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IS 904 (1983): Specification for 2-Way And 3-Way Suction Collecting Heads For Fire Fighting Purposes [CED 22: Fire Fighting]



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Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”



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IS : 904 - 1983

*Indian Standard*

REAFFIRMED

2010

SPECIFICATION FOR  
2-WAY AND 3-WAY SUCTION COLLECTING  
HEADS FOR FIRE FIGHTING PURPOSES  
( *Second Revision* )

UDC 614·843·3 : 621·643 47



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INDIAN STANDARDS INSTITUTION  
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG  
NEW DELHI 110002

# Indian Standard

## SPECIFICATION FOR 2-WAY AND 3-WAY SUCTION COLLECTING HEADS FOR FIRE FIGHTING PURPOSES ( Second Revision )

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## AMENDMENT NO. 1 NOVEMBER 1986

TO

IS: 904-1983 SPECIFICATION FOR 2-WAY AND 3-WAY  
SUCTION COLLECTING HEADS FOR FIRE FIGHTING PURPOSES*(Second Revision)*

*(Page 5, Fig. 1)* - Add the following Note below the figure:

'NOTE - For details of inlet and dimensions A and C, see Fig. 2.'

*(Page 6, Fig. 2)* - Add the following informal table in this figure:

<i>Size</i>	<i>A</i>	<i>B</i>	<i>C</i>
100	88	150	135
125	112	155	160
140	127	170	175

(HDC 22)

*Indian Standard*  
**SPECIFICATION FOR**  
**2-WAY AND 3-WAY SUCTION COLLECTING**  
**HEADS FOR FIRE FIGHTING PURPOSES**  
*( Second Revision )*

**0. FOREWORD**

**0.1** This Indian Standard ( Second Revision ) was adopted by the Indian Standards Institution on 28 February 1983, after the draft finalized by the Fire Fighting Sectional Committee had been approved by the Civil Engineering Division Council.

**0.2** 2-way and 3-way suction collecting heads are used along with the hoses when supply of water is collected from 2 or 3 sources for fire fighting purposes. This standard was first prepared in 1955 and revised in 1965. A second revision has been prepared in order to give detailed drawings of these items besides making its contents in line with similar latest Indian Standards.

**0.3** 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, shall be rounded off in accordance with IS : 2-1960\*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

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**1. SCOPE**

**1.1** This standard lays down the requirements regarding material, shape and dimensions, construction, workmanship and finish and performance tests of 2-way and 3-way suction collecting heads.

**2. MATERIAL**

**2.1 Castings and Forgings** — Castings and forgings shall be made of any one of the materials given under 2.1.1 and 2.1.2.

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\*Rules for rounding off numerical values ( revised ).



## IS : 904 - 1983

**2.1.1 Copper Alloys** — Copper alloys used for castings or forgings shall conform to the requirements given below:

- a) Sand castings — Grade LTB2 of IS : 318-1981\* or  
Grade HTB1 of IS : 304-1981†
- b) Die castings — Grade 3 of IS : 292-1961‡
- c) Hot forgings — Grade 1 of IS : 291-1977§

**2.1.2 Aluminium Alloys** — Aluminium alloys used for castings shall conform to IS Designation 4450 or 4225 of IS : 617-1975||.

**2.2 Springs** — Springs shall be of phosphor bronze wire conforming to IS : 7608-1975¶ in case of copper alloy couplings and of stainless steel wire conforming to IS : 6528-1972\*\* in case of aluminium alloy couplings.

## 3. SHAPE AND DIMENSIONS

**3.1** The shape and dimensions of 3-way suction collecting head and 2-way suction collecting head are given in Fig. 1 and 2.

## 4. FINISH

**4.1** All parts shall be of good workmanship and finish clear of burrs and sharp edges. The waterway shall have a smooth finish. The exterior of the suction collecting head shall be rounded and made smooth.

## 5. PERFORMANCE TEST

**5.1 Hydraulic Test** — Each assembled unit shall be subjected to a hydrostatic pressure of 2.1 MN/m<sup>2</sup> ( 21 kgf/cm<sup>2</sup> ) for a period of 2 minutes. It shall not show any sign of leakage.

## 6. MARKING

**6.1** Each suction collecting head shall be clearly and permanently marked with the following information:

- a) Manufacturer's name or trade-mark,
- b) Size of the collecting head ( for use with suction coupling ), and
- c) Year of manufacture.

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\*Specification for leaded tin bronze ingots and castings ( *second revision* ).

†Specification for high tensile brass ingots and castings ( *second revision* ).

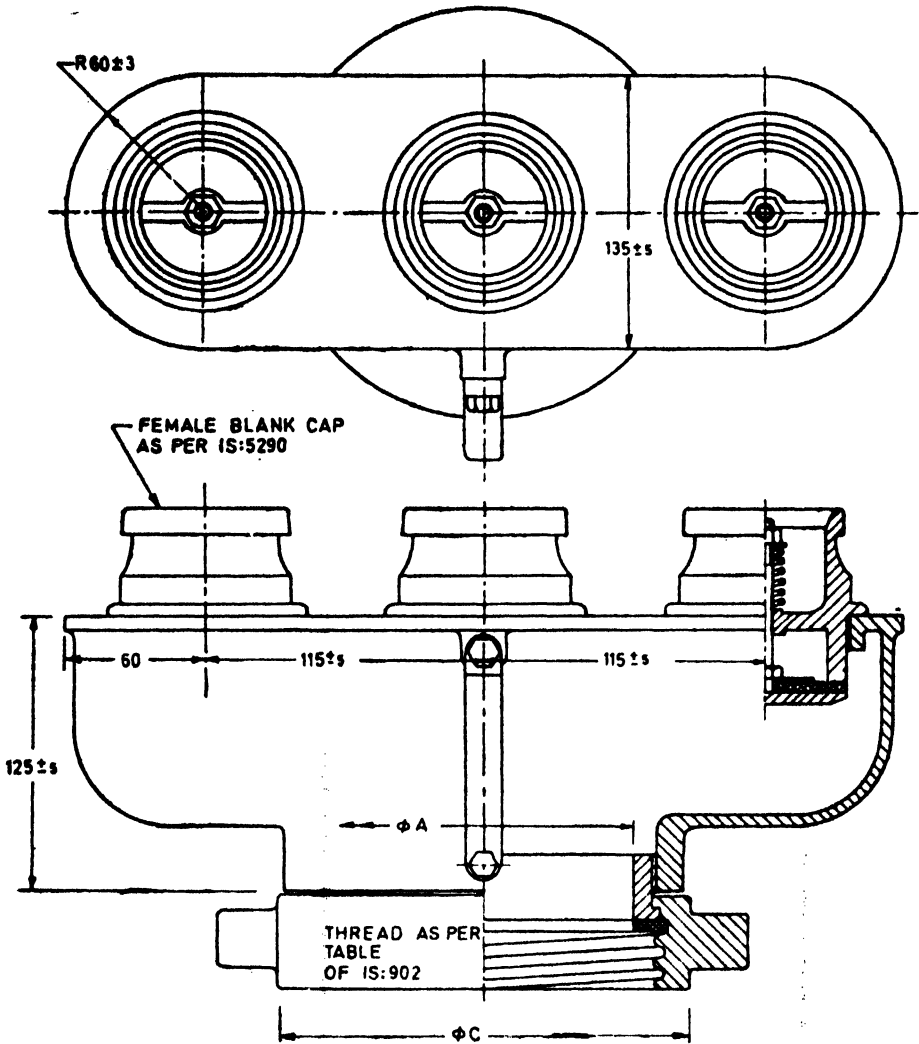
‡Specification for brass ingots and castings ( *revised* ).

§Specification for naval brass rods and sections ( suitable for machining and forging ) ( *second revision* ).

||Specification for aluminium and aluminium alloy ingots and castings for general engineering purposes ( *second revision* ).

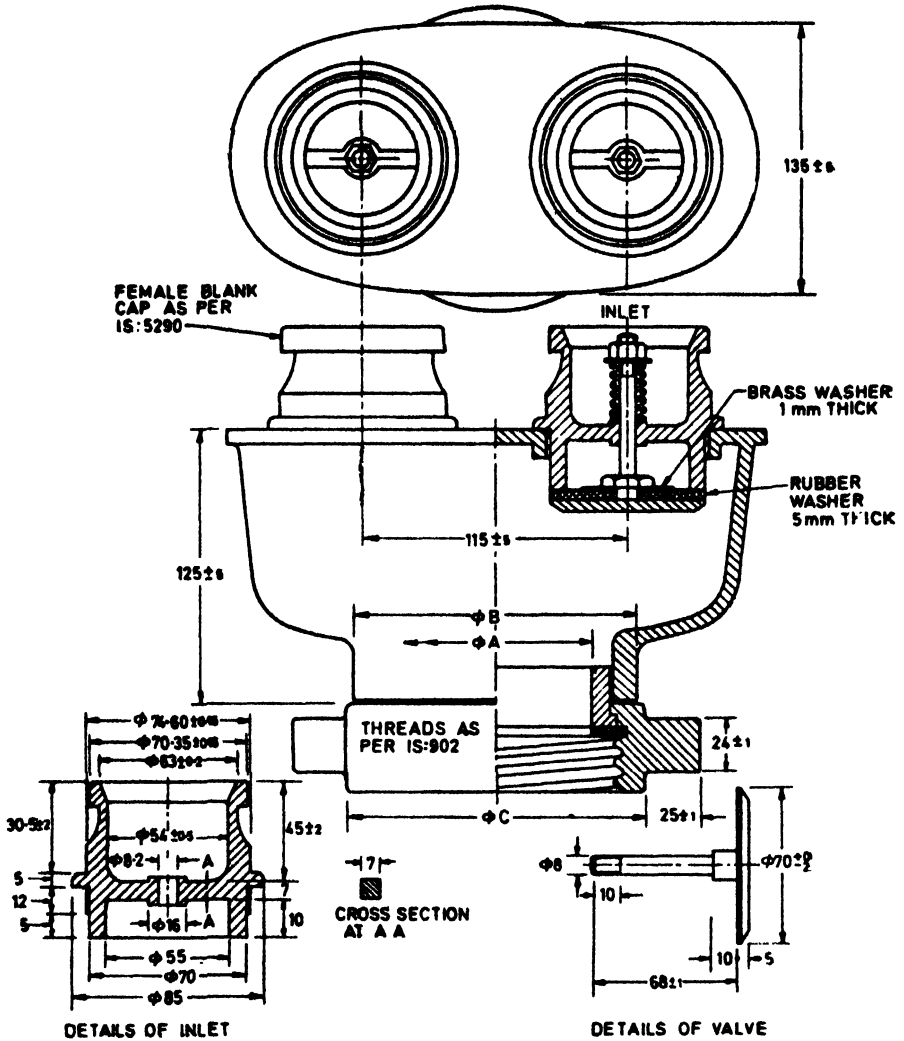
¶Specification for phosphor bronze wires ( for general engineering purposes ).

\*\*Specification for stainless steel wire.



All dimensions in millimetres.

FIG. 1 3-WAY SUCTION COLLECTING HEAD



All dimensions in millimetres.

FIG. 2 2-WAY SUCTION COLLECTING HEAD

**6.1.1** The suction collecting heads may also be marked with the ISI Certification Mark.

**NOTE** — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution ( Certification Marks ) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

**IS : 904 - 1983**

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# INTERNATIONAL SYSTEM OF UNITS ( SI UNITS )

## Base Units

QUANTITY	UNIT	SYMBOL
Length	metre	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	kelvin	K
Luminous intensity	candela	cd
Amount of substance	mole	mol

## Supplementary Units

QUANTITY	UNIT	SYMBOL
Plane angle	radian	rad
Solid angle	steradian	sr

## Derived Units

QUANTITY	UNIT	SYMBOL	DEFINITION
Force	newton	N	1 N = 1 kg.m/s <sup>2</sup>
Energy	joule	J	1 J = 1 N.m
Power	watt	W	1 W = 1 J/s
Flux	weber	Wb	1 Wb = 1 V.s
Flux density	tesla	T	1 T = 1 Wb/m <sup>2</sup>
Frequency	hertz	Hz	1 Hz = 1 /s (s <sup>-1</sup> )
Electric conductance	siemens	S	1 S = 1 A/V
Electromotive force	volt	V	1 V = 1 W/A
Pressure, stress	pascal	Pa	1 Pa = 1 N/m <sup>2</sup>

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