

ISO

transferee

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

**ISO RECOMMENDATION
R 1050**

CONTINUOUS MECHANICAL HANDLING EQUIPMENT
FOR LOOSE BULK MATERIALS

SCREW CONVEYORS

1st EDITION

April 1969

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Printed in Switzerland

Also issued in French and Russian. Copies to be obtained through the national standards organizations.

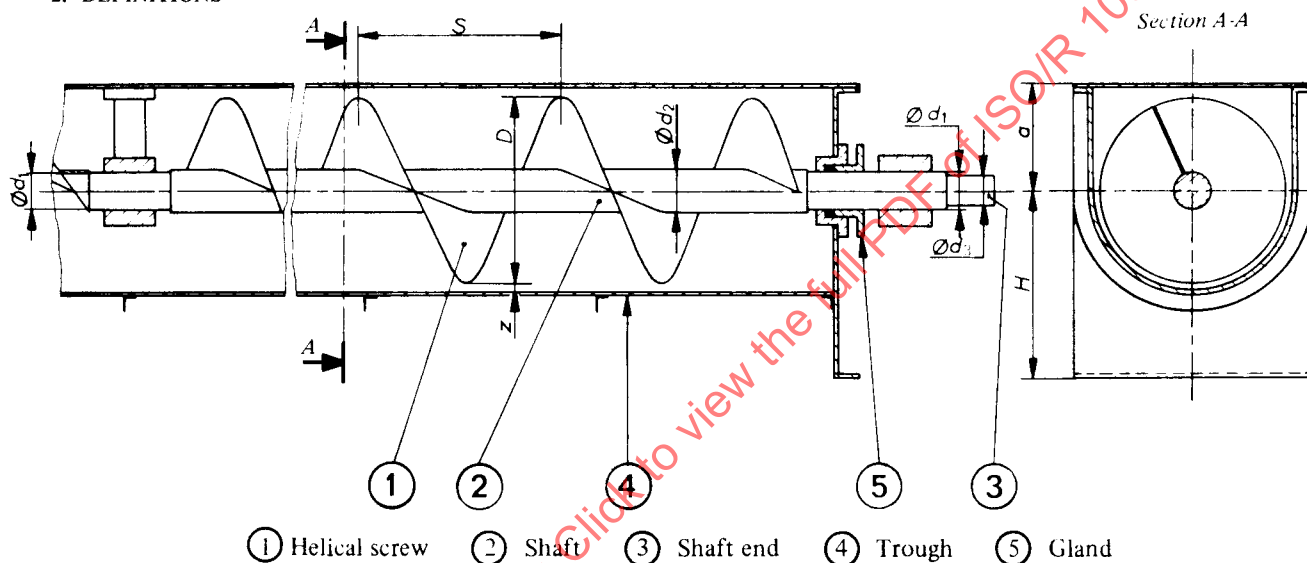
CONTINUOUS MECHANICAL HANDLING EQUIPMENT FOR LOOSE BULK MATERIALS

SCREW CONVEYORS

1. SCOPE

This ISO Recommendation defines the recommended values of the main dimensions of the screw conveyor elements.

2. DEFINITIONS



2.1 Helical screw

2.1.1 *Nominal diameter.* The nominal diameter D of a screw conveyor is the outside diameter of the helical screw.

2.1.2 *Pitch.* The pitch S of a screw conveyor is the pitch of the helical screw.

2.2 Shaft

2.2.1 *Constitution.* The shaft of the helical screw may be made either solid (diameter d_1), or partly solid (diameter d_1) and partly tubular (diameter d_2).

2.2.2 *Shaft end.* The driven end of the shaft (diameter d_3).

2.3 Trough

2.3.1 *Shaft height.* Height H of the shaft centre line above the foot of the trough support.

2.3.2 *Height above shaft.* Distance a between the shaft centre line and the top of the trough.

2.3.3 *Clearance.* Radial clearance z between the helical screw and the interior of the cylindrical part of the trough.

3. DIMENSIONS

The values of main dimensions of screw conveyors are given in millimetres and taken from series of preferred numbers.*

3.1 Helical screw

3.1.1 *Nominal diameters D.* The following diameters are taken from the R 10 series of preferred numbers.*

D	100	125	160	200	250	315	400	500	630	800	1000	1250
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3.1.2 Pitch S

3.1.2.1 The following pitch dimensions are taken from the R 10 series of preferred numbers* up to pitch of 315 mm and for larger pitches from the R 20 series of preferred numbers.*

S	80	100	125	160	200	250	315	355	400	450	500	560	630	800	1000
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3.1.2.2 The screw pitch should be chosen by the manufacturer.

3.2 Shaft

3.2.1 *Solid parts – Diameters d_1 .* Recommended values :

d_1	25	30	35	40	50	60	70	80	90	100	110	125
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3.2.2 *Tubular parts – Diameters d_2 .* The following values are taken from ISO Recommendation R 64, *Steel tubes – Outside diameters.*

d_2	mm	33.7	42.4 or 44.5	48.3	57	63.5	76.1	88.9	108	133	159	193.7
	in	$1\frac{11}{32}$	$1\frac{11}{16}$ or $1\frac{3}{4}$	$1\frac{29}{32}$	$2\frac{1}{4}$	$2\frac{1}{2}$	3	$3\frac{1}{2}$	$4\frac{1}{4}$	$5\frac{1}{4}$	$6\frac{1}{4}$	$7\frac{5}{8}$

3.2.3 *Shaft end.* The shaft end should conform to ISO Recommendation R 775, *Cylindrical and 1/10 conical shaft ends.*

3.3 Trough

3.3.1 *Shaft height, H.* The height should conform to ISO Recommendation R 496, *Shaft heights for driving and driven machines.*

3.3.2 *Height above shaft, a.* This height, taken from the R 20 series of preferred numbers* (except for $a = 75$ mm), is related to the nominal diameter D (see clause 3.1.1), as indicated below.

D	100	125	160	200	250	315	400	500	630	800	1000	1250
a	63	75	90	112	140	180	224	280	355	450	560	710

3.3.3 *Clearance, z.* The clearance z should be determined by the manufacturer in accordance with the characteristics of the material handled and the working conditions.

* See ISO Recommendation R 3, *Preferred numbers – Series of preferred numbers.*