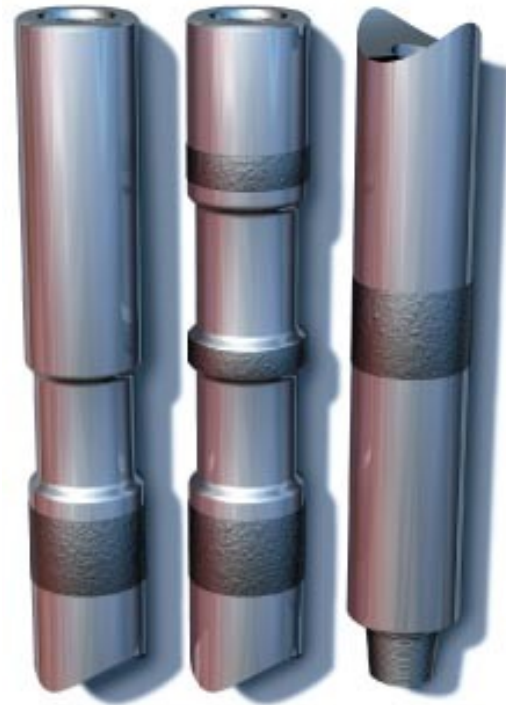


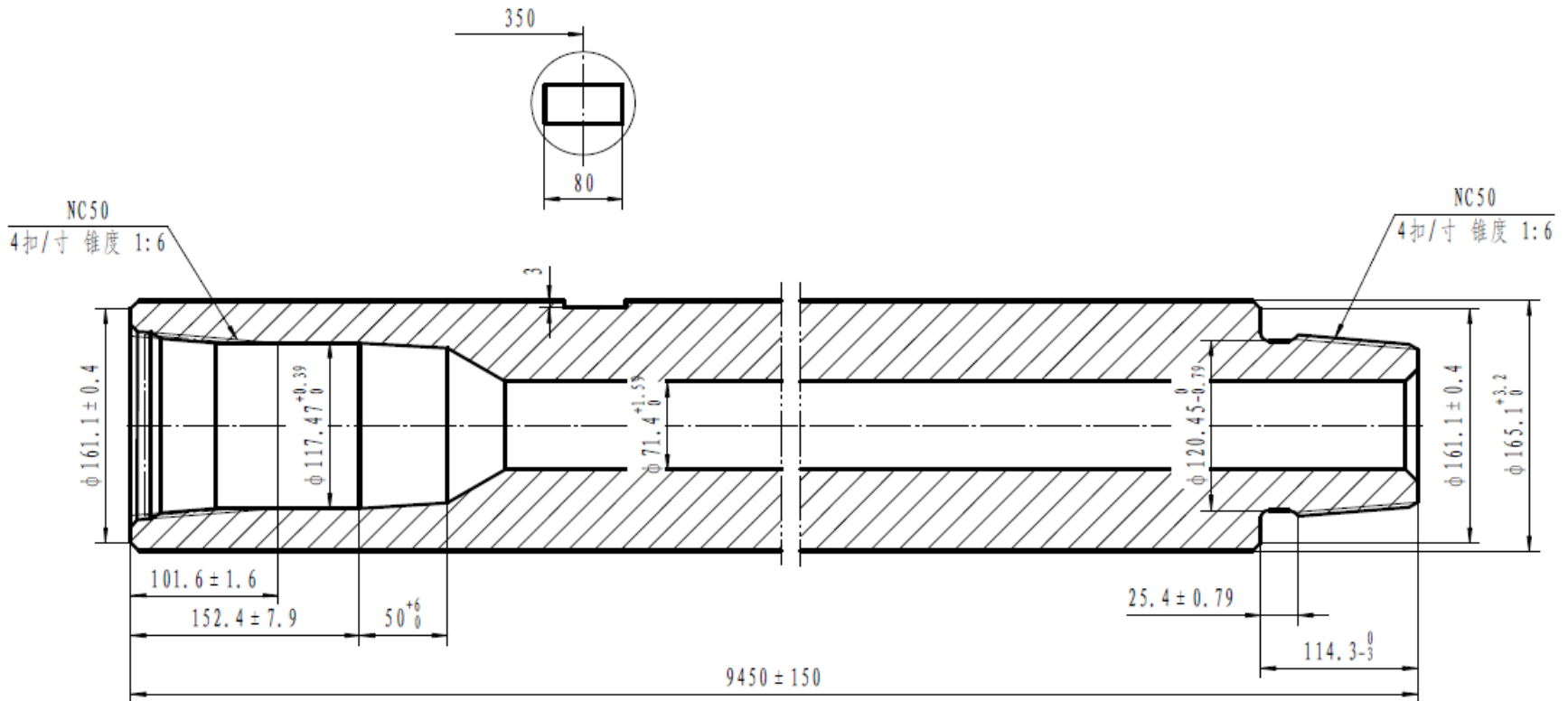
DRILL COLLARS

There are two kinds of Drill Collars, normal Drill Collars (A type), Spiral Drill Collars (B type).

A type Drill Collars (slick Drill Collars) the material made by AISI 4145H or 4145H modified alloy steel, full length heat treatment processes ensure that mechanical properties meet API 5DP and a hardness of 285-341 HB.



SLICK DRILL COLLAR (A TYPE)



Technical specifications and parameters

Drill Collar Number	Outside Dia.		Inside Dia.		Length	Bevel Dia.	Ref bend g Strength ratio
NC46-65(4IF)	165.1(mm)	6 1/2(in)	57.2(mm)	2 1/4	9150&9450	154.8	2.76:1

Size OD (in/mm)	Bore (in/mm)	Connection type&size	Weight (kg)		Bevel Dia.	Bend&strength ratio
			30 feet	31 feet		
3-1/8 (79.4)	1-1/4(31.8)	NC23	296	306	76.2	2.57:1
3-1/2 (88.9)	1-1/2 (38.1)	2-3/8 IF	358	370	82.9	2.42:1
4-1/8 (104.8)	2 (50.8)	2-7/8 IF	469	485	100.4	2.43:1
4-3/4 (120.7)	2 (50.8)	NC35	629	650	114.7	2.58:1
5(127)	2-1/4 (572)	3-1/2 IF	716	740	121	2.38:1
6 (152.4)	2-1/4 (572)	NC44	1114	1151	144.5	2.49:1
6 (152.4)	2-13/16(71.4)	4-1/2 FH	1011	1046	144.5	2.84:1
6-1/4 (158.8)	2-1/4 (572)	NC46 (4 IF)	1224	1265	1492	2.91:1
6-1/4 (158.8)	2-13/16(71.4)	NC46 (4 IF)	1123	1160	150	2.63:1
6-1/2 (165.1)	2-1/4 (572)	NC46 (4 IF)	1340	1385	154.8	2.76:1
6-1/2 (165.1)	2-13/16 (71.4)	NC50 (4-1/2 IF)	1237	1278	154.8	3.05:1
6-3/4(171.4)	2-1/4 (572)	NC46 (4 IF)	1024	1058	159.5	3.18:1
6-3/4(171.4)	2-13/16(71.4)	NC50 (4-1/2 IF)	1355	1400	159.5	2.37:1
7 (177.8)	2-1/4 (572)	NC50 (4-1/2 IF)	1481	1530	164.7	2.54:1
7 (177.8)	2-13/16(71.4)	NC50 (4-1/2 IF)	1577	1630	164.7	2.73:1
7-1/4 (184.2)	2-13/16 (71.4)	NC50 (4-1/2 IF)	1607	1661	169.5	3.12:1
7-3/4(196.8)	2-13/16 (71.4)	NC56 (6-5/8 REG)	1877	1940	185.3	2.7:1
8(2032)	2-13/16(71.4)	NC56 (6-5/8 REG)	2018	2085	190.1	3.02:1
8-1/4 (209.6)	2-13/16 (71.4)	REG	2168	2240	195.7	2.93:1
9 (228.6)	2-13/16(71.4)	NC61 (7-5/8 REG)	2589	2675	212.7	3.17:1
9-1/2(241.3)	3 (76.2)	7-5/8 REG	2923	3020	223.8	2.81:1
9-3/4 (247.6)	3 (76.2)	NC70 (7-5/8 REG)	3098	3200	232.6	2.57:1
10(254)	3 (76.2)	NC 70 (8-5/8REG)	3276	3385	237.3	2.81:1

CONNECTION INTERCHANGE LIST

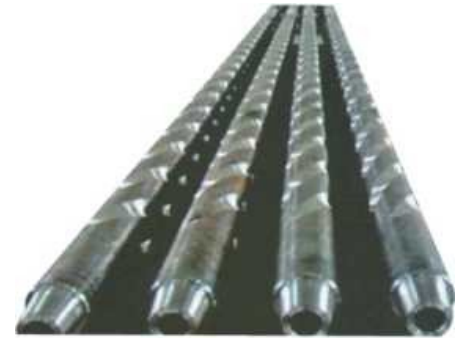
Connection	Size					
NC (numbered connection)	26	31	26	40	46	50
IF (internal flush)	2 3/8	2 7/8	3 1/2	-	4	4 1/2
FH (full hole)	-	-	-	4	-	-
SH (slim hole)	2 7/8	3 1/2	4 1/2	-	-	-
XH (extra hole)	-	-	-	-	4 1/2	5

API MECHANICAL PROPERTIES OF DRILL COLLARS

Outside diameter	Outside Dia. (mm)	Tensile strength Mpa	Yield strength Mpa	Elongation (b=4D)%	Impact AKV J	Brinell hardness HB
3 1/8 - 6 3/4	79.4-171.4	≥965	≥758	≥13	≥54	≥285
Inch	177.8-254	≥930	≥689	≥13	≥54	≥285

SPIRAL GROOVED DRILL COLLARS (B TYPE)

This kind of Drill Collars also called B type Drill Collars. It is made by 4145H or 4145H modified alloy steel the same with normal Drill Collars, but have spiral grooves on the pipe body of Drill Collars. This type of Drill Collars will decrease the surface areas contacted with the hole of the oil well, greatly reduce the probability of pressure differential detention occurring.

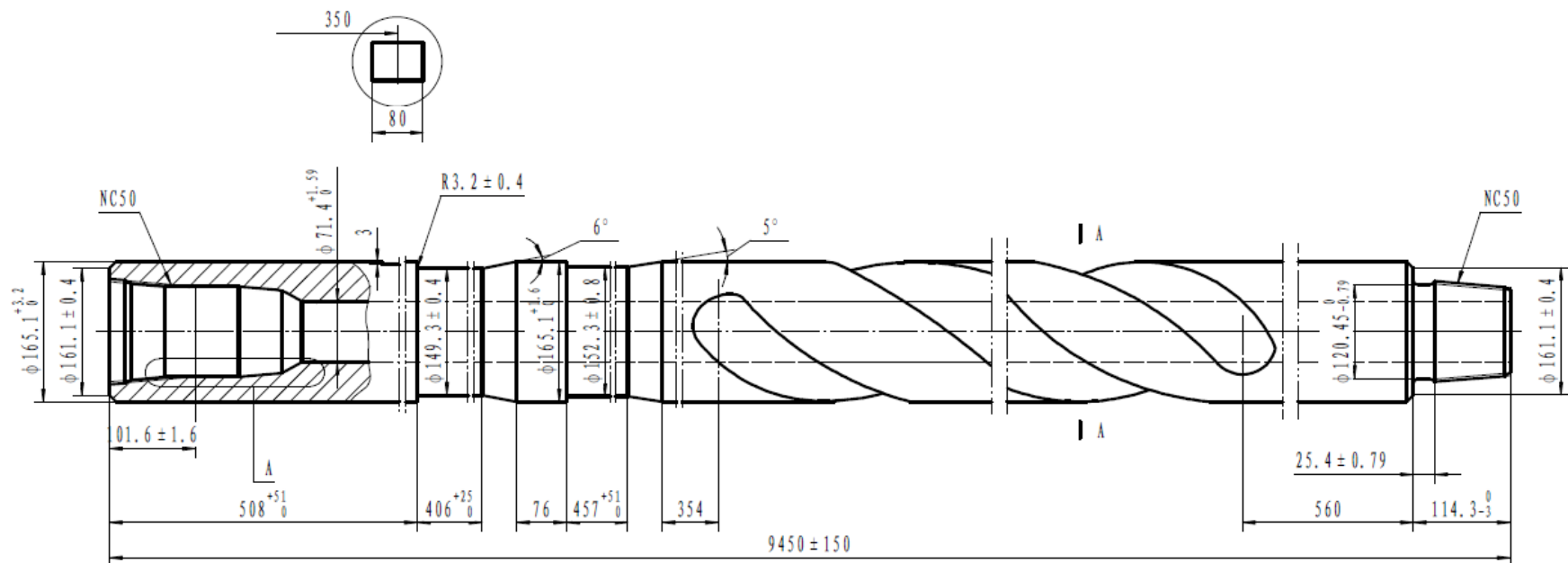


NORMAL SIZES FOR GROOVED DRILL COLLARS

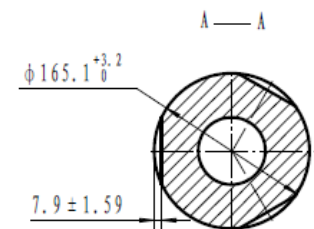
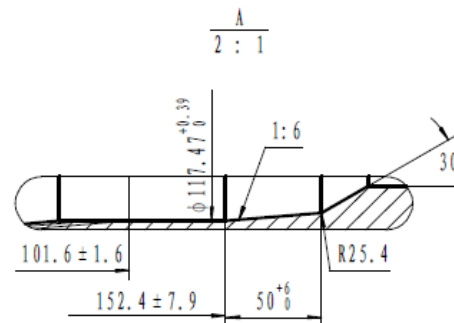
OD range (in)	4 ~ 4 3/8	4 1/2-5 1/8	5 1/4 - 6 3/8	6 1/2 - 7	7 1/8 - 7 7/8	8 ~ 8 7/8	9 ~ 9 7/8
Depth of cut (in)	6~2/3 ± 1/32	7/32 ± 1/32	1/4 ±1/32	5/16 ±1/16	11/32 ±1/16	3/8 ±1/16	13/32 ±3/32
Spiral pitch (in)	36 ± 1	38 ± 1	42 ± 1	42 ± 1	64 ± 1	68 ± 1	72 ± 1

SPIRAL DRILL COLLAR

WITH ELEVATOR GROOVE AND SLIP GROOVE



Technical specifications and parameters				
Drill collar ranges O.D. (mm)	Elevator groove depth (mm)	Elevator groove length (mm)	Slip groove depth (mm)	Slip groove length (mm)
146.0-168.3	7.9	406	6.4	457



Production & Inspection

