

INTERNATIONAL STANDARD

**ISO
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Driver points to fit cross-recessed head screws

Extrémités de tournevis pour vis à empreinte cruciforme

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Reference number
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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 8764 was prepared by Technical Committee ISO/TC 29, *Small tools*.

[ISO 8764:1989](#)

Annex A of this International Standard is for information only.

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Driver points to fit cross-recessed head screws

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1 Scope

This International Standard specifies the shapes and dimensions, the technical requirements, torque test methods and the marking for the points of hand drivers and machine-operated bits for cross-recessed head screws.

This International Standard specifies two types of driver points as follows:

- type PH for type H recesses;
- type PZ for type Z recesses.

Types H and Z recesses are specified in ISO 4757.

2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 4757 : 1983, *Cross recesses for screws*.

3 Shape and dimensions

The shapes and dimensions of the points shall conform with the requirements given in figure 1 and table 1 for type PH and figure 2 and table 2 for type PZ.

The axis of the point shall be concentric with the axis of the tool.

When a plated finish is used, the dimensions shall be met after plating.

4 Technical requirements

4.1 Materials

Components shall be manufactured from steel which when suitably heat treated satisfies the mechanical requirements and torque tests specified in 4.2 and clause 6 respectively.

4.2 Heat treatment and hardness

Driver points shall be hardened and tempered to attain minimum hardness values as follows:

- for hand-operated driver points: 54 HRC, for a minimum distance from the driving end equal to three times the nominal blade diameter;
- for machine-operated driver points: 58 HRC, over the entire length.

NOTE — These hardness values are the subject of a complementary study.

All hardness measurements shall be carried out on ground flats, parallel with the axis and of sufficient area to give an accurate reading.

4.3 Finish

Components shall be free from cracks, blemishes and other deleterious defects.

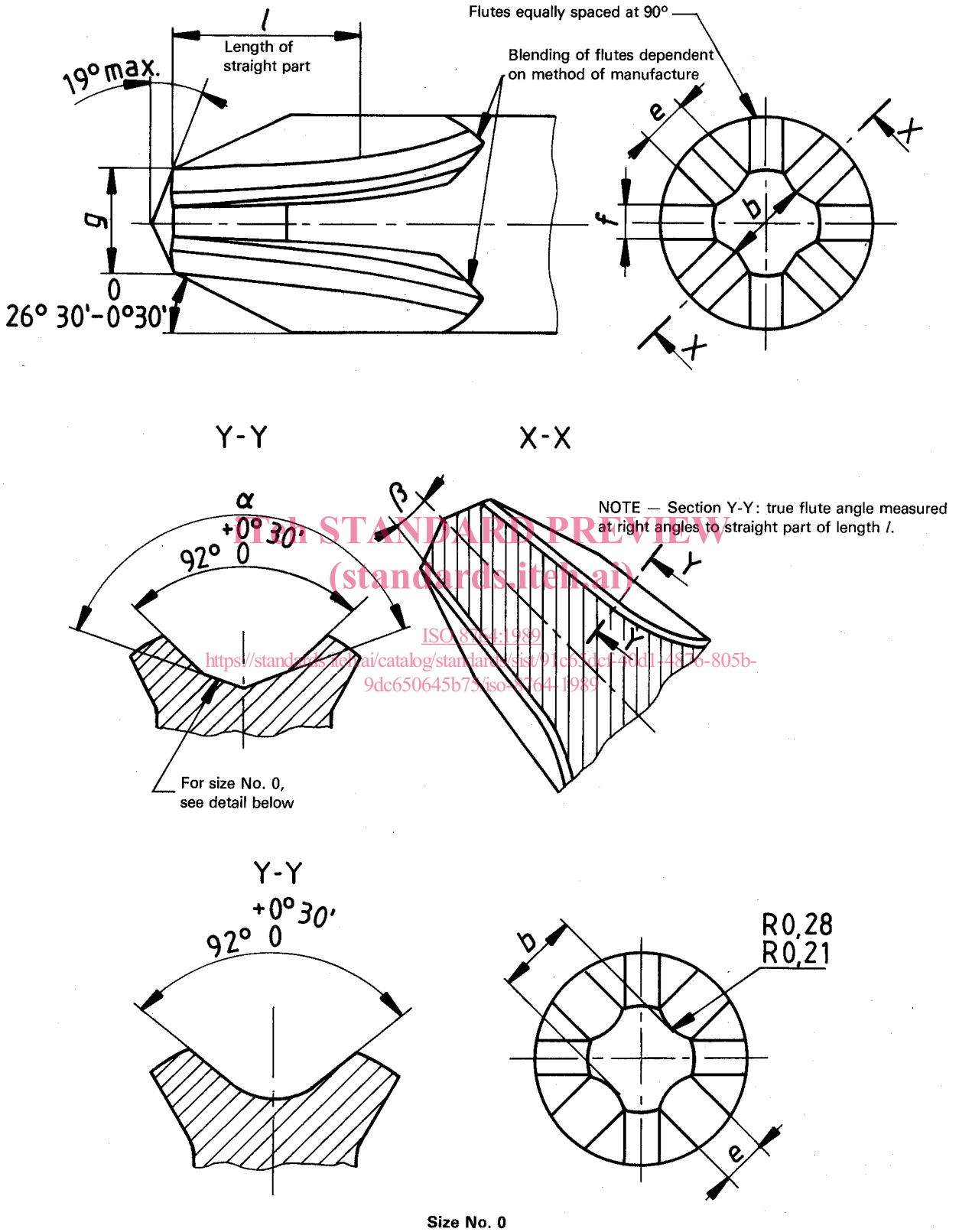


Figure 1 — Points type PH

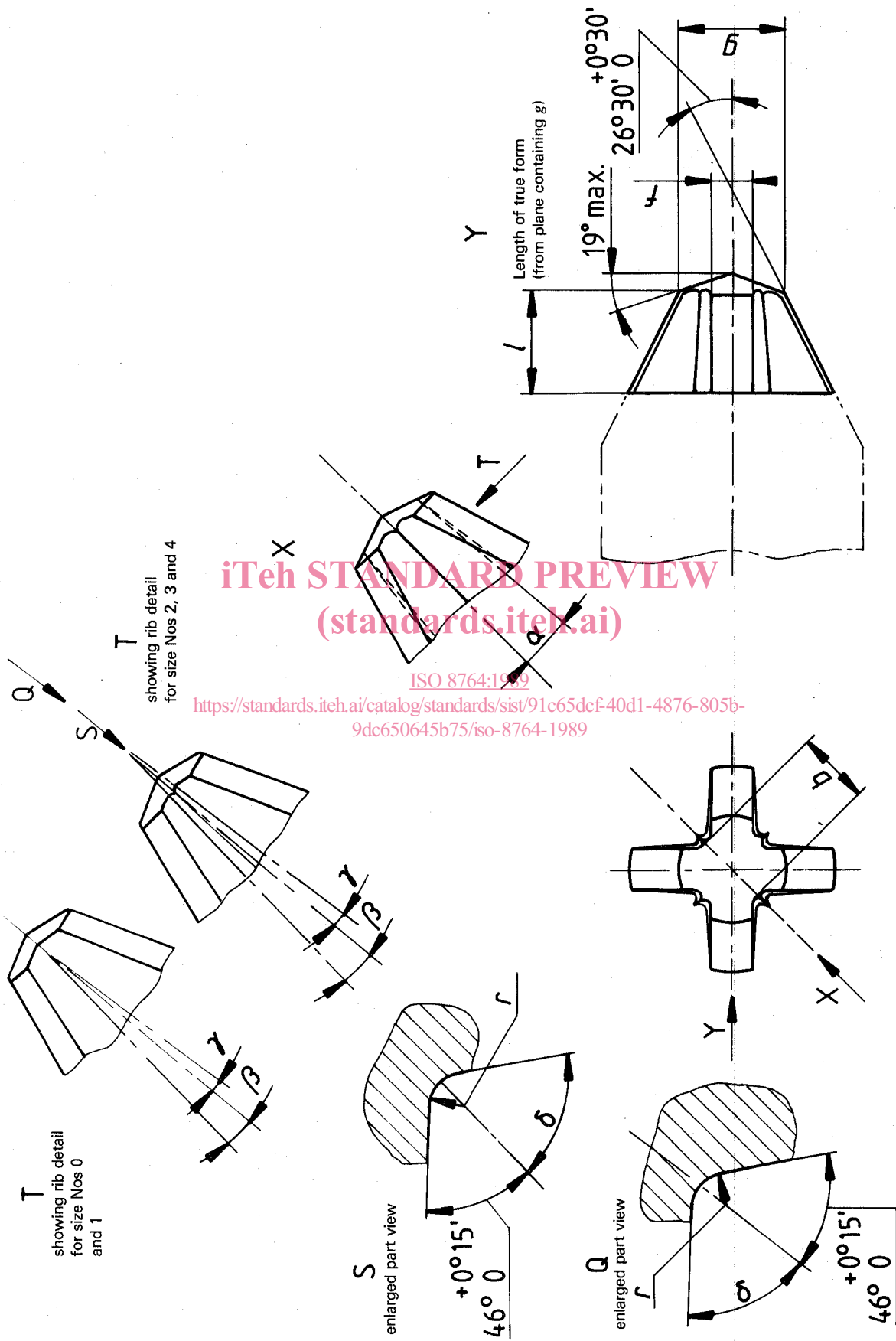


Figure 2 — Points type PZ

Table 1 — Dimensions of points type PH

Dimensions in millimetres

Point size	Nominal blade diameter	<i>b</i>	<i>e</i>	<i>f</i> max.	<i>g</i>	<i>l</i> min.	α	β
0	3	0,61 0,56	0,38 0,29	0,31	0,84 0,79	2,78	See figure 1	7°00' 6°30'
1	4,5	1,03 0,98	0,54 0,49	0,53	1,30 1,25	2,78	138°30' 138°00'	7°00' 6°30'
2	6	1,56 1,51	1,13 1,08	0,64	2,31 2,26	4,37	140°30' 140°00'	5°45' 5°15'
3	8	2,52 2,47	2,12 2,07	0,81	3,84 3,79	6,74	146°30' 146°00'	5°45' 5°15'
4	10	3,60 3,55	2,76 2,71	1,12	5,11 5,06	8,34	153°30' 153°00'	7°00' 6°30'

Table 2 — Dimensions of points type PZ

Dimensions in millimetres

Point size	Nominal blade diameter	<i>b</i>	<i>f</i>	<i>g</i>	<i>l</i> min.	<i>r</i>	α	β	γ	δ
0	3	0,78 0,70	0,45 0,42	1,24 1,19	1,54	0,10 0,07	7°00' 6°30'	8°15' 7°45'	4°53' 4°23'	46°15' 46°00'
1	4,5	1,19 1,11	0,71 0,68	1,75 1,70	2,02	0,13 0,10	7°00' 6°30'	8°15' 7°45'	4°53' 4°23'	46°15' 46°00'
2	6	1,78 1,70	1,00 0,95	2,84 2,79	3,17	0,30 0,15	5°45' 5°15'	6°50' 6°20'	3°30' 3°00'	46°15' 46°00'
3	8	2,65 2,55	1,38 1,33	4,27 4,22	4	0,36 0,20	5°45' 5°15'	6°50' 6°20'	3°30' 3°00'	56°30' 56°15'
4	10	4,02 3,92	2,10 2,05	5,82 5,77	5,4	0,51 0,36	7°00' 6°30'	8°15' 7°45'	4°53' 4°23'	56°30' 56°15'

5 Inspection of dimensions

Conformance with the dimensions specified in clause 3 shall be determined either by direct measurement or by the use of suitable inspection gauges as defined in 5.1 and 5.2.

5.1 Inspection gauges for points type PH

The dimensions of the points are in accordance with this International Standard when they fit properly into the gauge and

when the edges of the points at which the two cones of 53° and 142° meet, lie within the step *C* of the gauge (see figure 3 and table 3) (see annex A for an explanation of the choice of the dimensions).

5.2 Inspection gauges for points type PZ

The dimensions of the points are in accordance with this International Standard when they fit properly into the gauge and when the plane containing *G* lies within the step of the inspection gauge between dimensions *I* and *K* (see figure 4 and table 4).

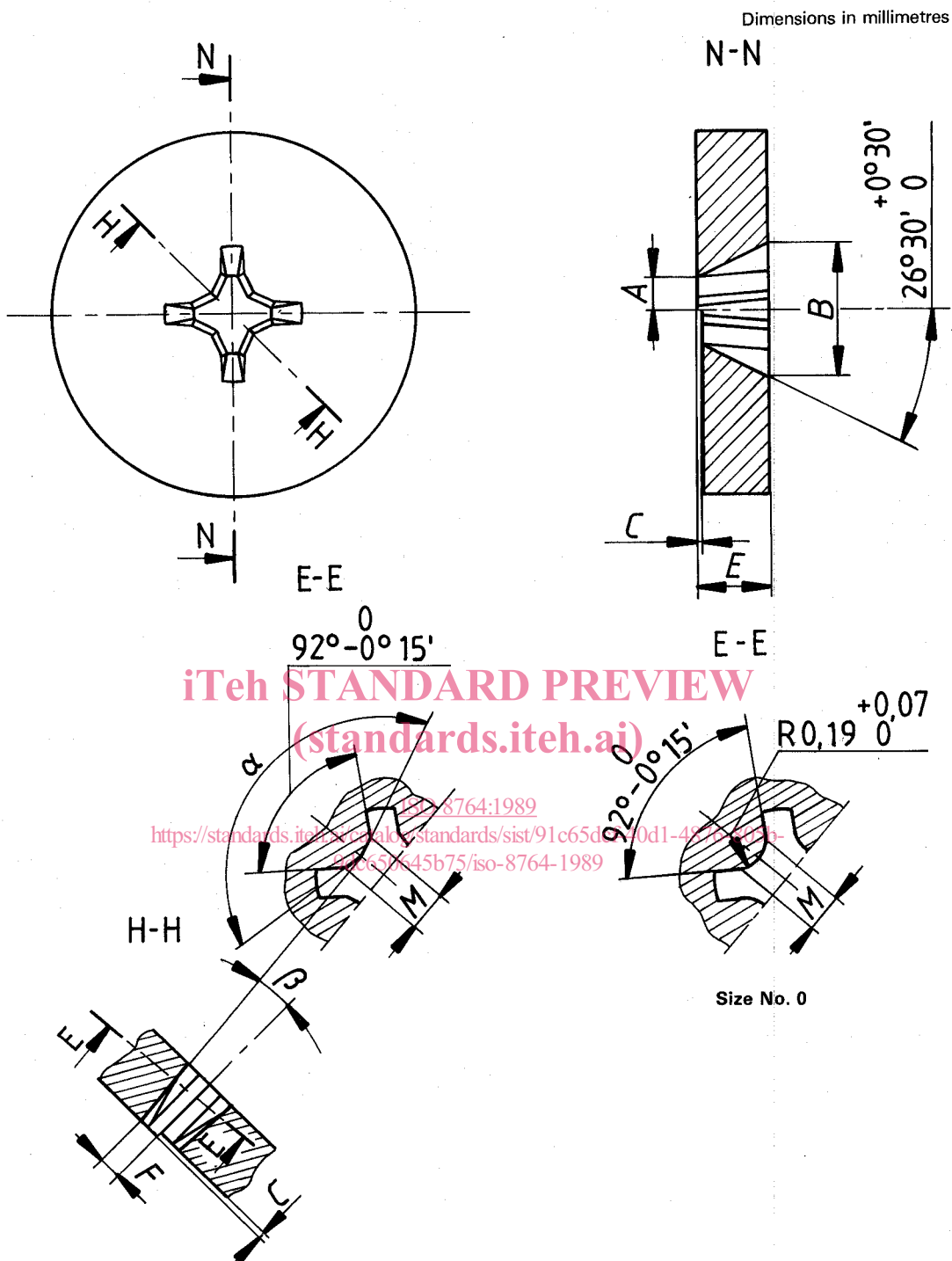


Figure 3 — Inspection gauge for points type PH

Table 3 — Dimensions of inspection gauge for points type PH

Dimensions in millimetres

Point size	A $\pm 0,005$	B min.	C $\pm 0,025$	E max.	F $\pm 0,005$	M 0 -0,02	α 0 -0°15'	β +0°15' 0
0	0,419	Blade diameter	0,254	$L_{\min} - 0,4$	0,284	0,29	—	7°
1	0,648				0,493	0,49	138°	
2	1,156				0,769	1,08	140°	5°45'
3	1,918				1,257	2,07	146°	
4	2,553				1,804	2,71	153°	7°

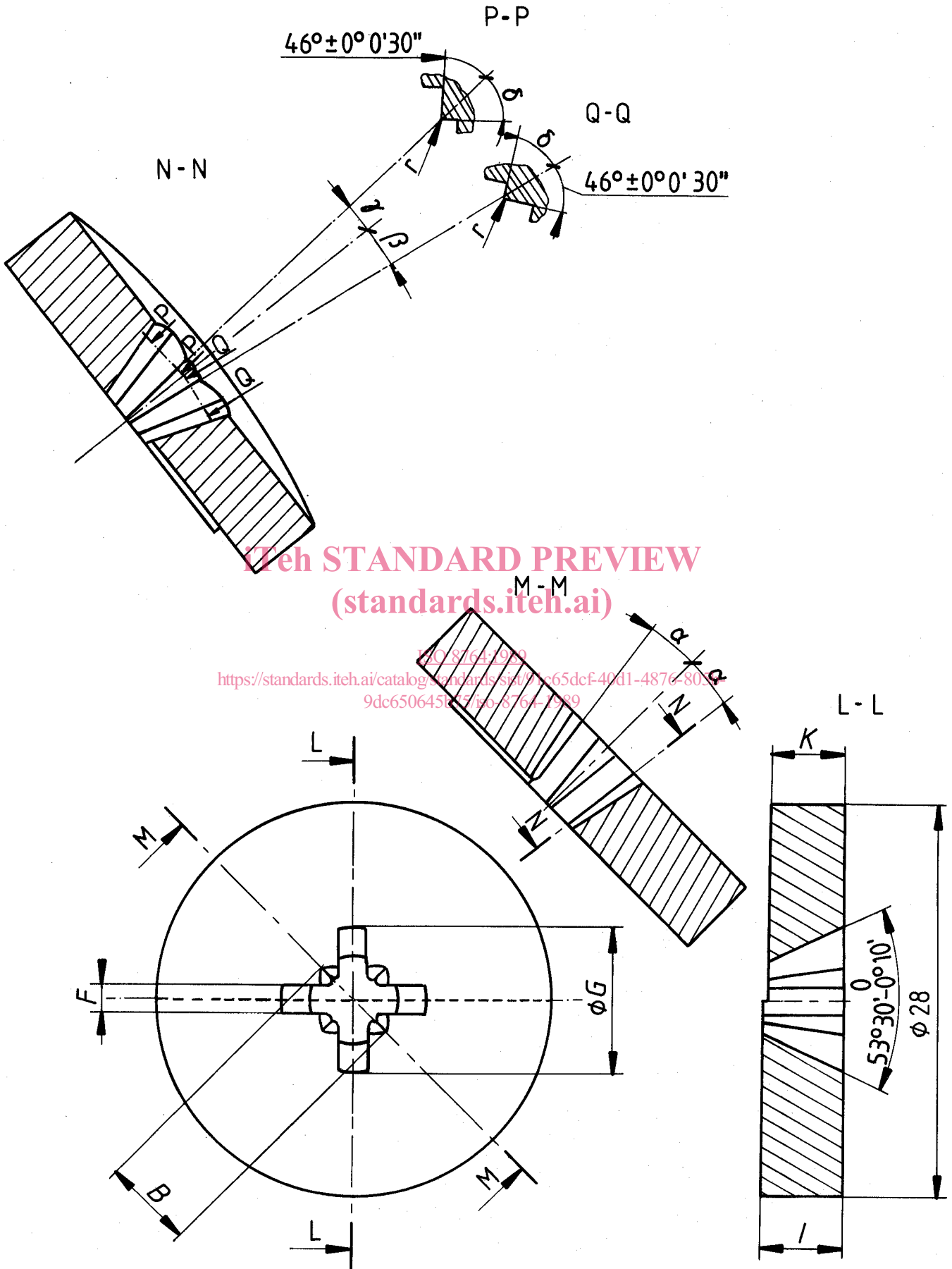


Figure 4 — Inspection gauge for points type PZ

Table 4 – Dimensions of inspection gauge for points type PZ

Dimensions in millimetres

Point size	<i>B</i>	<i>F</i>	<i>G</i>	<i>I</i>	<i>K</i>	<i>r</i>	α	β	γ	δ
0	1,188	0,490	2,629	1,500	1,250	0,10	7°20'	7°43'	5°15'	46°05'
	1,163	0,470	2,616	1,490	1,240	0,05	7°10'	7°33'	5°05'	45°55'
1	1,732	0,746	3,650	1,980	1,730	0,13	7°25'	7°48'	5°22'	46°05'
	1,707	0,726	3,637	1,970	1,720	0,08	7°15'	7°38'	5°12'	45°55'
2	2,453	1,054	5,769	3,125	2,875	0,13	6°00'	6°18'	3°45'	46°05'
	2,428	1,034	5,756	3,115	2,865	0,08	5°50'	6°08'	3°35'	45°55'
3	3,525	1,442	7,963	3,860	3,610	0,23	6°10'	6°28'	3°50'	56°20'
	3,500	1,422	7,950	3,850	3,600	0,18	6°00'	6°18'	3°40'	56°10'
4	5,425	2,153	9,900	5,180	4,930	0,38	7°20'	7°43'	5°15'	56°20'
	5,400	2,133	9,885	5,170	4,920	0,33	7°10'	7°33'	5°05'	56°10'

6 Torque test

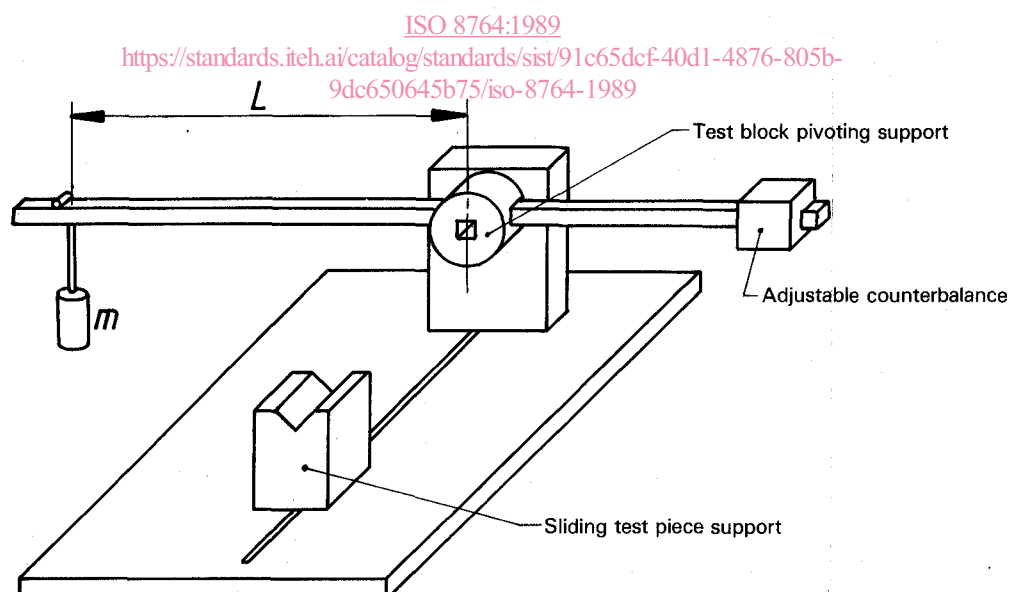
The test specified in this clause is for the driver points only.

The blade shall be gripped in the jaws of the mandrel of a torque testing device (see figure 5).

The other part of the testing device shall be equipped with a test block of the appropriate type and driver point size which shall comply with the requirements of figure 6 and table 5.

The minimum hardness of the test block shall be 62 HRC.

After the minimum torque specified in table 6 has been applied, the driver points shall not exhibit any fracture or permanent distortion.



m is the appropriate mass;

L is the distance from the fulcrum to the centre of the mass.

Figure 5 – Diagrammatic representation of the principal of a torque testing device