INTERNATIONAL STANDARD

ISO 8866

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Rotary core diamond drilling equipment — System C

Matériel de forage rotatif au diamant avec carottage — Système C

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Reference number
ISO 8866:1991(E)

Foreword

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Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 8866 was prepared by Technical Committee ISO/TC 82, *Mining*.

Annex A of this International Standard is for information only.

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Introduction

System C is characterized by a series of nesting hole sizes providing small clearances between the hole wall and the equipment, making it possible to use thin-walled casing tubes. The equipment specified in this International Standard should be considered a separate system intended to be applied in parallel with system A (see ISO 3551) and system B (see ISO 3552): it is not interchangeable with these systems.

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Rotary core diamond drilling equipment — System C

1 Scope

This International Standard specifies the material for and the dimensions of rotary core diamond drilling equipment, system C.

NOTE 1 Cutting materials other than diamond may be used.

It applies to

— single- and double-tube core barrels, including diamond core bits, reaming shells, core lifters, core-lifter cases, core tubes (outer and inner) and heads;

— drill rods and couplings;

— casing tubes and couplings.

The casing tubes are not designed for drilling, and the casing string is only employed for casing-off the hole.

The range of equipment covers diamond core drilling of holes from 35 mm to 112 mm in diameter (outer bit diameter) with the corresponding core diameters from 21 mm to 92 mm.

Single- and double-tube core barrels provide a means of coring compact rocks (types M and DM core barrels), fissured and fractured rocks (types T and DT core barrels) and fractured and broken-down rocks (type DP core barrels).

2 Designation

The designation of items complying with this International Standard comprises

— the name of the item;

— the letter(s) identifying the core barrel type (not applicable to drill rods and coupling, casing tubes and casing couplings);

— the nominal outside diameter of the item;

— the letter C (denoting system C).

EXAMPLES

Reaming shell DT59C

Drill rod 54C

3 Material

The equipment shall be manufactured from materials which, in the manufactured items, provide mechanical properties not less than those given in table 1.

Table 1 — Minimum mechanical properties of the material

Item	Tensile strength R_m N/mm² (MPa)	Yield stress R_e N/mm² (MPa)	Percentage elongation after fracture $5{,}65\sqrt{S_0}$ %
Drill rods (upset ends)	690	490	12
Drill rod coupling	765	590	14
Casing and core tubes, outside diameter ⩽ 89 mm	690	490	12
Casing and core tubes, outside diameter > 89 mm	640	370	16
Other items	Not specified		

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4 Dimensions and tolerances

The main dimensions of system C equipment are given in table 2. Other dimensions and tolerances are given in figure 3 to figure 44. Tube ovality should be kept within outer diameter tolerances.

The maximum deviation from straightness should not exceed

1:2 000 of the tube length, for drill rods and core tubes of outer diameter ⩽ 73 mm

1:1 200 of the tube length, for casing tubes and core tubes of outer diameter > 73 mm

The curvature over 250 mm of each drill rod and core tube ends should not exceed 0,5 mm. See figure 1.

All dimensions are given in millimetres.

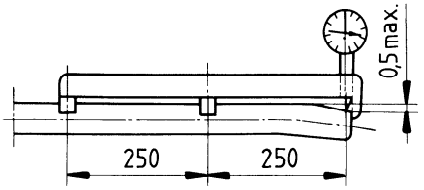

Figure 1 — Measuring tube end curvature

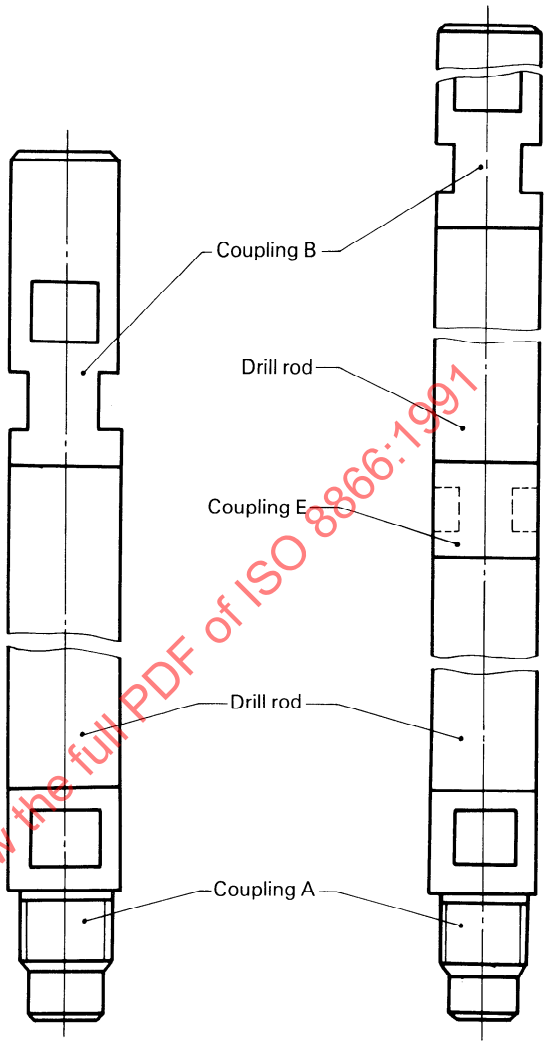

Figure 2 — Drill rod and coupling

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Table 2 — Main dimensions for system C equipment

Item	Main dimensions of the equipment for hole diameter					
	35	46	59	76	93	112
Reaming shell, D_x	35,4	46,4	59,4	76,4	93,4	112,4
Single-tube core barrel, type M						
Core bit, $D_x \times D_y$	35 × 24	46 × 34	59 × 45	76 × 60,5	—	
Core barrel, $D_0 \times t$	33,5 × 3	44 × 3,5	57 × 4	73 × 4	—	—
Single-tube core barrel, type T						
Core bit, $D_x \times D_y$	35 × 21	46 × 31	59 × 42	76 × 58	93 × 73	112 × 92
Core barrel, $D_0 \times t$	33,5 × 3	44 × 3,5	57 × 4	73 × 4	89 × 4,5	108 × 4,5
Double-tube core barrel, type DM						
Core bit, $D_x \times D_y$	—	46 × 34	59 × 45	76 × 60,5	—	—
Outer core tube, $D_0 \times t$	—	45 × 2,5	57 × 2,5	73 × 3	—	—
Inner core tube, $D_0 \times t$	—	38 × 1	50 × 1,2	65 × 1,5	—	—
Double-tube core barrel, type DT						
Core bit, $D_x \times D_y$	—	46 × 31	59 × 42	76 × 58	93 × 73	—
Outer core tube, $D_0 \times t$	—	44 × 3,5	57 × 3,5	73 × 3,5	89 × 3,5	—
Inner core tube, $D_0 \times t$	—	35 × 1,2	48 × 2	63 × 1,5	80 × 2	—
Double-tube core barrel, type DP						
Core bit, $D_x \times D_y$	—	—	59 × 35,4	76 × 48	93 × 66	112 × 85
Outer core tube, $D_0 \times t$	—	—	57 × 3,5	73 × 3,5	89 × 3,5	108 × 4,5
Inner core tube, $D_0 \times t$	—	—	45 × 3	60 × 3	75 × 3	95 × 3
Drill rods						
Drill rod, D_0	32	42	54	68		
Casing and casing couplings						
Flush-jointed casing, $D_0 \times t$	44 × 3,5	57 × 4,5	73 × 5	89 × 5	—	—
Flush-coupling casing, $D_0 \times t$	—	—	73 × 4	89 × 4,5	108 × 4,5	127 × 5; 146 × 5
Casing coupling, $D_0 \times d$	—	—	73 × 62	89 × 78	108 × 95,5	127 × 114,5; 146 × 134

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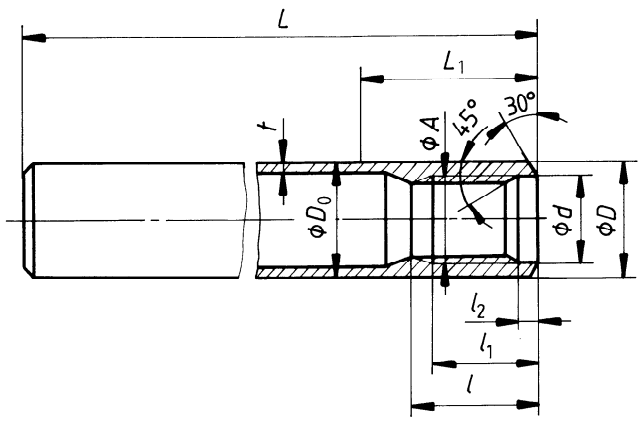

Dimensions	32C	42C	54C	68C
D_0	32 ± 0,15	42 ± 0,2	54 ± 0,25	68 ± 0,3
t $^{+0,75}_{0}$	4,5	4,5	4,5	4,5
D h13	1)	42,5	54,5	68,5
d 2) H12	27	33,5	42,5	55,5
l min.	45	60	65	70
l_1 min.	35	50	55	60
l_2 $^{+0,5}_{0}$	8	10	10	10
L ±10	3 000	3 000; 4 500	3 000; 4 500	3 000; 4 500
L_1 min.	1)	65	70	80
Thread,3) $A \times P$ (see figure 43)	26,5 × 6	33 × 8	42 × 8	55 × 8

1) Drill rod with plain ends.
2) The thread direction is at the manufacturer's option. d may be equal to A.
3) The thread of the rod may be right-handed or left-handed.

Figure 3 — Drill rod

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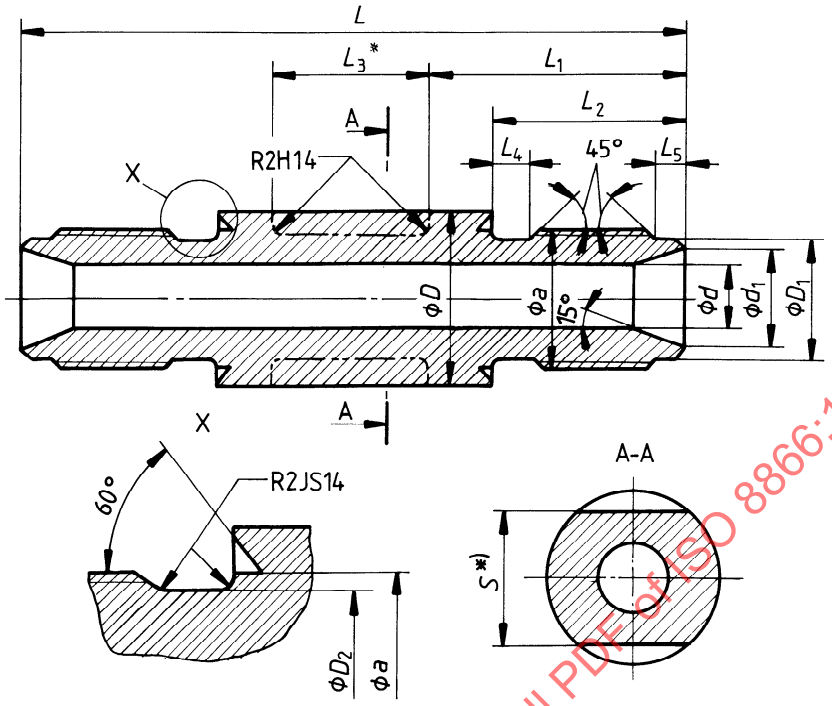

*) The drill-rod coupling may have cuts for wrenching or have a smooth outer surface.

Dimensions		32C	42C	54C	68C
D	h14	32,5	42,5	54,5	68,5
D_1	h12	23,65	29,65	37,6	50
D_2	h11	23,5	29,5	37,5	50
d	H14	12	16	22	30
d_1	JS14	15	20	28	40
L	js14	125	160	180	215
L_1	js14	45	60	70	85
L_2	h14	35	50	58	65
L_3	JS14	35	40	40	45
L_4	JS14	8	10	10	10
L_5	JS14	4	5	5	5
S	h14	24	30	36	46
Thread,[1] $a \times P$ (see figure 43)		26,5 × 6	33 × 8	42 × 8	55 × 8

1) The thread may be right-handed or left-handed. The thread direction is at the user's option.

Figure 4 — Drill-rod coupling, type E

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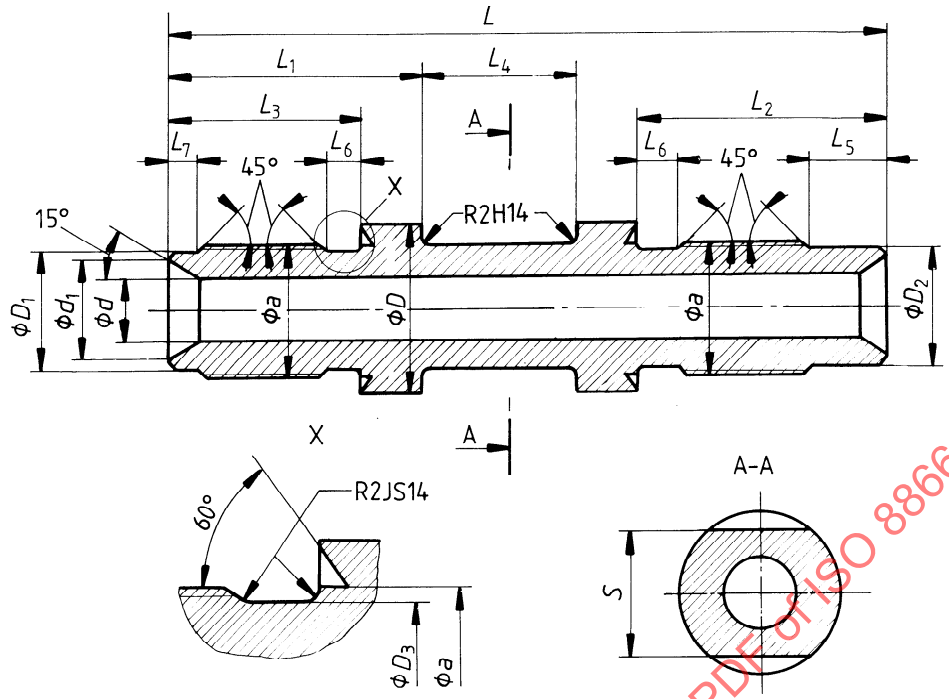

Dimensions	32C	42C	54C	68C
D h14	32,5	42,5	54,5	68,5
D_1 h12	23,65	29,65	37,6	50
D_2 h10	23,65	29,65	37,6	50
D_3 h11	23,5	29,5	37,5	50
d H14	12	16	22	30
d_1 JS14	15	20	28	40
L js14	135	176	200	230
L_1 js14	45	60	70	85
L_2 h14	45	65	77	85
L_3 h14	35	50	58	65
L_4 JS14	35	40	40	45
L_5 JS14	15	20	24	25
L_6 JS14	8	10	10	10
L_7 JS14	4	5	5	5
S h14	24	30	36	46
Thread,[1] $a \times P$ (see figure 43)	26,5 × 6	33 × 8	42 × 8	55 × 8

1) The thread may be right-handed or left-handed. The thread direction is at the user's option.

Figure 5 — Drill-rod coupling, type A

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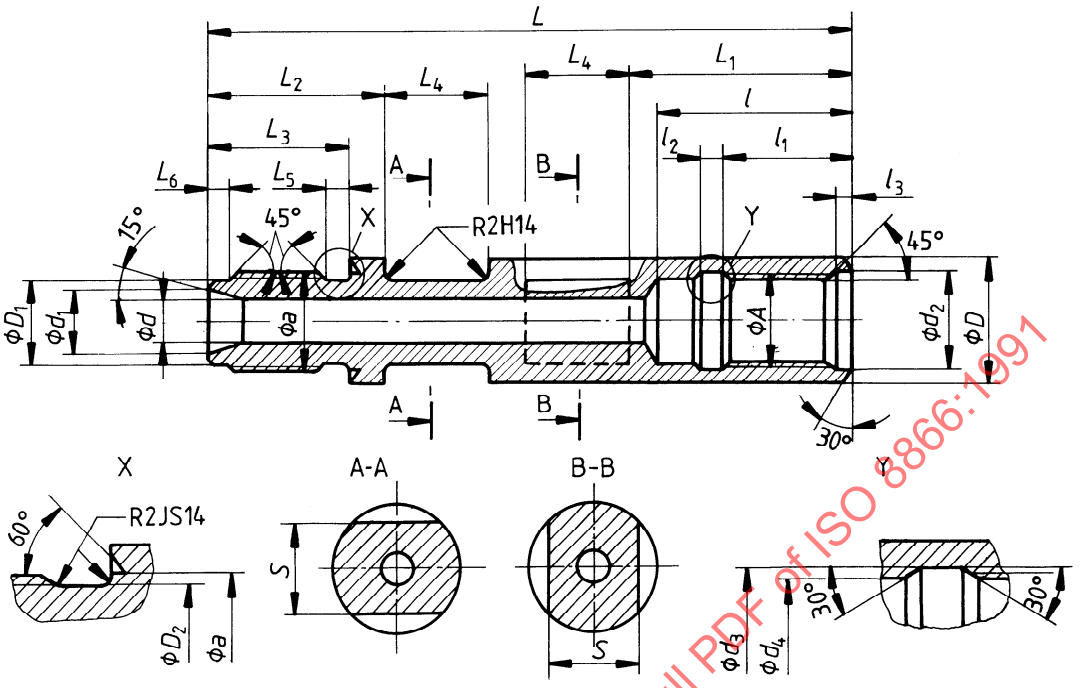

Dimensions	32C	42C	54C	68C
D h14	32,5	42,5	54,5	68,5
D_1 h12	23,65	29,65	37,6	50
D_2 h11	23,5	29,5	37,5	50
d H14	12	16	22	30
d_1 JS14	15	20	28	40
d_2 H12	27	33,5	42,5	55,5
d_3 H12	27	33,5	42,5	55,5
d_4 H10	24	30	38	50,5
L js14	185	235	260	295
L_1 js14	60	80	95	105
L_2 JS14	45	60	70	85
L_3 h14	35	50	58	65
L_4 JS14	35	40	40	45
L_5 JS14	8	10	10	10
L_6 JS14	4	5	5	5

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Dimensions	32C	42C	54C	68C
l H14	48	70	82	90
l_1 JS14	30	45	50	56
l_2 JS14	8	10	10	10
l_3 JS14	8	10	10	10
S h14	24	30	36	46
Thread,[1] $a \times P$ and $A \times P$ (see figure 43)	26,5 × 6	33 × 8	42 × 8	55 × 8
1) The thread may be right-handed or left-handed. The thread direction is at the user's option.				

Figure 6 — Drill-rod coupling, type B

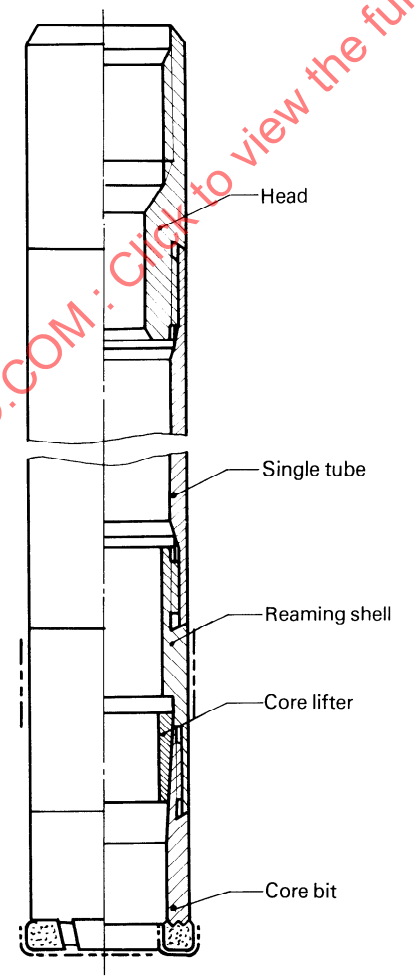

Figure 7 — Assembly of single-tube core barrel, M and T types

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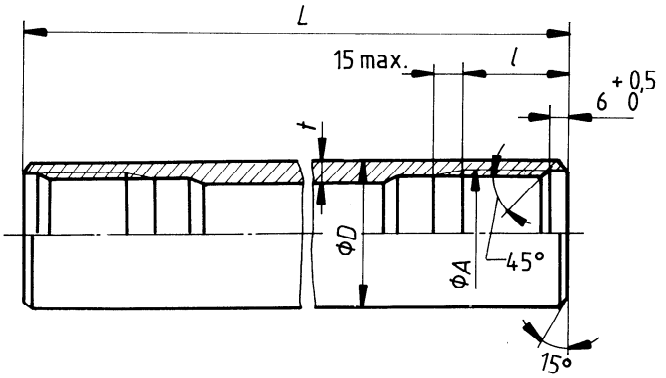

Dimensions	T(M)33,5C	T(M)44C	T(M)57C	T(M)73C	T(M)89C	T(M)108C
D	33,5 ± 0,15	44 ± 0,2	57 ± 0,25	73 ± 0,36	89 ± 0,4	108 ± 0,86
t	3 ± 0,25	3,5 ± 0,25	4 ± 0,32	4 ± 0,32	4,5 ± 0,36	4,5 ± 0,45
L ±70	1 500; 3 000	1 500; 3 000; 4 500	3 000; 4 500; 6 000	3 000; 4 500; 6 000	3 000; 4 500; 6 000	3 000; 4 500; 6 000
l min.	40	40	40	40	40	60
Thread,[1] $A \times P$ (see figure 44)	29,8 × 4	40 × 4	52 × 4	68 × 4	84 × 4	103 × 4

1) The thread may be right-handed or left-handed. The thread direction is at the user's option.

Figure 8 — Single core tube, M and T types

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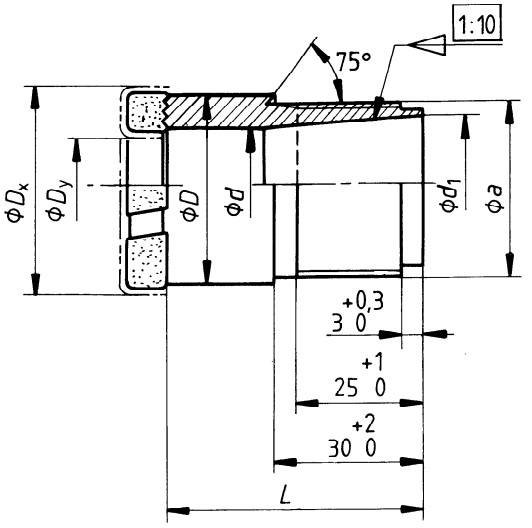

Dimensions	T35C	T46C	T59C	T76C	T93C	T112C
D_x	$35^{+0,2}_{-0,1}$	$46^{+0,2}_{-0,1}$	$59^{+0,2}_{0,1}$	$76^{+0,2}_{-0,1}$	$93^{+0,3}_{-0,2}$	$112^{+0,3}_{-0,2}$
D_y	$21^{+0,2}_{-0,1}$	$31^{+0,2}_{-0,1}$	$42^{+0,2}_{-0,1}$	$58^{+0,2}_{-0,1}$	$73^{+0,3}_{-0,2}$	$92^{+0,3}_{-0,2}$
D h12	34	45	58	74	90	109
d H12	22,5	33	44	60	76	95
d_1 H10	27	36	48,5	64	80	98
L js14	55	55	55	55	65	65
Thread, $a \times P$ (see figure 44)	29,8 × 4	40 × 4	52 × 4	68 × 4	84 × 4	103 × 4

Figure 9 — Core bit, type T

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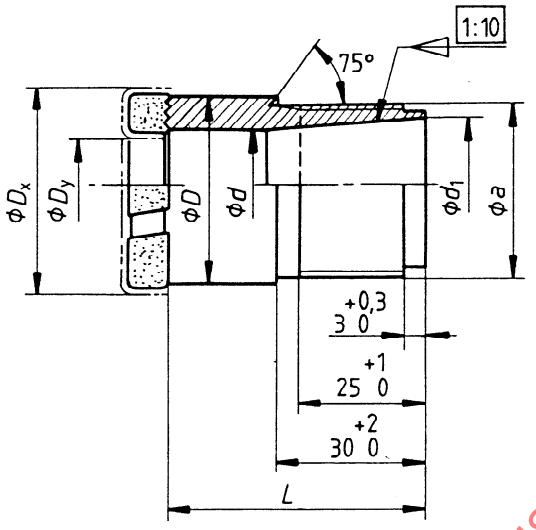

Dimensions		M(DM)35C	M(DM)46C	M(DM)59C	M(DM)76C
D_x	$^{+0,2}_{-0,1}$	35	46	59	76
D_y	$^{+0,2}_{-0,1}$	24	34	45	60,5
D	h12	34	45	58	73
d	H12	25	35	46	62
d_1	H10	27	36	48,5	64
L	js14	55	55	55	55
Thread, $a \times P$ (see figure 44)		29,8 × 4	40 × 4	52 × 4	68 × 4

Figure 10 — Core bit, type M(DM) (employed in double-tube core barrel assemblies, type DM)

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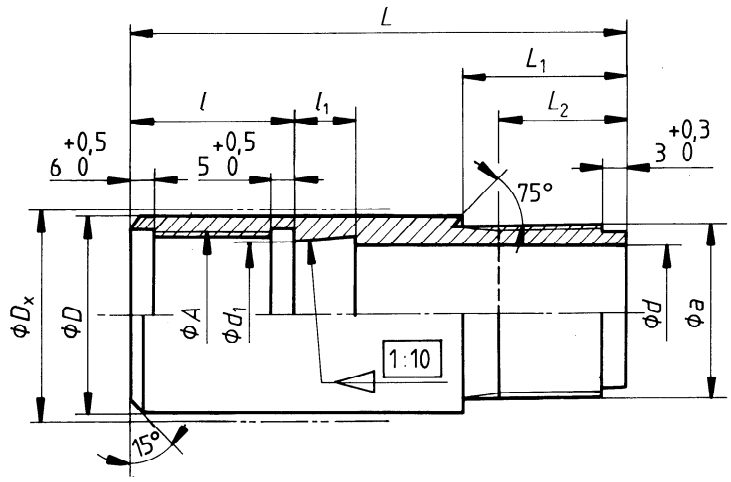

Dimensions		T35C	T46C	T59C	T76C	T93C	T112C
D_x	$^{+0,2}_{-0,1}$	35,4	46,4	59,4	76,4	93,4	112,4
D	h12	34	45	58	74	90	109
d	H12	24,5	34,5	46,5	61,5	76	95
d_1	H11	27,5	36,5	49	64,5	80,5	98,5
L	js14	140	140	140	145	150	155
L_1	$^{+2}_{0}$	40	40	40	40	40	60
L_2	$^{+1}_{0}$	36	36	36	36	36	56
l	JS12	32	34	34,5	34,5	35	35
l_1	JS14	15	15	20	20	25	30
Box thread, $A \times P$ (see figure 44)		29,8 × 4	40 × 4	52 × 4	68 × 4	84 × 4	103 × 4
Pin thread, $a \times P$ (see figure 44)		29,8 × 4	40 × 4	52 × 4	68 × 4	84 × 4	103 × 4

Figure 11 — Reaming shell, type T

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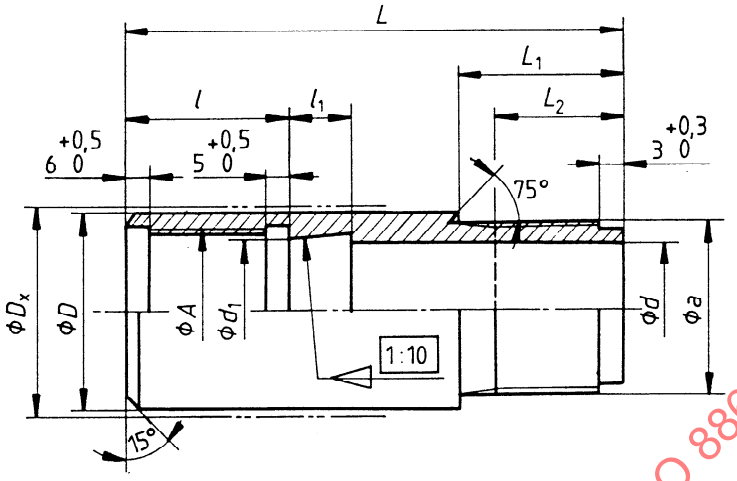

Dimensions		M35C	M46C	M59C	M76C
D_x	$^{+0,2}_{-0,1}$	35,4	46,4	59,4	76,4
D	h12	34	45	58	74
d	H12	24,5	34,5	46,5	61,5
d_1	H11	27,5	36,5	49	64,5
L	js14	140	140	145	145
L_1	$^{+2}_{0}$	40	40	40	40
L_2	$^{+1}_{0}$	36	36	36	36
l	JS12	32	34	34,5	34,5
l_1	JS14	15	15	20	20
Box thread, $A \times P$ (see figure 44)		29,8 × 4	40 × 4	52 × 4	68 × 4
Pin thread, $a \times P$ (see figure 44)		29,8 × 4	40 × 4	52 × 4	68 × 4

Figure 12 — Reaming shell, type M

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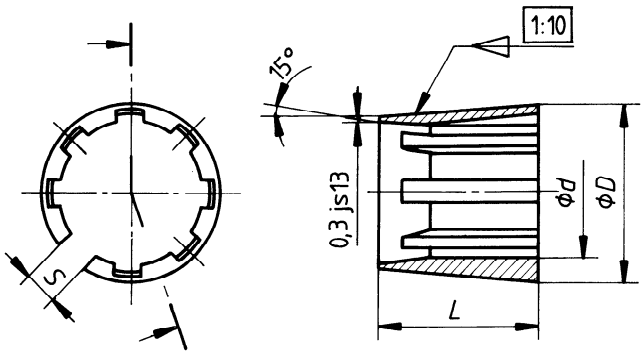

NOTES

1 The number of flutes, the flute width and wall thickness in the flute recess are not subject to standardization.

2 Type M rings are employed in type DM double-tube core barrel assemblies.

Type T

Dimensions	T35C	T46C	T59C	T76C	T93C	T112C
D h10	27,5	36,4	48	64,5	80	98,5
d H11	20,5	30,4	41	57,2	72,4	91,4
L h14	25	25	25	30	35	40
S H14	6	6	6	6	8	8

Type M(DM)

Dimensions	M(DM)35C	M(DM)46C	M(DM)59C	M(DM)76C
D h10	28	37	49	64,5
d H11	23,5	33,4	45	59,2
L h14	25	25	25	25
S H14	6	6	6	6

Figure 13 — Core lifter, types T and M(DM)

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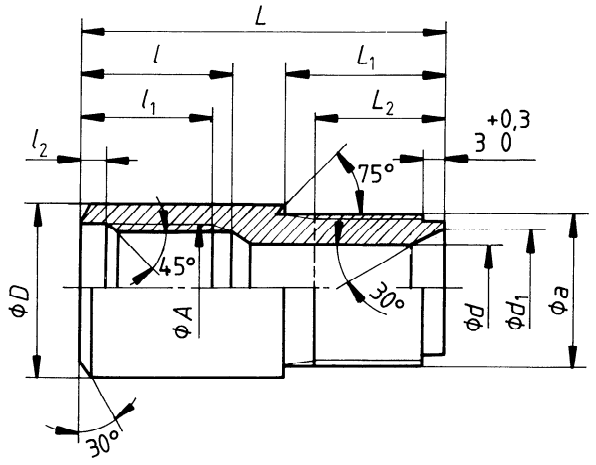

Dimensions	T(M)35C	T(M)46C	T(M)59C	T(M)76C	T(M)93C	T(M)112C
D h14	34	45	58	74	90	110
d H12	12	16	22	28	28	28
d_1 JS14	20	24	30	40	40	40
L js14	100	120	120	125	125	150
L_1 $^{+2}_{0}$	40	40	40	40	40	60
L_2 $^{+1}_{0}$	36	36	36	36	36	56
l H14	40	55	60	65	65	65
l_1 JS14	30	45	50	56	56	56
l_2 JS14	8	10	10	10	10	10
Box thread, $A \times P$ (see figure 43)	26,5 × 6	33 × 8	42 × 8	55 × 8	55 × 8	55 × 8
Pin thread, $a \times P$ (see figure 44)	29,8 × 4	40 × 4	52 × 4	68 × 4	84 × 4	103 × 4

Figure 14 — Head, type T(M)

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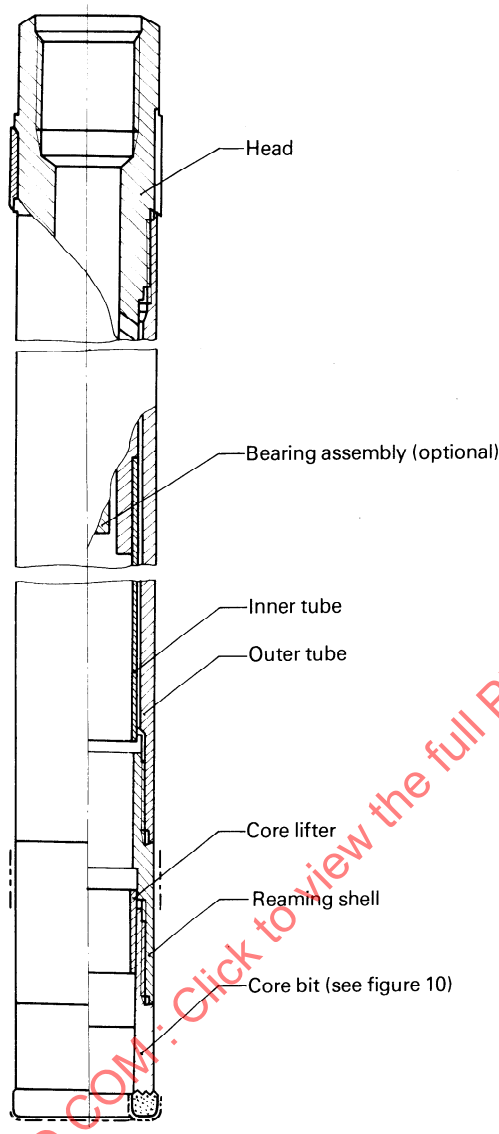

Figure 15 — Assembly of double-tube core barrel, type DM

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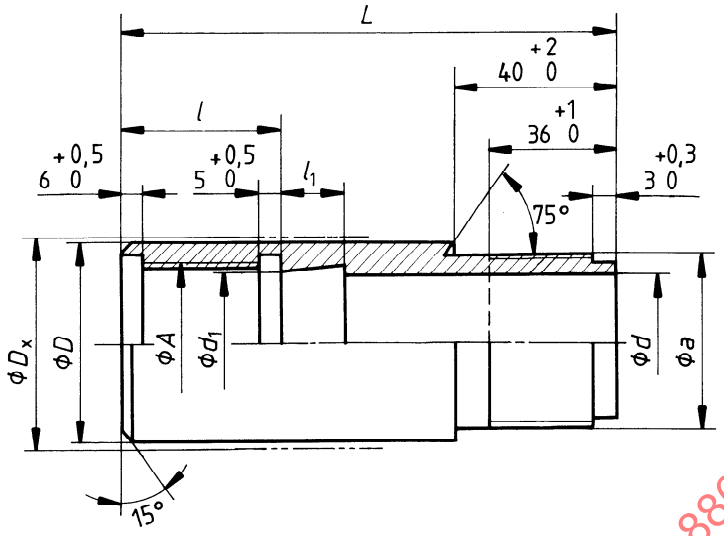

Dimensions		DM35C	DM46C	DM59C	DM76C
D_x	$^{+0,2}_{-0,1}$	35,4	46,4	59,4	76,4
D	h12	34	45	58	74
d	H12	24,5	34,5	46,5	61,5
d_1	H11	27,5	36,5	49	64,5
L	js14	140	140	140	145
l	JS12	32	34	34,5	34,5
l_1	JS14	15	15	15	20
Box thread, $A \times P$ (see figure 44)		29,8 × 4	40 × 4	52 × 4	68 × 4
Pin thread, $a \times P$ (see figure 44)		31,6 × 4	42 × 4	54 × 4	69,5 × 4

Figure 16 — Reaming shell, type DM

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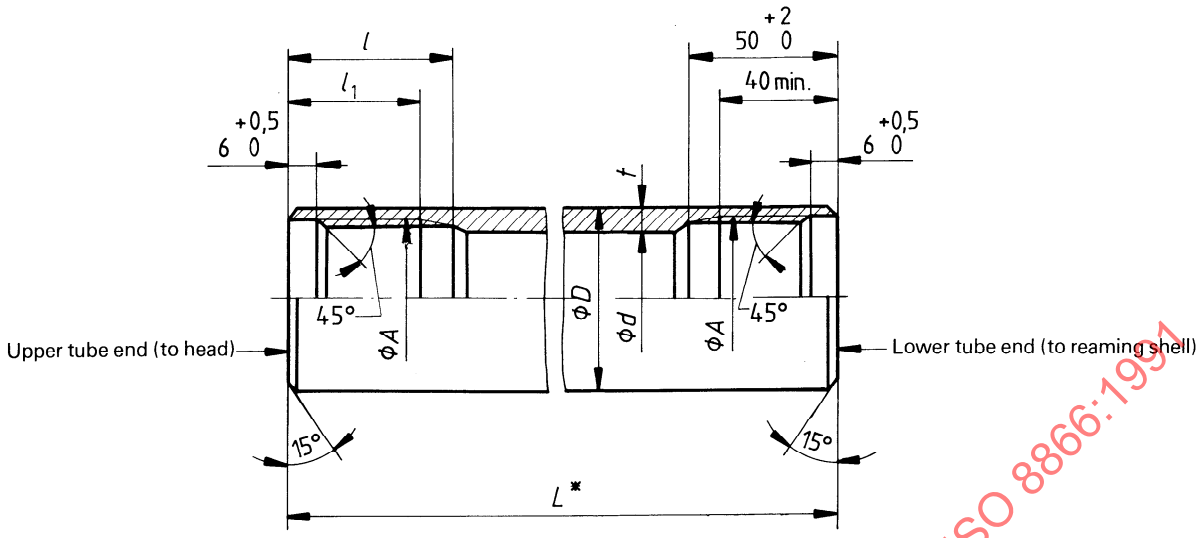

NOTE — L* is not specified. It is chosen with the head dimensions so that the assembly has a total length of 4 500 mm.

Dimensions	DM33C	DM46C	DM59C	DM73C
D	34	45	57	73
d	30 ± 0,15	40 ± 0,2	52 ± 0,25	67 ± 0,35
t	2 ± 0,15	2,5 ± 0,2	2,5 ± 0,2	3 ± 0,25
l $^{+2}_{0}$	65	70	75	80
l_1 min.	55	60	65	70
Thread, $A \times P$ (see figure 44)	31,6 × 4	42 × 4	54 × 4	69,5 × 4

Figure 17 — Outer tube, type DM

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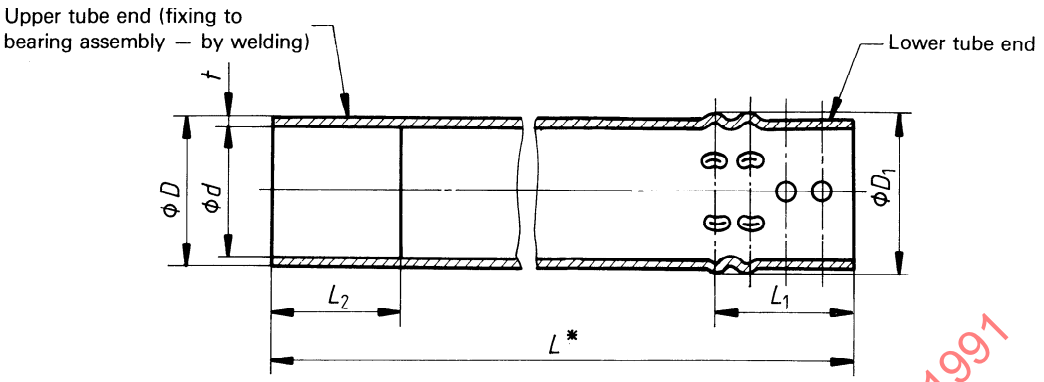

NOTES

1 The number and diameter of holes and bulges are at the manufacturer's option.

2 L^* and L_2 are not subject to standardization; they are chosen with the dimensions of the bearing assembly so that there is 2 mm between the lower end of the tube and the reaming shell (when assembled).

Dimensions	DM35C	DM46C	DM59C	DM76C
D	28 ± 0,1	38 ± 0,15	50 ± 0,2	65 ± 0,3
t	1	1	1,2	1,5
D_1 h12	29,6	39,6	51,6	65,5
d H8	26	36	47,6	62
L_1 max.	50	50	50	50
L_2 max.	35	35	40	40

Figure 18 — Inner tube, type DM

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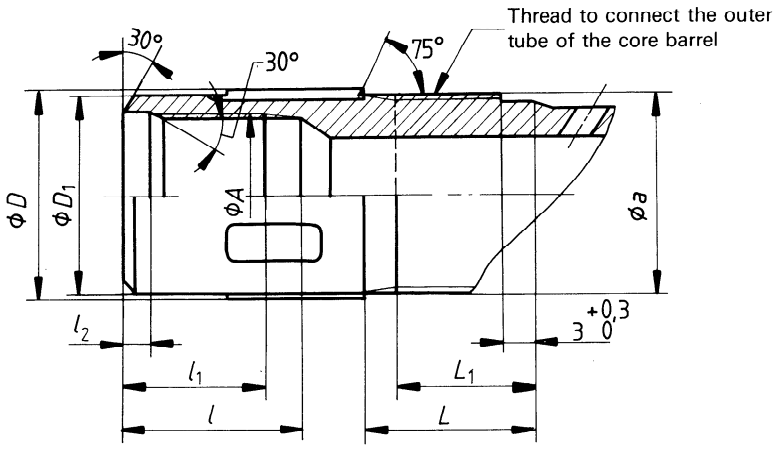

NOTE — The head design is not subject to standardization.

Dimensions	DM35C	DM46C	DM59C	DM76C
D h14	35,5	45,5	58,5	75,5
D_1 h14	34	45	57	73
L $^{+2}_{0}$	70	75	80	85
L_1 $^{+1}_{0}$	65	70	75	80
l H14	40	55	60	66
l_1 JS14	30	45	50	56
l_2 JS14	8	10	10	10
Box thread, $A \times P$ (see figure 43)	26,5 × 6	33 × 8	42 × 8	55 × 8
Pin thread, $a \times P$ (see figure 44)	31,6 × 4	42 × 4	54 × 4	69,5 × 4

Figure 19 — Head, type DM

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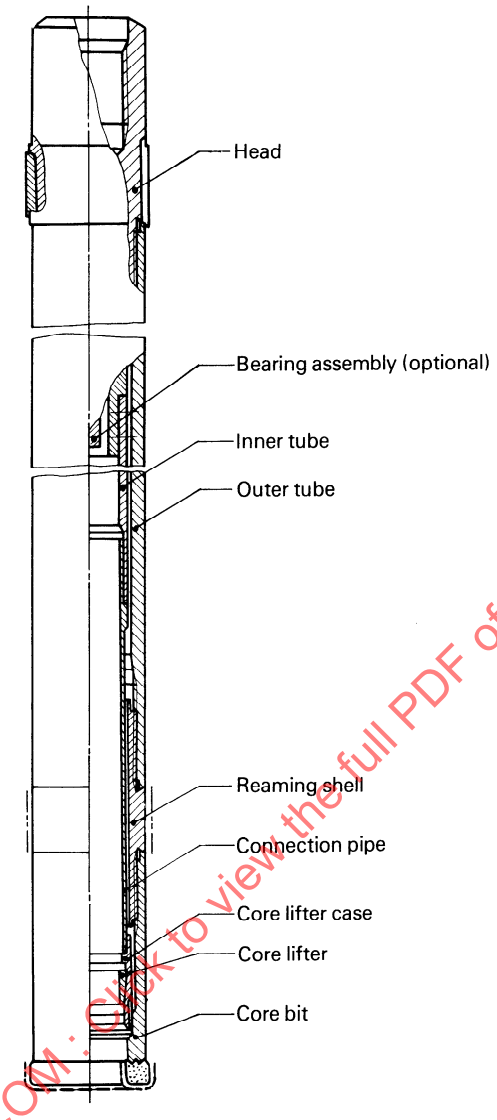

Figure 20 — Assembly of double-tube core barrel, type DM

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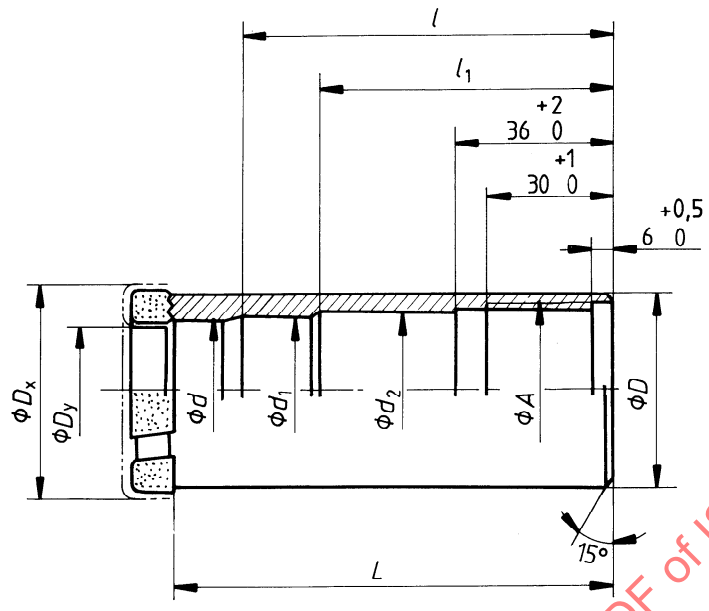

Dimensions	DT46C	DT59C	DT76C	DT93C
D_x	46 $^{+0,2}_{-0,1}$	59 $^{+0,2}_{-0,1}$	76 $^{+0,2}_{-0,1}$	93 $^{+0,3}_{-0,2}$
D_y	31 $^{+0,2}_{-0,1}$	42 $^{+0,2}_{-0,1}$	58 $^{+0,2}_{0,1}$	73 $^{+0,3}_{-0,2}$
D h11	44,5	58	74	90
d H11	32	43	59	74,5
d_1 H9	37,5	50	65	82
d_2 H11	39,5	52	67,5	84
L js14	132	152	152	152
l H14	110	130	130	130
l_1 H14	100	120	120	120
Thread, $A \times P$ (see figure 44)	42 × 4	54 × 4	69,5 × 4	85,5 × 4

Figure 21 — Core bit, type DT

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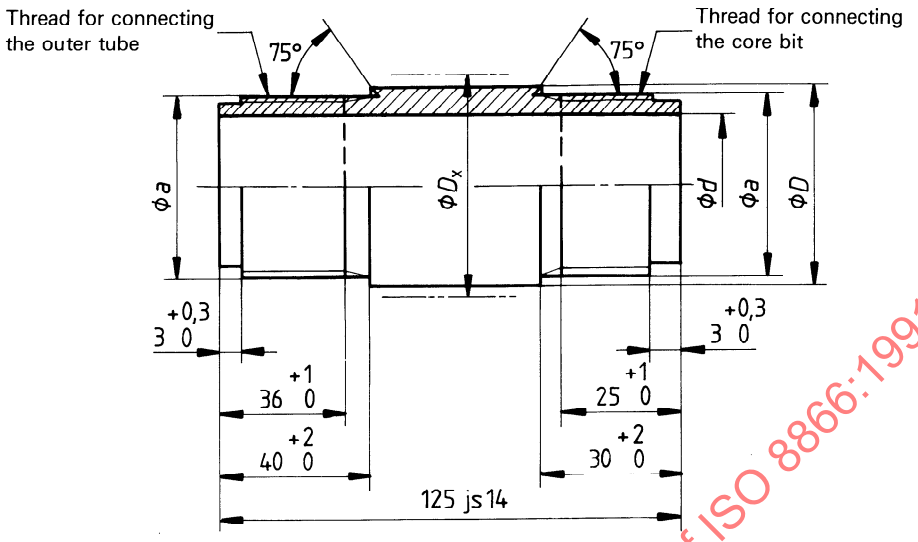

Dimensions	DT46C	DT59C	DT76C	DT93C
D_x $^{+0,2}_{-0,1}$	46,4	59,4	76,4	93,4
D h12	44,5	58	74	90
d H12	36,5	48	64,5	81
Thread, $a \times P$ (see figure 44)	42 × 4	54 × 4	69,5 × 4	85,5 × 4

Figure 22 — Reaming shell, type DT

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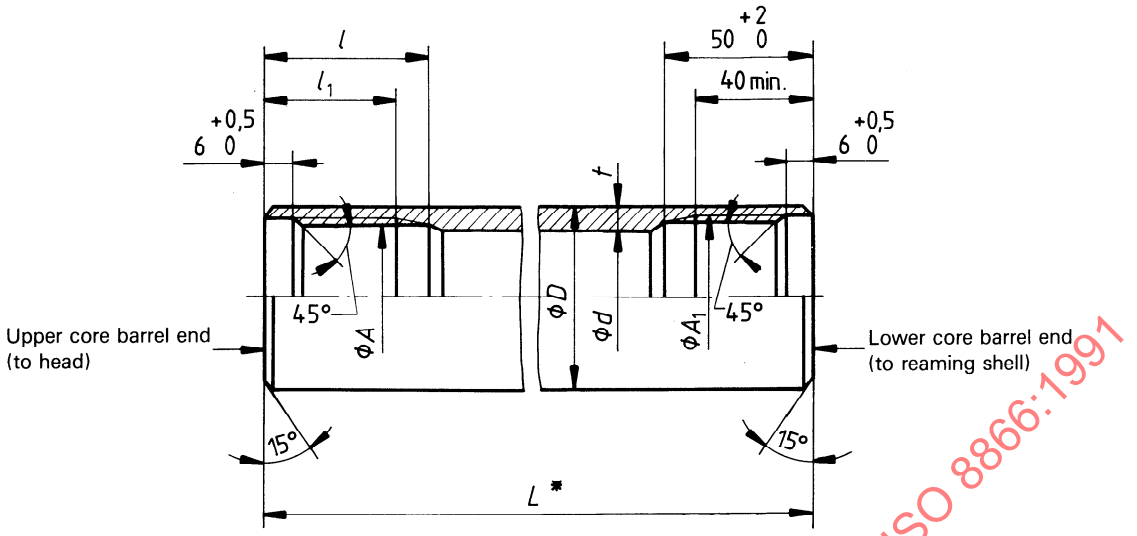

NOTE — L^* is not specified.

Dimensions	DT46C	DT59C	DT76C	DT93C
D	44	57	73	89
d	37 ± 0,2	50 ± 0,25	66 ± 0,35	82 ± 0,4
t	3,5 ± 0,25	3,5 ± 0,25	3,5 ± 0,25	3,5 ± 0,25
l $^{+2}_{0}$	70	70	75	80
l_1 min.	60	60	65	70
Upper end thread, $A \times P$ (see figure 44)	40 × 4	52 × 4	68 × 4	84 × 4
Lower end thread, $A_1 \times P$ (see figure 44)	42 × 4	54 × 4	69,5 × 4	85,5 × 4

Figure 23 — Outer tube, type DT

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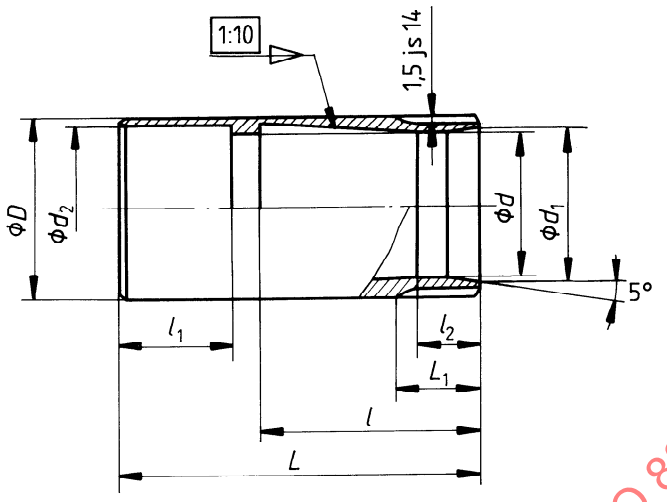

Dimensions	DT46C	DT59C	DT76C	DT93C
D h9	37,5	50	65,5	82
d H9	32	43	59	74,5
d_1 H9	32,7	44	60	75,5
d_2 H7	34,6	46,4	62	79
L js14	70	85	85	85
L_1 JS14	15	20	20	20
l JS14	42	55	55	60
l_1 JS14	25	25	25	25
l_2 JS14	7	8	10	10

Figure 24 — Core-lifter case, type DT

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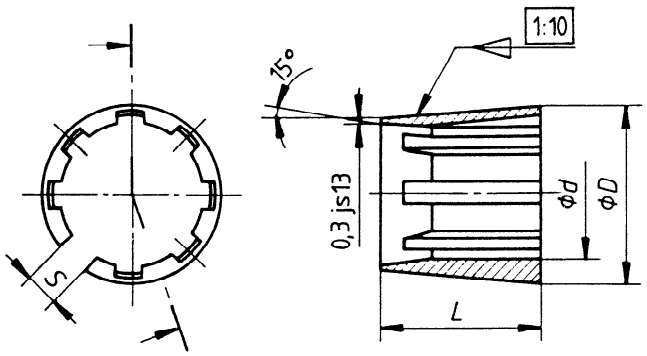

NOTE — The number of flutes, the flute width and wall thickness in the flute recess are not subject to standardization.

Dimensions	DT46C	DT59C	DT76C	DT93C
D h10	33,9	46,4	62,1	77,5
d H11	30,4	41,4	57,4	72,4
L h14	20	25	25	25
S H14	7	12	12	12

Figure 25 — Core lifter, type DT

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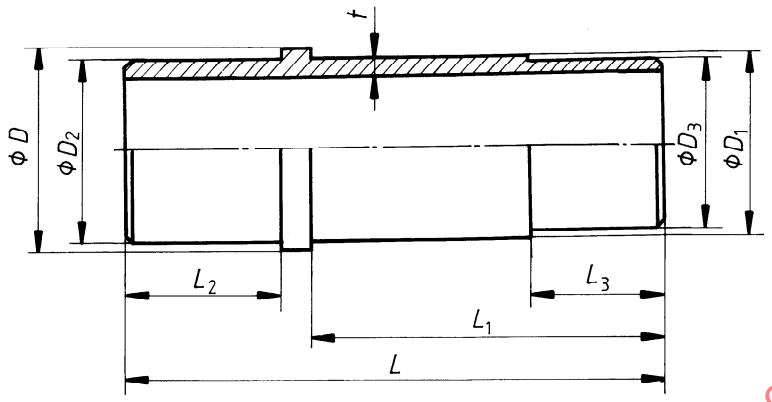

Dimensions	DT59C	DT76C
D	48 ± 0,2	63 ± 0,3
t	2 ± 0,15	1,5 ± 0,12
D_1 h11	46,5	62,5
D_2 h6	46	61,5
D_3 h6	46,4	62
L js14	250	255
L_1 JS14	190	190
L_2 JS14	50	60
L_3 JS14	30	30

Figure 26 — Connection pipe, types DT59C and DT76C

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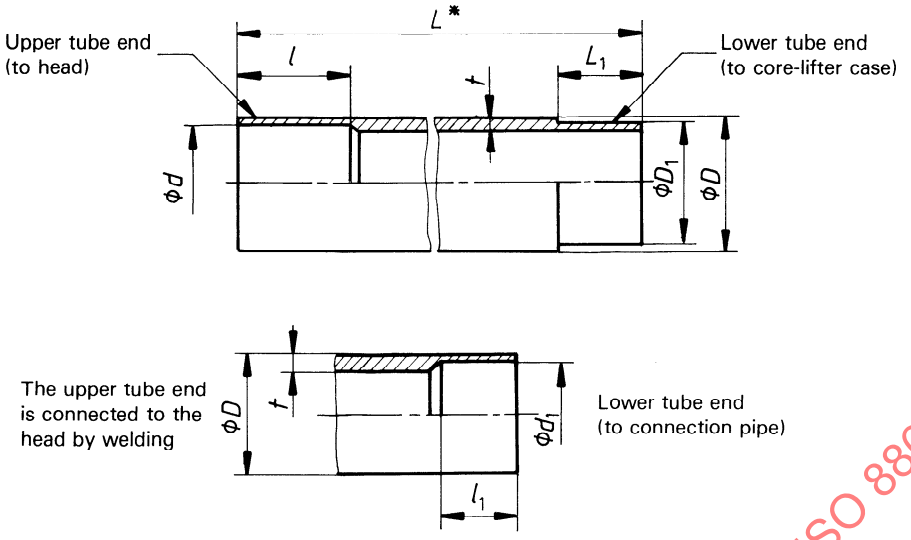

NOTE — L^* is not specified. It is chosen with regard to the design and dimensions of the bearing assembly.

Dimensions	DT46C	DT59C	DT76C	DT93C
D	35 ± 0,15	48 ± 0,2	63 ± 0,3	80 ± 0,35
t	1,2 ± 0,1	2 ± 0,15	1,5 ± 0,12	2 ± 0,15
D_1 h6	34,6	—	—	79
d H8	33,3	45	60,6	77
d_1 H7	—	46	61,5	—
L_1 JS14	28	—	—	170
l H14	42	42	52	52
l_1 H14	—	52	62	—

Figure 27 — Inner tube, type DT

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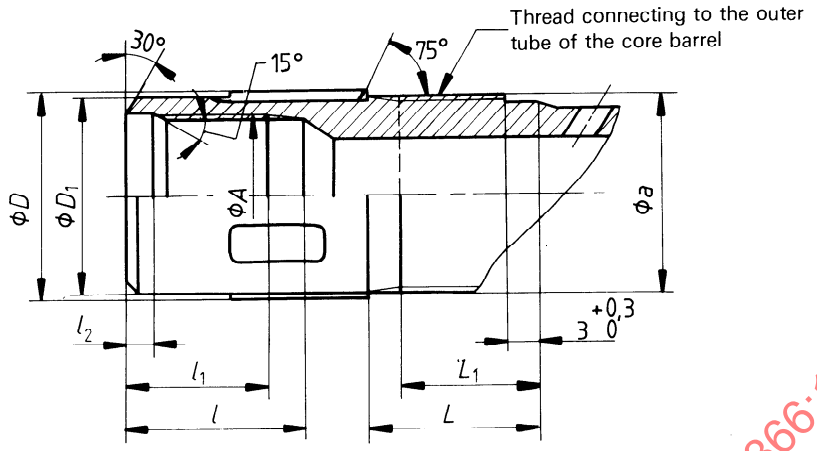

NOTE — The head design is not specified.

Dimensions	DT46C	DT59C	DT76C	DT93C
D h14	45,5	58,5	75,5	92
D_1 h14	44	57	73	89
L_1 $^{+1}_{0}$	70	70	75	80
L $^{+2}_{0}$	75	75	80	85
l H14	40	55	60	66
l_1 JS14	30	45	50	56
l_2 JS14	8	10	10	10
Box thread, $A \times P$ (see figure 43)	26,5 × 6	33 × 8	42 × 8	55 × 8
Pin thread, $a \times P$ (see figure 44)	40 × 4	52 × 4	68 × 4	84 × 4

Figure 28 — Head, type DT

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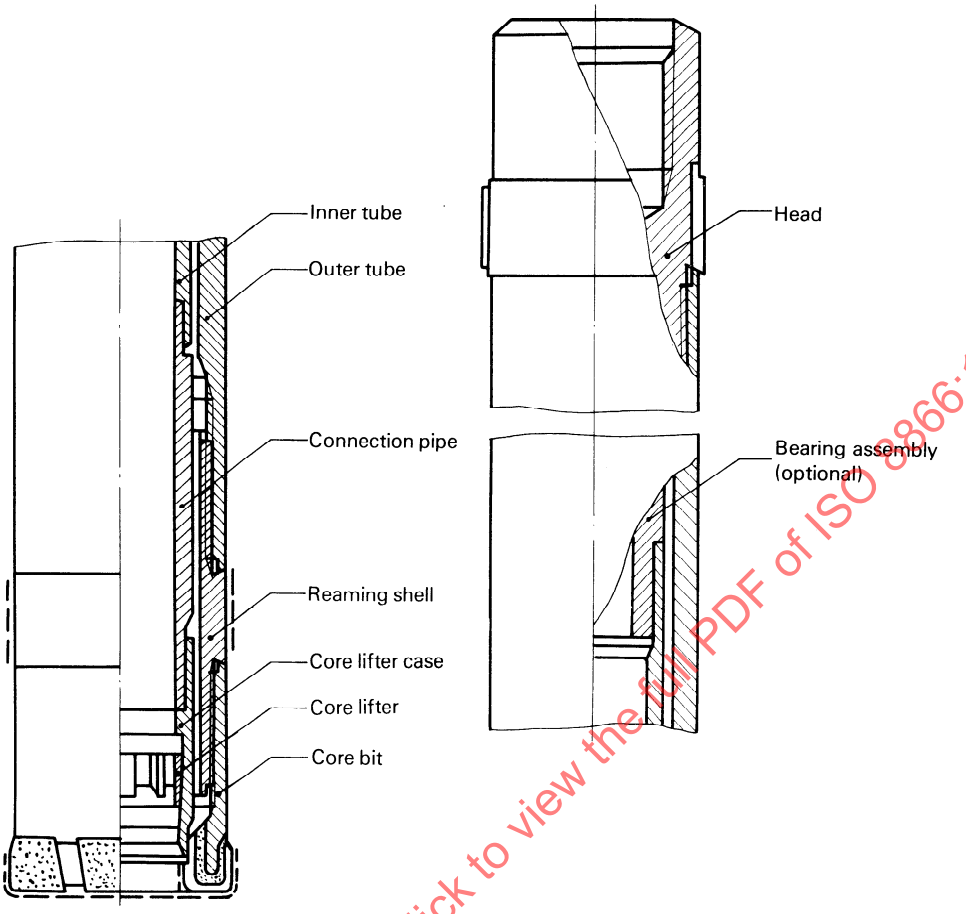

Figure 29 — Assembly of double-tube core barrel, type DP

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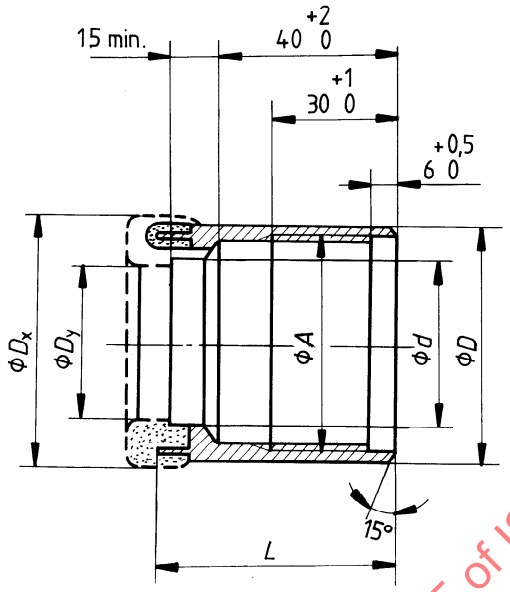

Dimensions	DP59C	DP76C	DP93C	DP112C
D_x	$59^{+0,3}_{-0,2}$	$75^{+0,3}_{-0,2}$	$93^{+0,3}_{-0,2}$	$112^{+0,3}_{-0,2}$
D_y	$35,4^{+0,3}_{-0,2}$	$48^{+0,3}_{-0,2}$	$66^{+0,3}_{-0,2}$	$85^{+0,3}_{-0,2}$
D h11	58	74	90	109
d H14	40	54	72	92
L js14	60	65	65	65
Thread, $A \times P$ (see figure 44)	52 × 4	68 × 4	84 × 4	103 × 4

Figure 30 — Core bit, type DP

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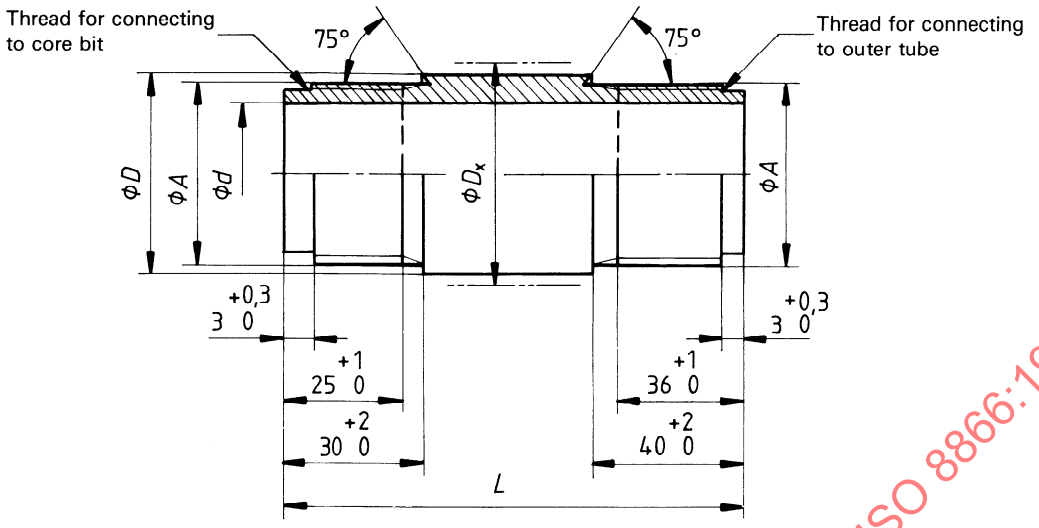

Dimensions	DP59C	DP76C	DP93C	DP112C
D_x $^{+0,2}_{-0,1}$	59,4	76,4	93,4	112,4
D h12	58	74	90	109
d H12	46,5	62,5	78	97
L js14	125	125	135	135
Thread, $A \times P$ (see figure 44)	52 × 4	68 × 4	84 × 4	103 × 4

Figure 31 — Reaming shell, type DP

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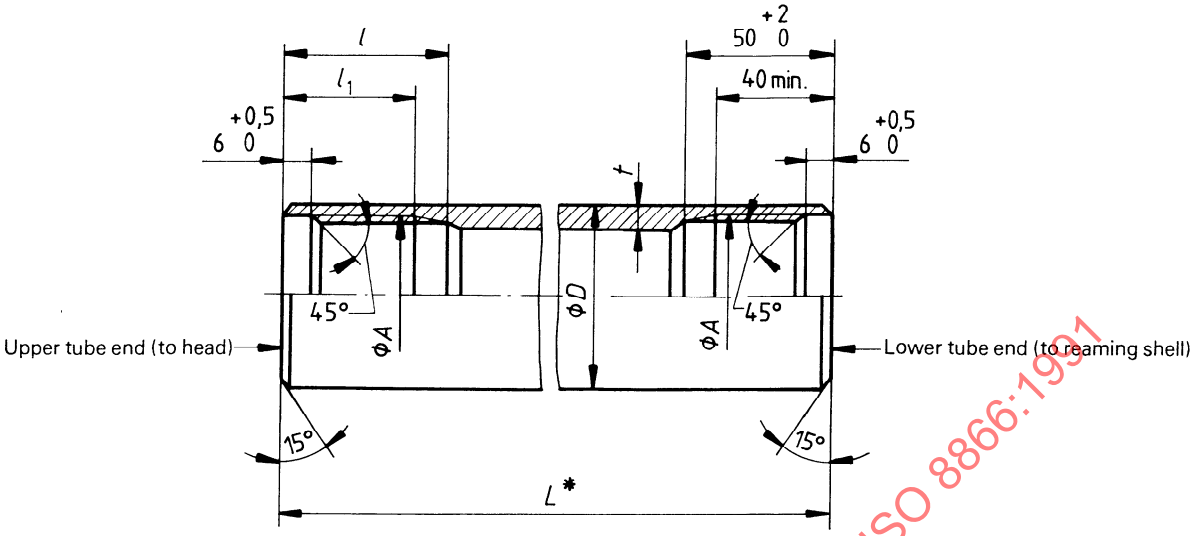

NOTE — L^* is not subject to standardization. It is chosen with the head dimensions so that the assembly has a total length of 4 500 mm.

Dimensions	DP59C	DP76C	DP93C	DP112C
D	57 ± 0,25	73 ± 0,36	89 ± 0,4	108 ± 0,86
t	3,5 ± 0,25	3,5 ± 0,25	3,5 ± 0,25	4 ± 0,4
l $^{+2}_{0}$	70	75	80	80
l_1 min.	60	65	70	70
Thread, $A \times P$ (see figure 44)	52 × 4	68 × 4	84 × 4	103 × 4

Figure 32 — Outer tube, type DP

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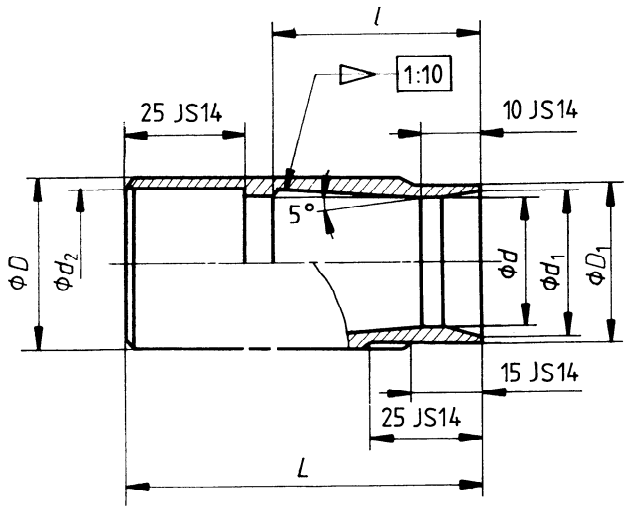

Dimensions	DP59C	DP76C	DP93C	DP112C
D h8	43,5	58	74,5	93,5
D_1 h11	40	54	72	92
d H8	36,2	49	67	86
d_1 H12	37,5	50,5	69	88
d_2 H7	40	54,5	71,5	90
L js14	85	85	85	85
l JS14	55	55	55	55

Figure 33 — Core-lifter case, type DP

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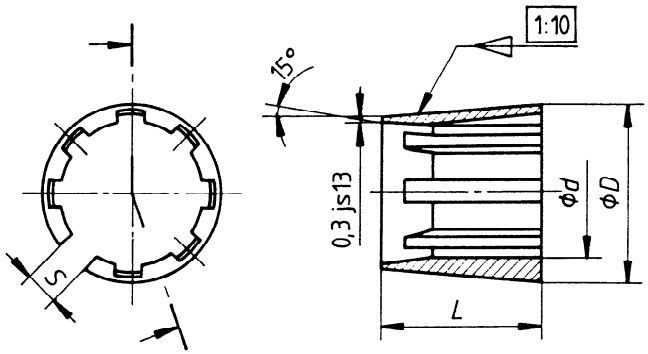

NOTE — The number of flutes, the flute width and wall thickness in the flute recess are not subject to standardization.

Dimensions	DP59C	DP76C	DP93C	DP112C
D h10	39,2	52	69,6	88,6
d H11	34,6	47,4	65	84
L h14	25	25	25	25
S H14	10	10	10	10

Figure 34 — Core lifter, type DP

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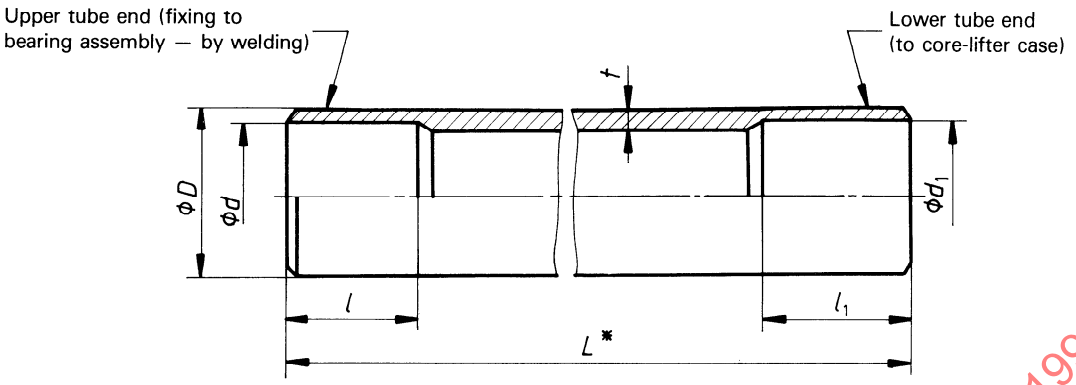

NOTE — L^* is not subject to standardization. It is chosen with regard to the design and the dimensions of the bearing assembly, and so that the core barrel assembly has a total length of 4 500 mm (when assembled).

Dimensions		DP59C	DP76C	DP93C	DP112C
D		45 ± 0,2	60 ± 0,3	75 ± 0,35	95 ± 0,45
t		3 ± 0,24	3 ± 0,24	3 ± 0,24	3 ± 0,24
d	H8	40	52	70	90
d_1	H8	40	54,5	71,5	90
l_1	JS14	28	28	28	28
l	JS14	42	52	52	62

Figure 35 — Inner tube, type DP

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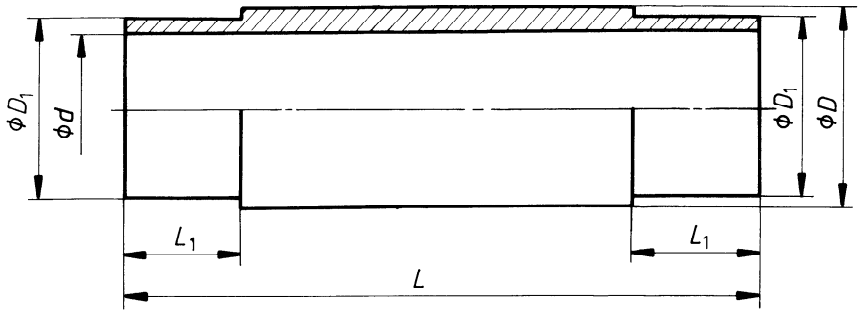

Dimensions		DP59C	DP76C	DP93C	DP112C
D	h11	43,5	58	74,5	93,5
d	H12	36,2	49	67	86
D_1	h6	40	54,5	71,5	90
L_1	JS14	28	28	28	28
L	js14	90	90	100	100

Figure 36 — Connection pipe, type DP

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