

फसल सुरक्षा उपकरण — वायु चलित
फुहारा — नोजल स्विवेल नटो के आयाम
(पहला पुनरीक्षण)

**Crop Protection Equipment —
Air-Assisted Sprayers — Dimensions
of Nozzle Swivel Nuts**
(*First Revision*)

ICS 65.060.40

© BIS 2024



भारतीय मानक ब्यूरो
BUREAU OF INDIAN STANDARDS
मानक भवन, 9 बहादुर शाह ज़फर मार्ग, नई दिल्ली - 110002
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI - 110002
www.bis.gov.in www.standardsbis.in

September 2024

Price Group 4

FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Agricultural Machinery and Equipment Sectional Committee had been approved by the Food and Agriculture Division Council.

Swivel nuts of nozzles are important component of air-assisted sprayers. It plays major role to fit measurement devices while determining nozzle output during testing of air-assisted sprayers. Therefore, standardization of outer dimensions of the nuts, may help to reduce the number of fitting pieces used and thus enabling the simplification of the test procedure.

This standard was first published in 2011 as an identical adoption of ISO 14710 : 1996 'Equipment for crop protection — Air-assisted sprayers — Dimensions of nozzle swivel nuts'. However, the ISO standard has now been withdrawn. Considering the relevance of the standard in Indian context, the standard is being revised by converting it into an indigenous standard.

The composition of the Committee responsible for the formulation of this standard is given in [Annex A](#).

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 2022 'Rules for rounding off numerical values (*second revision*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

*Indian Standard***CROP PROTECTION EQUIPMENT — AIR-ASSISTED
SPRAYERS — DIMENSIONS OF NOZZLE SWIVEL NUTS***(First Revision)***1 SCOPE**

This standard specifies the outer dimensions of the swivel nuts of nozzles for air-assisted sprayers.

The defined dimensions simplify the fitting of measurement devices to the swivel nuts

(for example, for the determination of the nozzle output).

2 DIMENSIONS

The swivel nuts shall be conical with outer dimensions that correspond to [Fig. 1](#) and [Table 1](#).

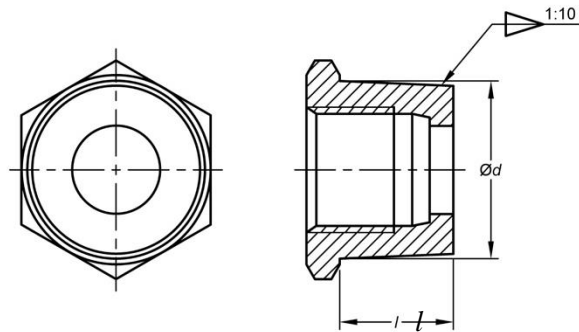


FIG. 1 TYPICAL DIAGRAM OF A SWIVEL NUT

Table 1 Dimensions of Nuts

(Clause 2)

(All dimensions in millimetres.)

Sl No.	d	l
	± 0.1	<i>Min</i>
(1)	(2)	(3)
i)	25	15
ii)	30	15
iii)	35	15
iv)	40	15

ANNEX A

(Foreword)

COMMITTEE COMPOSITION

Agricultural Machinery and Equipment Sectional Committee, FAD 11

<i>Organization</i>	<i>Representative(s)</i>
ICAR - Central Institute of Agricultural Engineering, Bhopal	DR C. R. MEHTA (<i>Chairperson</i>)
Agricultural Machinery Manufacturers Association, Pune	DR SURENDRA SINGH SHRI MITUL PANCHAL (<i>Alternate</i>)
All India Farmers Alliance, New Delhi	DR RAJARAM TRIPATHI SHRIMATI APURVA TRIPATHI (<i>Alternate</i>)
ASPEE Agro Equipment Private Limited, Mumbai	SHRI JATIN S. PATEL SHRI GANGADHAR VARPE (<i>Alternate</i>)
Automotive Research Association of India, Pune	SHRI A. AKBAR BADUSHA SHRI GIRISH TANAWADE (<i>Alternate I</i>) SHRI GANGARAM AUTI (<i>Alternate II</i>)
CCS Haryana Agricultural University, Hisar	DR VIJAYA RANI
Central Farm Machinery Training and Testing Institute, Budni	SHRI ANIL KUMAR UPADHYAY SHRI BABUL NATH DIXIT (<i>Alternate I</i>) SHRI PARTH LODH (<i>Alternate II</i>)
CLAAS India Private Limited, Chandigarh	SHRI KRISHNA PRABHAKAR SINGH
CNH Industrial India Private Limited, Pune	SHRI SANTHOSH RAO SHRI SUJIT HINGE (<i>Alternate</i>)
Consumer Guidance Society of India, Mumbai	SHRI SITARAM DIXIT
Dasmesh Mechanical Works Private Limited, Malerkotla	SHRI SARBJEET SINGH PANESAR SHRI GURDEEP SINGH PANESAR (<i>Alternate</i>)
ICAR - All India Coordinated Research Project on Ergonomics and Safety in Agriculture, Bhopal	DR SUKHBIR SINGH DR RAHUL R POTDAR (<i>Alternate I</i>) SHRIMATI SWEETI KUMARI (<i>Alternate II</i>)
ICAR - All India Coordinated Research Project on Farm Implements and Machinery, Bhopal	DR K. N. AGRAWAL
ICAR - All India Coordinated Research Project on Mechanization of Animal Husbandry, Bhopal	DR S. P. SINGH
ICAR - Central Institute of Agricultural Engineering, Bhopal	DR V. P. CHAUDHARY DR U. R. BADEGAONKAR (<i>Alternate I</i>) DR DILIP JAT (<i>Alternate II</i>)
Indian Council of Agricultural Research, New Delhi	DR PANNA LAL SINGH
John Deere India Private Limited, Pune	SHRI ANAND RAJ SHRI CHANDRASHEKHAR DESHMUKH (<i>Alternate I</i>) SHRI PRATIK DURAPHE (<i>Alternate II</i>)
Kerala Agro Machinery Corporation Ltd (KAMCO), Athani	SHRI A. UNNIKRISHNAN SHRI P. C. SAJIMON (<i>Alternate</i>)

<i>Organization</i>	<i>Representative(s)</i>
Kisan Kraft Limited, Bangalore	SHRI RAVINDRA AGARWAL SHRI ANKIT CHITALIA (<i>Alternate I</i>) SHRI SUNIL PRASAD (<i>Alternate II</i>)
Kubota Agricultural Machinery India Private Limited, Faridabad	SHRI ASHOK KUMAR SHRI ASHISH KUMAR MALLARH (<i>Alternate</i>)
Maharana Pratap University of Agricultural and Technology, Udaipur	DR SANWAL SINGH MEENA
Mahatma Phule Krishi Vidyapeeth, Rahuri	DR SACHIN MADHUKAR NALAWADE SHRI VIKRAM PARASHARAM KAD (<i>Alternate I</i>) DR AVDHUT ASHOK WALUN (<i>Alternate II</i>)
Mahindra and Mahindra Limited, Mumbai	SHRI PRADEEP SHINDE
Ministry of Agriculture, Department of Agriculture, New Delhi	DR V. N. KALE SHRI ARVIND N. MESHRAM (<i>Alternate</i>)
National Innovation Foundation, New Delhi	SHRI RAKESH MAHESHWARI SHRI MAHESH PATEL (<i>Alternate</i>)
National Institute of Plant Health Management, Hyderabad	DR VIDHU KAMPURATH P. SHRI MUTYALA UDAYA (<i>Alternate</i>)
North Eastern Region Farm Machinery Training and Testing Institute, Biswanath Chariali	DR P. P. RAO SHRI S. G. PAWAR (<i>Alternate I</i>) SHRI KHAGENDRA BORA (<i>Alternate II</i>)
Northern Region Farm Machinery Training and Testing Institute, Hisar	DR MUKESH JAIN SHRI SANJAY KUMAR (<i>Alternate</i>)
Power Tillers Manufacturers Association, Kolkata	SHRI A. R. GANESH KUMAR
Punjab Agricultural University, Ludhiana	DR MAHESH KUMAR NARANG DR RAJESH GOYAL (<i>Alternate I</i>) SHRI APOORV PRAKASH (<i>Alternate II</i>)
Southern Region Farm Machinery Training and Testing Institute, Anantpur	DR B. M. NANDEDE
Tamil Nadu Agricultural University, Coimbatore	DR R. KAVITHA DR A. SURENDRA KUMAR (<i>Alternate I</i>) DR A. P. MOHAN KUMAR (<i>Alternate II</i>)
Tirth Agro Technology Pvt Ltd 'Shaktiman', Rajkot	SHRI PARAG DEVIDAS BADGUJAR SHRI V. AUDHI NARAYAN REDDY (<i>Alternate</i>)
Tractor and Mechanization Association, New Delhi	SHRI PHILIP KOSHY SHRI VEENIT NEGI (<i>Alternate I</i>) SHRIMATI DEVYANI (<i>Alternate II</i>)
Tube Investments Clean Mobility Private Limited, Chennai	SHRI ABHISHEK SINHA SHRI S. O. TYAGI (<i>Alternate</i>)
Voluntary Organisation in Interest of Consumer Education (VOICE), New Delhi	SHRI B. K. MUKHOPADHYAY
In Personal Capacity (201, Memnon Tower, Omaxe the Nile, Sector 49, Sohna Road, Gurugram - 122018)	SHRI VIVEK GUPTA

<i>Organization</i>	<i>Representative(s)</i>
BIS Directorate General	SHRIMATI SUNEETI TOTEJA, SCIENTIST 'F'/SENIOR DIRECTOR AND HEAD (FOOD AND AGRICULTURE DEPARTMENT) [REPRESENTING DIRECTOR GENERAL (<i>Ex-officio</i>)]

Member Secretary
SHRI VIKRANT CHAUHAN
SCIENTIST 'B'/ASSISTANT DIRECTOR
(FOOD AND AGRICULTURE), BIS

Panel to Formulate and Review Indian Standards on Plant Protection Equipment, FAD 11/P 8

<i>Organization</i>	<i>Representative(s)</i>
ICAR - Central Institute of Agricultural Engineering, Bhopal	DR K. N. AGRAWAL (<i>Convener</i>)
Agriculture Machinery Manufacturers Association, Pune	DR SURENDRA SINGH
ASPEE Agro Equipment Private Limited, Mumbai	SHRI JATIN S. PATEL
Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli	DR P. U. SHAHARE
John Deere India Private Limited, Pune	SHRI CHANDRASHEKHAR DESHMUKH
Ministry of Agriculture, Department of Agriculture, New Delhi	SHRI ARVIND N. MESHARAM
National Institute of Plant Health Management, Hyderabad	DR VIDHU KAMPURATH P.
Northern Region Farm Machinery Training and Testing Institute, Hisar	DR MUKESH JAIN
Punjab Agricultural University, Ludhiana	DR MAHESH KUMAR NARANG
Southern Region Farm Machinery Training and Testing Institute, Tractor Nagar	DR B. M. NANDEDE

Bureau of Indian Standards

BIS is a statutory institution established under the *Bureau of Indian Standards Act, 2016* to promote harmonious development of the activities of standardization, marking and quality certification of goods and attending to connected matters in the country.

Copyright

BIS has the copyright of all its publications. No part of these publications may be reproduced in any form without the prior permission in writing of BIS. This does not preclude the free use, in the course of implementing the standard, of necessary details, such as symbols and sizes, type or grade designations. Enquiries relating to copyright be addressed to the Head (Publication & Sales), BIS.

Review of Indian Standards

Amendments are issued to standards as the need arises on the basis of comments. Standards are also reviewed periodically; a standard along with amendments is reaffirmed when such review indicates that no changes are needed; if the review indicates that changes are needed, it is taken up for revision. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition by referring to the website-www.bis.gov.in or www.standardsbis.in.

This Indian Standard has been developed from Doc No.: FAD 11 (22456).

Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

BUREAU OF INDIAN STANDARDS

Headquarters:

Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 110002

Telephones: 2323 0131, 2323 3375, 2323 9402

Website: www.bis.gov.in

Regional Offices:

	Telephones
Central : 601/A, Konnectus Tower -1, 6 th Floor, DMRC Building, Bhavbhuti Marg, New Delhi 110002	{ 2323 7617
Eastern : 8 th Floor, Plot No 7/7 & 7/8, CP Block, Sector V, Salt Lake, Kolkata, West Bengal 700091	{ 2367 0012 2320 9474
Northern : Plot No. 4-A, Sector 27-B, Madhya Marg, Chandigarh 160019	{ 265 9930
Southern : C.I.T. Campus, IV Cross Road, Taramani, Chennai 600113	{ 2254 1442 2254 1216
Western : 5 th Floor, NTH Complex (W Sector), F-10, MIDC, Andheri (East), Mumbai 400093	{ 283 25838

Branches : AHMEDABAD, BENGALURU, BHOPAL, BHUBANESHWAR, CHANDIGARH, CHENNAI, COIMBATORE, DEHRADUN, DELHI, FARIDABAD, GHAZIABAD, GUWAHATI, HARYANA (CHANDIGARH), HUBLI, HYDERABAD, JAIPUR, JAMMU, JAMSHEDPUR, KOCHI, KOLKATA, LUCKNOW, MADURAI, MUMBAI, NAGPUR, NOIDA, PARWANOO, PATNA, PUNE, RAIPUR, RAJKOT, SURAT, VIJAYAWADA.