	3 1/2	3 1/4	VB 125.00.00
5	0.394	API 3 1/2 REG	1 7/8	8 5/8 8	4	3 1/2	3 1/2	3 1/2	VB 962.00.00
5	0.4	API 3 1/2 REG	1 3/4	8 5/8 8 1/16	4	3 1/2	3 1/2	3 1/4	VB 293.00.00
5	0.5	API 3 1/2 REG	1 3/4	8 3/8 8 1/2	4	3 5/8	3 1/2	3 1/2	VB 907.00.00
5	0.5	API 3 1/2 REG	1 11/16	5 5/16 4 1/2	4	3 1/2	-	-	VB 536.00.00
5 1/2	0.42	API 4 FH	2 1/2	8 9/16 8 3/16	5	4 1/2	4 1/2	4 1/4	VB 484.00.00
5 1/2	0.5	3 1/2* BECO	1 5/8	8 1/8 11	5	4 1/2	4 1/2	4 1/4	VB 983.00.00

Basic dimensions, special combinations available on request.

Please advise: drill pipe length, wall thickness, thread type and size, wrenches, tubing OD.

\* Sample wall thickness | Beispiel Wandstärke

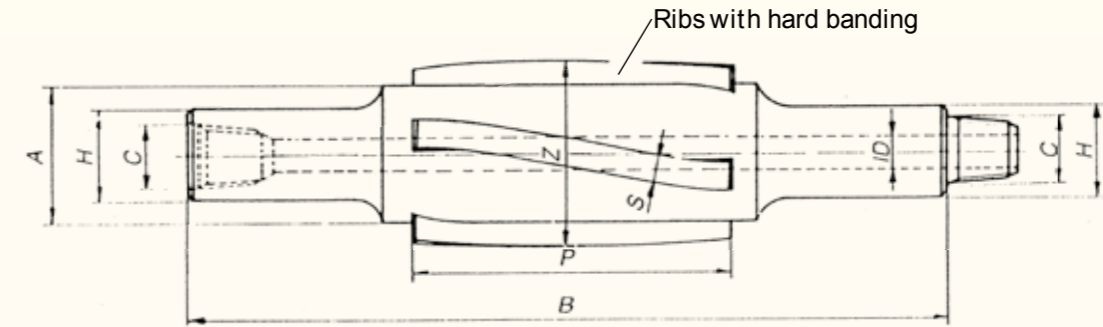
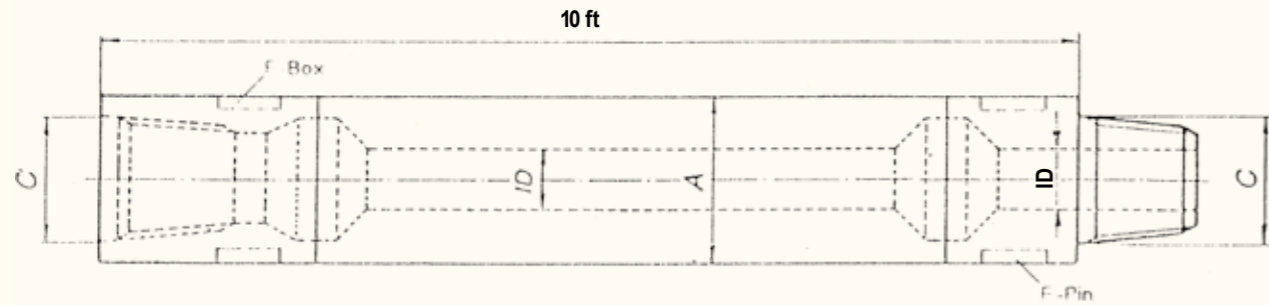
For use with Drill Tec Rigs



A	C	J	F-box	F-pin	D	G	drawing		
OD	wall*	tool joints	ID	length shoulder to flat	sw	sw	inches	inches	no.
inches	inches	connection	max.	pin box	inches	inches	inches	inches	
3 1/2	0.37	API 2 3/8 IF	1 3/4	3 1/4 2 1/4	3 1/4	2 3/4	-	12 1/2	VB 985.00.00
4	0.33	API 2 3/8 IF	1 3/4	3 1/4 2 1/4	3 1/2	2 3/4	-	12 1/2	VB 986.00.00
4 1/2	0.33	API 2 7/8 IF	2	3 1/4 2 1/4	4	3	-	12 1/2	VB 987.00.00
4 1/2	0.5	API 3 1/2 REG	1 3/4	3 1/4 2 1/4	4	3	-	12 1/2	VB 988.00.00
5	0.5	API 3 1/2 REG	1 1/2	3 1/4 2 1/4	4	3	4 1/2	12 1/2	VB 989.00.00
5	0.37	API 3 1/2 REG	2 1/4	3 1/4 2 1/4	4 5/8	3	4 1/2	12 1/2	VB 990.00.00
6	0.5	API 3 1/2 REG	1 3/4	3 1/4 2 1/4	4	3	4 1/2	12 1/2	VB 991.00.00

\* Sample wall thickness | Beispiel Wandstärke

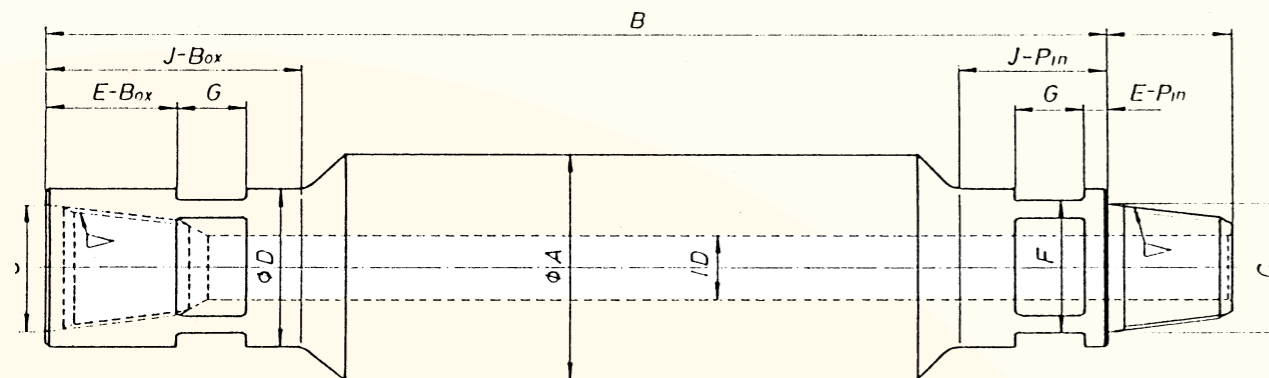




A OD inches	ID inches	C tool joints connection	ID pin inches	F-Box inches	F-Pin inches	approx. weight unit lbs kg	drawing no.
3 1/2	1 1/2	API 2 3/8 REG	1 1/8	-	-	260 118	BZ 13.01.00/10
3 1/2	1 1/2	API 2 7/8 REG	1 1/4	2 3/4	2 3/4	260 118	BZ 12.23.00/10
3 1/2	1 1/2	API 2 3/8 IF	1 1/2	1 9/16	-	260 118	VPI-Z 10.01.00/10
4 1/4	2 1/16	API 2 7/8 IF	2 1/16	-	-	374 170	VPI-Z 12.11.00/10
4 1/2	2	API 3 1/2 REG	1 1/2	3 3/4	-	418 190	VPI-Z 16.01.00/10
4 3/4	2 13/16	API 3 1/2 IF	2 11/16	-	-	392 178	VPI-Z 15.18.00/10
5 1/2	2 5/16	API 4 FH	2 13/16	-	-	638 290	VPI-Z 27.02.00/10
6	2 7/8	API 4 1/2 REG	2 1/4	5 1/8	5 1/8	739 336	VPI-Z 32.04.00/10
6	2 7/8	API 3 1/2 FH	2 7/16	-	-	739 336	VPI-Z 21.01.00/10
6	3 13/16	API 4 1/2 IF	3 3/4	-	-	572 260	VPI-Z 35.08.00/10
6 1/4	3 1/8	API 4 IF	3 1/4	-	-	763 347	VPI-Z 26.01.00/10
8	4 1/16	API 5 1/2 REG	2 3/4	-	-	1247 567	VPI-Z 45.02.00/10
8	4 1/16	API 6 5/8 REG	3 1/2	-	-	1247 567	VPI-Z 55.11.00/10

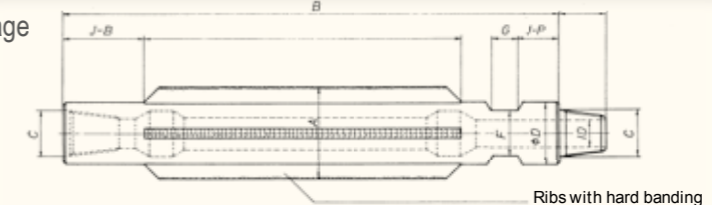
Other lengths on request | Andere Längen auf Anfrage

Design on request | Auf Anfrage



drill hole Z dia inches	inches	mm	C connection	A inches	B inches	S inches	H inches	ID inches	P inches	drawing no.
5 6/8	5 5/8	142.8	API 2 7/8 IF	4 1/2	40	13/16	4 1/2	2 1/16	10	VPI-Z 14.05.00 / 40" / 5 6/8"
5 6/8	5 5/8	142.8	API 3 1/2 REG	4 1/2	40	13/16	4 1/2	1 1/2	10	VPI-Z 16.02.00 / 40" / 5 6/8"
6	5 3/4	146	API 2 7/8 IF	4 1/2	40	13/16	4 1/2	2 1/16	10	VPI-Z 14.05.00 / 40" / 6"
6	5 3/4	146	API 3 1/2 REG	4 1/2	40	13/16	4 1/2	1 1/2	10	VPI-Z 16.02.00 / 40" / 6"
6 1/4	6	152.4	API 3 1/2 REG	4 1/2	40	13/16	4 1/2	1 1/2	10	VPI-Z 16.02.00 / 40" / 6 1/4"
6 1/4	6	152.4	API 2 7/8 IF	4 1/2	40	13/16	4 1/2	2 1/16	10	VPI-Z 14.05.00 / 40" / 6 1/4"
6 3/4	6 1/2	165	API 3 1/2 IF	5 1/2	40	13/16	5 1/2	2 5/16	10	VPI-Z 23.24.00 / 40" / 6 3/4"
7 3/8	7 1/8	181	API 3 1/2 IF	5 1/2	40	13/16	5 1/2	2 5/16	10	VPI-Z 23.24.00 / 40" / 7 3/8"
8 1/2	8 1/4	216	API 3 1/2 IF	6	42	13/16	5 1/2	2 5/16	12	VPI-Z 23.02.00 / 42" / 8 1/2"
8 1/2	8 1/4	216	API 4 1/2 REG	8	42	13/16	5 1/2	2 1/4	12	VPI-Z 32.03.00 / 42" / 8 1/2"
9 7/8	9 5/8	244.5	API 3 1/2 IF	8	42	13/16	5 1/2	2 5/16	13	VPI-Z 23.02.00 / 42" / 9 7/8"
9 7/8	9 5/8	244.5	API 4 1/2 REG	8	42	13/16	5 1/2	2 1/4	13	VPI-Z 32.08.00 / 42" / 9 7/8"
11	10 3/4	273	API 3 1/2 IF	8	42	13/16	5 1/2	2 5/16	13	VPI-Z 23.02.00 / 42" / 11"
11	10 3/4	273	API 4 1/2 REG	8	42	13/16	5 1/2	2 1/4	13	VPI-Z 32.08.00 / 42" / 11"
11	10 3/4	273	API 6 5/8 REG	9	54	2	7 3/4	3 1/2	24	VPI-Z 55.06.00 / 54" / 11"
12 1/4	12	304.8	API 4 1/2 REG	8	44	13/16	5 1/2	2 1/4	14	VPI-Z 32.09.00 / 44" / 12 1/4"
12 1/4	12	304.8	API 3 1/2 IF	8	44	13/16	5 1/2	2 5/16	14	VPI-Z 23.03.00 / 44" / 12 1/4"
12 1/4	12	304.8	API 6 5/8 REG	9	54	2	7 3/4	3 1/2	24	VPI-Z 55.06.00 / 54" / 12 1/4"
13 3/4	13 1/2	342.9	API 3 1/2 IF	8	44	13/16	5 1/2	2 5/16	14	VPI-Z 23.03.00 / 44" / 13 3/4"
13 3/4	13 1/2	342.9	API 4 1/2 REG	8	44	13/16	5 1/2	2 1/4	14	VPI-Z 32.09.00 / 44" / 13 3/4"
14 3/4	14 1/2	368.3	API 3 1/2 IF	8	44	13/16	5 1/2	2 5/16	14	VPI-Z 23.03.00 / 44" / 14 3/4"
15	14 3/4	374.6	API 3 1/2 IF	8	51	13/16	5 1/2	2 5/16	21	VPI-Z 23.04.00 / 51" / 15"
15	14 3/4	374.6	API 6 5/8 REG	9	54	2	7 3/4	3 1/2	24	VPI-Z 55.06.00 / 54" / 15"
17 1/2	17 1/4	444.5	API 6 5/8 REG	9	54	2	7 3/4	3 1/2	24	VPI-Z 55.06.00 / 54" / 17 1/2"
20	19 1/2	508	API 6 5/8 REG	9	54	2	7 3/4	3 1/2	24	VPI-Z 55.06.00 / 54" / 20"

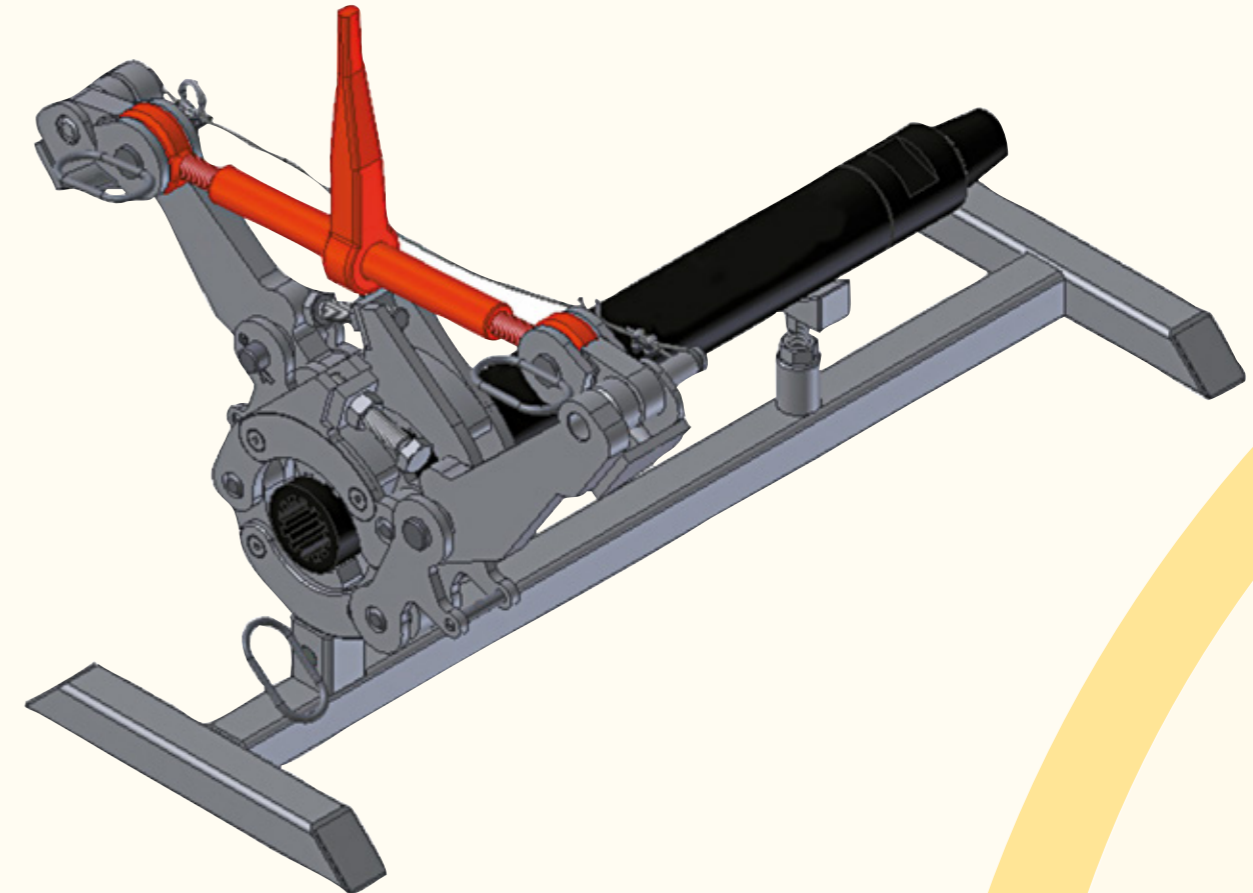
Design on request | Auf Anfrage



Hammer Type	Shank   Einsteckenden
Böhler LH 78 ZD 3 API 2 3/8 REG or Rd 50x1/6"	Permanent penetration, Dauerschläger
ROC 3 API 2 3/8 REG pin	Incl. 3 bits 85 or 90mm IR3,5
ROC 3,5 API 2 3/8 REG pin	Ingersoll DHD 3.5 Mission XL3 Numa 35
ROC 3,5 HD API 2 3/8 REG pin	Mincon 3,5 HD
ROC 4 API 2 3/8 REG pin	Ingersoll DHD 340A Atlas COP 44
ROC 5 API 3 1/2 REG pin	Ingersoll DHD 350R Atlas COP 54
ROC 5 API 3 1/2 REG pin	Mincon MP55-QL5
ROC 6 API 3 1/2 REG pin	Ingersoll DHD 360 Atlas COP 64
ROC 6 API 3 1/2 REG pin	Mincon 6BH-QL6
ROC 8 API 4 1/2 REG pin	Ingersoll DHD 380 Atlas COP 84
ROC 8 API 4 1/2 REG pin	Mincon MP80-QL8

### HBV 77.00.00

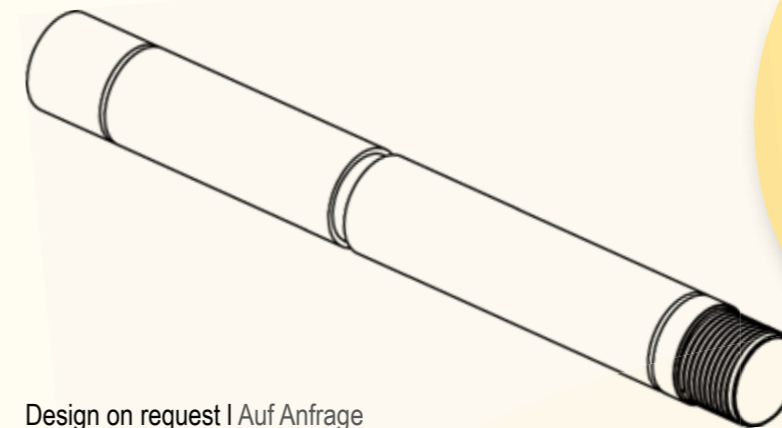
To open 2" - 5" DTH hammers for repair and maintenance.  
Zum Öffnen von 2" - 5" DTH Hämmer, für Reparaturen und Wartung



### Steel Casings | Futterrohre

Tube material S355J2H (St52), tool joints 42CrMo4 quenched and tempered, with double start round thread, right hand or left hand.

Zwischenrohr aus S355J2H (St52), Gewindeverbinder 42CrMo4 vergütet, mit 2-gängigen Rundgewinde rechts oder links.



Design on request | Auf Anfrage

DTH hammer standard with pin thread  
DTH hammer with BOX optional  
DTH hammer bits - pins optionally ballistic,  
ball-shaped or combination - on request



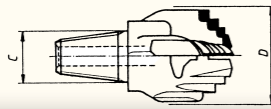


# Bits Bohrschneiden und -meißel

# Fishing Tools Fangwerkzeuge



## Carbide Blade Bits



Bits are principally used for exploration.

D diameter inches	mm	C connection pin hole	weight		drawing no.
			lbs	kg	
3 7/8	98	API 2 3/8 REG	6.8	3.1	BZ 232.01.00 / 3 7/8"
4 1/4	108	API 2 3/8 REG	8.8	3.1	BZ 232.01.00 / 4 1/4"
4 1/2	114.3	API 2 3/8 REG	10.3	4.7	BZ 232.01.00 / 4 1/2"
5	127	API 2 3/8 REG	16	7.3	BZ 232.01.00 / 5"
5 5/8	143	API 2 3/8 REG	21	9.5	BZ 232.01.00 / 5 5/8"
6	152.4	API 3 1/2 REG	26	12	BZ 635.15.00 / 6"
6 3/4	171.5	API 3 1/2 REG	33	15	BZ 635.15.00 / 6 3/4"
7 3/8	187.3	API 3 1/2 REG	41	18.5	BZ 635.15.00 / 7 3/8"

## Steel Tooth Rock Bits

Design Z: toothed



## Tungsten Carbide Bits

Design W: wart-studded

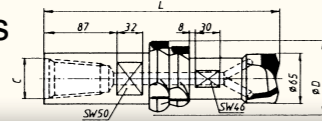


D diameter inches	mm	C connection pin hole	weight		drawing no.	
			lbs	kg	design Z	design W
3 7/8	98	API 2 3/8 REG	7.5	3.4	BZ 232.05.00 / 3 7/8"-Z	BZ 232.05.00 / 3 7/8"-W
4 1/2	114.3	API 2 3/8 REG	11	5	BZ 232.05.00 / 4 1/2"-Z	BZ 232.05.00 / 4 1/2"-W
5	127	API 2 7/8 REG	15	6.8	BZ 297.01.00 / 5"-Z	BZ 297.01.00 / 5"-W
5 5/8	143	API 3 1/2 REG	22	10	BZ 635.21.00 / 5 5/8"-Z	BZ 635.21.00 / 5 5/8"-W
6 1/4	158.7	API 3 1/2 REG	30	13.6	BZ 635.21.00 / 6 1/4"-Z	BZ 635.21.00 / 6 1/4"-W
7 3/8	187.3	API 3 1/2 REG	42	19.1	BZ 635.21.00 / 7 3/8"-Z	BZ 635.21.00 / 7 3/8"-W
8 1/2	215.9	API 4 1/2 REG	75	34	BZ 636.19.00 / 8 1/2"-Z	BZ 636.19.00 / 8 1/2"-W

Bits are available for soft, medium and hard formation and for fluid, air, jet circulation.

Remark: Other sizes on request!

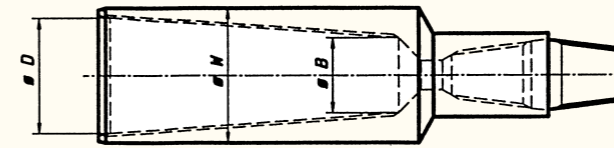
## Multi-Stage Rotary Drill Bits



type	suitable for drill pipe	C connection	D							drawing no.
			3 5/8"	3 11/32"	3 3/4"	4 9/64"	4 17/32"	5 1/8"		
SK-L S 60	Salzgitter	Ø 60	Tr 50 x 1/6"	X	X	X	X	X	X	BZ 36.02.00
SK-LH 68	Hausherr	Ø 68	Tr 52 x 1/6"		X	X	X	X	X	BZ 219.06.00
SK-LT 51	Turmag	Ø 51	Rd 40 x 1/6"	X	X	X	X	X	X	BZ 345.41.00
SK-L B 70	Böhler	Ø 70	Rd 50 x 1/6"		X	X	X	X	X	BZ 466.51.00
SK-LH 76	Hausherr	Ø 76	API 2 3/8 REG			X	X	X	X	BZ 720.05.00
SK-L W 73	Wirth	Ø 73	Tr 63 x 1/4"			X	X	X	X	BZ 753.22.00
SK-L B 90	Böhler	Ø 90	Rd 70 x 1/4"				X	X	X	BZ 776.01.00
SK-L S 76	Salzgitter	Ø 76	Gg 2"			X	X	X	X	BZ 790.01.00
SK-L W 63	Wirth	Ø 63	Tr 51 x 1/4"		X	X	X	X	X	BZ 847.24.00
SK-L S 63	Salzgitter	Ø 63	Tr 50.48 x 1/4"		X	X	X	X	X	BZ 949.04.00

Diameter to be advised!

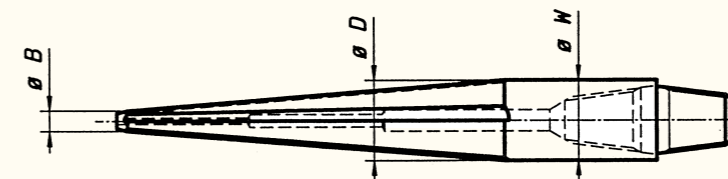
## Overshots with female or male thread - RH or LH (to be advised)



Size Größe	Range   Fangbereich mm	OD inch
I	76.1 - 25.4	3 - 1
I a	58 - 38	
II	88.9 - 38.1	3 1/2 - 1 1/2
II a	76.1 - 38.1	3 - 1 1/2
II e	50 - 77	
III	114.3 - 63.5	4 1/2 - 2 1/2
III a	114.3 - 38.1	4 1/2 - 1 1/2
III b	101.6 - 38.1	4 - 1 1/2

Size Größe	Range   Fangbereich mm	OD inch
III c	101.6 - 50.8	4 - 2
IV	139.7 - 88.9	5 1/2 - 3 1/2
VI a	127.0 - 76.1	5 - 3
V	165.1 - 114.3	6 1/2 - 4 1/2
VI	190.5 - 139.7	7 1/2 - 5 1/2
VII	216.0 - 165.1	8 1/2 - 6 1/2
VIII	241.3 - 190.5	9 1/2 - 7 1/2
IX	266.7 - 216.0	10 1/2 - 8 1/2

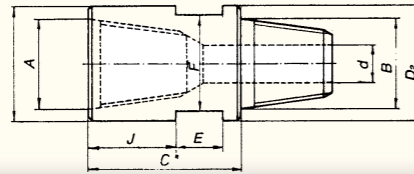
## Taper Taps with female or male thread - RH or LH (to be advised)



Size Größe	Range   Fangbereich mm	OD inch
I	25.4 - 88.9	1 - 3 1/2
I a	10 - 51	
I b	12 - 60.3	
I c	12 - 63.5	
I d	15 - 70	
I e	18 - 73	
I f	19 - 76.1	
I g	19 - 80	
II	25.4 - 101.6	1 - 4
III	38.1 - 114.3	1 1/2 - 4 1/2

Size Größe	Range   Fangbereich mm	OD inch
III a	50.8 - 127	2 - 5
III b	38.1 - 127	1 1/2 - 5
IV	63.5 - 139.7	2 1/2 - 5 1/2
V	88.9 - 165.1	3 1/2 - 6 1/2
V a	101.6 - 177.8	4 - 7
VI	114.3 - 190.5	4 1/2 - 7 1/2
VII	139.7 - 216	5 1/2 - 8 1/2
VIII	165.1 - 241.3	6 1/2 - 9 1/2
IX	190.5 - 266.7	7 1/2 - 10 1/2

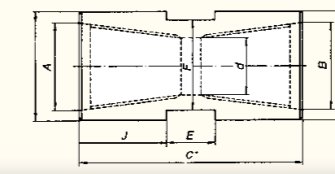
## Subs Box - Pin



connection box up A	Pin down B	length C* inches	length shoulder J inches	width spanner flats E inches	std. bore d inches	outside top D1 inches	diameter bottom D2 inches	across flat F inches	drawing no.
API 2 3/8 REG	API 3 1/2 REG	5 3/4	1 9/16	2	1 1/2	3 1/2	4 1/2	2 3/4	BZ 21.01.00
API 2 3/8 REG	API 2 3/8 IF	5 5/16	1 9/16	2	1 1/2	3 1/2	3 1/2	2 3/4	BZ 21.02.00
API 2 3/8 REG	API 2 7/8 REG	5 5/16	1 9/16	2	1 1/4	3 1/2	3 1/2	2 3/4	BZ 21.03.00
API 2 7/8 REG	API 2 3/8 REG	5 5/16	2 3/4	2	1 1/4	3 1/2	3 1/2	2 3/4	BZ 12.07.00
API 2 7/8 REG	API 2 7/8 IF	4 5/16	1 3/8	2	1 1/2	4 1/2	4 1/2	3 7/8	BZ 12.08.00
API 2 7/8 REG	API 3 1/2 IF	6 1/2	3 3/4	2	1 3/4	4 1/2	5 1/2	3 7/8	BZ 12.09.00
API 2 7/8 REG	API 3 1/2 REG	5 5/16	1 9/16	2	1 3/4	4 1/2	4 1/2	3 7/8	BZ 12.10.00
API 2 7/8 REG	API 4 1/2 REG	6 7/8	3 15/16	2	1 3/4	4 1/2	5 3/4	3 7/8	BZ 12.11.00
API 3 1/2 REG	API 2 7/8 REG	5 1/8	1 9/16	2	1 1/4	4 1/2	4 1/2	3 7/8	BZ 356.01.00
API 3 1/2 REG	API 2 7/8 REG	5 1/8	1 9/16	2	1 1/2	4 1/2	4 1/2	3 7/8	BZ 356.03.00
API 3 1/2 REG	API 4 1/2 FH	5 7/16	1 9/16	2	2 5/16	4 1/2	5 3/4	3 7/8	BZ 356.04.00
API 3 1/2 REG	API 3 1/2 IF	5 7/16	1 9/16	2	1 3/4	4 1/2	5 1/2	3 7/8	BZ 356.05.00
API 3 1/2 REG	API 4 1/2 REG	5 5/16	1 9/16	2	2 1/16	4 1/2	5 3/4	3 7/8	BZ 356.06.00
API 3 1/2 REG	API 6 5/8 REG	15	4 1/2	2	2 5/16	4 1/2	8	3 7/8	BZ 356.10.00
API 3 1/2 REG	API 2 3/8 IF	5 3/4	1 9/16	2	1 1/2	4 1/2	3 1/2	3 7/8	BZ 356.07.00
API 3 1/2 REG	API 3 1/2 REG	4	1 9/16	2	1 3/4	5	5	3 7/8	BZ 356.08.00
API 3 1/2 REG	API 2 3/8 REG	5 3/4	1 9/16	2	1	4 1/2	3 1/2	3 7/8	BZ 356.09.00
API NC35	API 2 7/8 REG	5 5/16	2 1/2	2	2 1/4	4 1/2	4 1/2	2 7/8	BZ 20.01.00
API NC35	API 2 7/8 IF	5 5/16	2 1/2	2	2 1/16	4 1/2	4 1/2	2 7/8	BZ 20.02.00
API NC35	API 3 1/2 IF	6 1/4	3 5/8	2	2 5/16	4 1/2	5 1/2	2 7/8	BZ 20.03.00
API NC35	API 3 1/2 REG	5 3/4	3 3/4	2	1 3/4	4 1/2	4 1/2	2 7/8	BZ 20.04.00
API NC35	API NC35	6 1/2	3 3/4	2	2 5/16	4 1/2	4 1/2	2 7/8	BZ 20.05.00
API NC35	API 4 1/2 REG	7	3 3/4	2	2 1/16	4 1/2	5 3/4	2 7/8	BZ 20.06.00
API NC35	API 6 5/8 REG	9	4 1/2	2	2 5/16	4 1/2	8	2 7/8	BZ 20.08.00
API 4 1/2 REG	API 3 1/2 REG	6 1/4	3	2	1 3/4	5 3/4	4 1/2	4 3/4	BZ 30.01.00
API 6 5/8 REG	API NC35	9	4 1/2	2	2 5/16	7 3/4	5 3/4	7	BZ 20.18.00
API 6 5/8 REG	API 4 1/2 REG	10	5	2	2 5/16	7 3/4	5 3/4	7	BZ 636.20.00

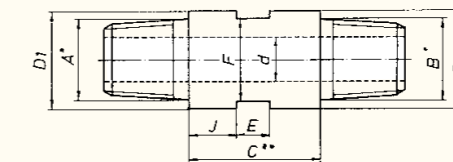
\*Sizes obligatory. Length of sub can be altered on request.

## Subs Box - Box



connection box up A	pin down B	length C* inches	length shoulder J inches	width spanner flats E inches	std. bore d inches	outside top D1 inches	diameter bottom D2 inches	across flat F inches	drawing no.
API 2 3/8 REG	API 2 3/8 REG	8 5/8	2 1/4	2	1 1/2	3 1/2	3 1/2	2 3/4	BZ 21.04.00
API 2 3/8 REG	API 3 1/2 REG	5 1/16	2 1/4	2	1 1/2	3 1/2	4 1/2	2 3/4	BZ 21.05.00-1
API 2 7/8 REG	API 2 3/8 REG	8 5/8	2 3/4	2	1 1/2	4 1/2	3 1/2	3 7/8	BZ 21.21.00
API 2 7/8 REG	API 2 7/8 IF	9 1/2	2 3/4	2	1 3/4	4 1/2	4 1/2	3 7/8	BZ 12.02.00
API 2 7/8 REG	API 3 1/2 REG	9 1/2	2 3/4	2	1 3/4	4 1/2	4 1/2	3 7/8	BZ 12.03.00
API 2 7/8 REG	API 3 1/2 IF	9 7/8	3	2	1 3/4	3 1/2	5 1/2	3 7/8	BZ 12.04.00
API 2 7/8 REG	API 4 1/2 REG	9 7/8	3	2	1 3/4	4 1/2	5 3/4	3 7/8	BZ 12.05.00
API 2 7/8 REG	API 4 1/2 FH	9 7/8	3	2	1 3/4	4 1/2	5 3/4	3 7/8	BZ 12.06.00
API 3 1/2 REG	API 3 1/2 REG	9 1/2	2 3/4	2	1 3/4	4 1/2	4 1/2	3 7/8	BZ 356.12.00
API 3 1/2 REG	API 3 1/2 IF	10 5/8	3 1/2	2	1 3/4	4 1/2	5 1/2	3 7/8	BZ 356.13.00
API 3 1/2 REG	API 4 1/2 REG	10 5/8	3 1/2	2	2 5/16	4 1/2	5 3/4	3 7/8	BZ 356.14.00
API 3 1/2 REG	API 4 1/2 FH	10 5/8	3 1/2	2	2 5/16	4 1/2	5 3/4	3 7/8	BZ 356.15.00
API 3 1/2 REG	API 6 5/8 REG	11 1/4	3 1/2	2	2 5/16	4 1/2	7 3/4	3 7/8	BZ 356.16.00
API NC 35	API 3 1/2 REG	9 7/8	3 1/2	2	1 3/4	4 1/2	4 1/2	3 7/8	BZ 20.10.00
API NC 35	API 3 1/2 IF	10 5/8	4	2	2 5/16	4 1/2	5 1/2	3 7/8	BZ 20.11.00
API NC 35	API 4 1/2 REG	10 5/8	4	2	2 5/16	4 1/2	5 3/4	3 7/8	BZ 20.12.00
API NC 35	API 4 1/2 FH	10 5/8	4	2	2 5/16	4 1/2	5 3/4	3 7/8	BZ 20.13.00
API NC 35	API 6 5/8 REG	11 1/2	4 1/2	2	2 5/16	4 1/2	5 3/4	3 7/8	BZ 20.14.00

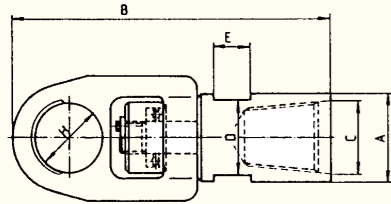
## Subs Pin - Pin



Tr 51 x 1/4"-W	Tr 51 x 1/4"-W	2 3/4	3/8	1 9/16	1	2 1/2	2 1/2	2 3/16	BZ 847.08.00
FI 36 x 1/4"-C	Tr 63 x 1/4"-W	2 1/4	3/8	1 9/16	7/8	1 11/16	2 7/8	2 9/16	BZ 753.13.00
FI 41.5 x 1/3"-C	Tr 63 x 1/4"-W	2 1/4	3/8	1 9/16	7/8	2	2 7/8	2 9/16	BZ 753.12.00
Tr 66 x 1/4"-S	Tr 66 x 1/4"-S	14 5/8	3/4	1 3/16	1 9/16	3 1/8	3 1/8	2 9/16	BZ 35.06.00
Tr 66 x 1/4"-S	Tr 75 x 1/4"-S	9 1/2	7 1/4	1 9/16	1 9/16	3	3 1/2	2 7/8	BZ 35.01.00
API 2 3/8 IF	Tr 75 x 1/4"-S	9 1/2	7 1/2	1 3/8	1 1/4	3 1/2	3 1/2	2 7/8	BZ 34.03.00
API 2 3/8 REG	API 2 7/8 REG	6	2	2	1	3 1/2	3 1/2	2 3/4	BZ 21.06.00
API 3 1/2 REG	API 3 1/2 REG	7	2 1/2	2	1 3/4	4 1/2	4 1/2	3 7/8	BZ 356.17.00
API 3 1/2 REG	API NC 35	7	2 1/2	2	1 3/4	4 1/2	5 1/2	3 7/8	BZ 356.18.00
API 3 1/2 REG	API 3 1/2 IF	8	3	2	1 3/4	4 1/2	5 1/2	3 7/8	BZ 356.19.00
API 3 1/2 REG	API 4 1/2 REG	3 5/8	1/2	2 3/4	1 1/2	4 1/2	5 1/2	3 3/4	BZ 635.16.00
API 4 1/2 REG	API 4 1/2 REG	3 1/4	1	2	2 1/4	5 1/2	5 1/2	4 3/4	BZ 636.02.00
API 4 1/2 REG	API 6 5/8 REG	4 3/4	21/32	2	2 1/4	5 1/2	7 1/8	4 17/32	BZ 636.04.00

\*Sizes obligatory. Length of sub can be altered on request.

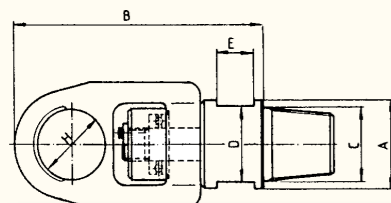
## Swivel lifting plug with box



C connection	A	B approx.	D	E	H		drawing no.
API 2 3/8 REG	76.1	375	57.5	50	76	5 t	BZ 415.13.00
upto							
API 7 5/8 REG	225.4	500	200	60	105	10t	VPI-Z 62.04.00
API 3 1/2 FH	114.3	435	95	50	95	8 t	BZ 277.12.00
upto							
API 6 5/8 FH	203.2	500	180	60	105	10t	VPI-Z 56.02.00
API 2 3/8 IF	88.9	375	70	50	76	5 t	BZ 202.15.00
upto							
API 5 1/2 IF	187.3	500	165	60	105	10t	VPI-Z 53.06.00

Other sizes on request.

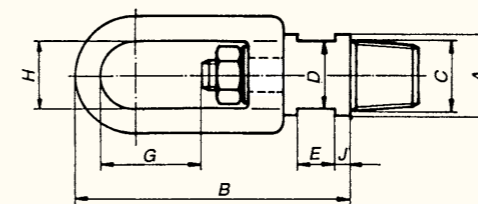
## Swivel lifting plug with pin



C connection	A	B approx.	D	E	H		drawing no.
API 2 3/8 REG	76.1	325	57.5	50	76	5 t	BZ 415.12.00
upto							
API 7 5/8 REG	225.4	420	200	60	105	10t	VPI-Z 62.03.00
API 3 1/2 FH	114.3	370	95	50	95	8 t	BZ 277.11.00
upto							
API 6 5/8 FH	203.2	420	180	60	105	10t	VPI-Z 56.01.00
API 2 3/8 IF	88.9	325	70	50	76	5 t	BZ 202.14.00
upto							
API 5 1/2 IF	187.3	420	165	60	105	10t	VPI-Z 53.05.00

Other sizes on request.

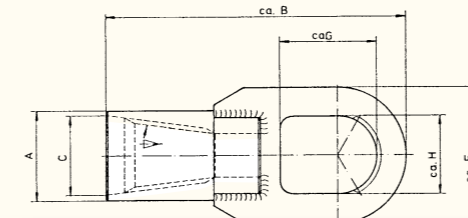
## Hoisting Plugs



A OD inches	B length inches	C tool joints connection	J length shoulder inches	E width spanner flats inches	D across flat inches	G inches	H inches	drawing no.
4 11/16	15 3/16	API 3 1/2 IF*	9/16	2	3 7/8	5 1/4	3 3/4	VPI-Z 19.03.00
4 1/2	15	API NC 35*	9/16	2	3 7/8	5 1/4	3 3/4	BZ 20.15.00
4 3/4	17 1/8	API 3 1/2 IF**	-	-	-	6	5	VPI-Z 15.17.00
3 1/3	12 9/16	Tr 71.6 x 1/4**	9/16	19/16	2 3/4	4	2 3/4	BZ 184.01.00
7 3/4	18 3/8	API 6 5/8 REG**	-	-	-	6	5	VPI-Z 55.10.00

Other sizes and threads on request. \* male \*\* female

## Lifting Bail



A OD inches	B Length inches	C tool joints connection	E approx. inches	G approx. inches	H approx. inches	drawing no.
3	10	API 2 3/8" REG	4 9/16	3 3/16	2 9/16	BZ 37.04.00
4 1/2	12	API 3 1/2" REG	6 5/16	4	4	BZ 356.26.00
5 1/2	11 11/16	API 4 1/2" REG	6 5/16	4	4	BZ 636.30.00
7	15	API 6 5/8" REG	8 1/2	5 1/2	4 5/16	VPI-Z 55.04.00
8 7/8	15	API 7 5/8" REG	10	5 1/2	4	VPI-Z 62.02.00
5 1/4	14	API 4" FH	6 3/4	4	4	BZ 382.04.00
4 1/2	11 1/4	API 2 7/8" IF	6 5/16	4	4	BZ 276.03.00
4 3/4	12	API 3 1/2" IF	6 3/4	4	4	BZ 544.01.00
6 1/4	16 1/8	API 4 1/2" IF	8 1/2	5 1/2	4 5/16	VPI-Z 35.05.00



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