



## MINUTES

MEETING	DAY, DATE & TIME	VENUE
8 <sup>th</sup> Meeting of Fluid Power Systems Sectional Committee PGD 36	Thursday, 24 <sup>th</sup> August, 11 a.m.	Hybrid Meeting (Physically at BIS Bangalore Branch office)

### MEMBERS PRESENT

**CHAIRMAN:** Shri Shiva Shankar, Joint General Manager & Head, Marketing and Engineering (Design and Quality) Hydraulics Works, L&T Construction Equipment Ltd, Bengaluru

**MEMBER SECRETARY:** Shri Monarch Joshi, Scientist 'B'

### **MEMBERS PRESENT:**

S. No	Members	Organization
3	Shri Mukesh Dodiya	Bosch Rexroth India Limited, Ahmedabad
4	Shri B.A.N. Murthy	Eaton Technologies Private Limited, Pune
5	Shri G.R. Deshpande	Hyloc Hydrotechnic Private Limited, Belgaum
6	Shri Bony Paul	Triada Technologies India Private Limited, Bengaluru
7	Shri Shiv kumar	Wipro Infrastructure Engineering Limited, Bangalore
8	Dr. M. Singaperumal	In Personal Capacity

### **Item 0 GENERAL**

#### **0.1 Welcome by Head of the Department/Member Secretary**

The Member Secretary welcomed all the members to the Eighth Meeting of Fluid Power Systems Sectional Committee, PGD 36.

#### **0.2 Opening remark by Chairman**

Shri Shiva Shankar, Chairman PGD 36 welcomed all the members to the 8<sup>th</sup> meeting of committee. He shared about his work experience with all the other members. He mentioned that he is looking forward to work together with all the experts to strengthen the standardization work.

## ITEM 1. CONFIRMATION OF MINUTES OF LAST MEETING

1.1 The committee formally approved the minutes of last meeting of Fluid Power Systems Sectional Committee, PGD 36 held on 9th September, 2021.

## ITEM 2. ISSUES ARISING OF THE LAST MEETING

Summary of actions taken based on decisions of the last meeting of this committee is given below:

Sl. No.	Decision of the Committee /Actions to be taken	Decision of Committee in the Last Meeting	Action taken/Status before the Meeting	Decision of the Committee
1.	NWIP for “ <b>Endurance Test for hydraulic cylinder</b> ”	<p>The Committee decided to constitute a panel as given below for preparation of draft:</p> <ol style="list-style-type: none"><li>1) Shri B.A.N. Murthy, Eaton Technologies Pvt. Ltd. (Convener)</li><li>2) Shri A. Subramanyam, BEML</li><li>3) Shri Shiv Kumar, Wipro Infrastructure Ltd.</li></ol> <p>The committee had requested the Member Secretary to try to procure various International Standard related to Endurance Tests for Hydraulic Cylinder.</p> <p>The committee also requested Shri B.A.N. Murthy, Eaton Technologies Pvt. Ltd. to try to obtain these standards.</p> <p>It was decided the Member Secretary will schedule a Panel meeting once the standards have been obtained.</p>	<p>The standards were procured and were circulated to the panel members. The panel meeting is yet to be scheduled.</p>	<p>The committee requested the Panel members to schedule a panel meeting and prepare a preliminary draft within 2 months of circulation of minutes. Shri Shiva Shankar, Chairman also volunteered to nominate experts from L&amp;T Hydraulics in this Panel.</p>

<p><b>2.</b></p>	<p>Revision of following Indian Standards on Hydraulic Fittings:</p> <ol style="list-style-type: none"> <li>1. IS 10433 (Part 1): 1983</li> <li>2. IS 10453 (Part 1): 1983</li> <li>3. IS 10453 (Part 2): 1983</li> <li>4. IS 10480: 1983</li> <li>5. IS 10956: 1984</li> <li>6. IS 9757 (Part 2): 1983</li> <li>7. IS 9746 (Part 1): 1983</li> <li>8. IS 9412 (Part 1): 1980</li> <li>9. IS 9768: 1995</li> <li>10. IS 9757 (Part 1): 1983</li> <li>11. IS 9724 (Part 2): 1981</li> <li>12. IS 9725 (Part 2): 1981</li> <li>13. IS 8805: 2001</li> <li>14. IS 9746 (Part 2): 1983</li> <li>15. IS 9724 (Part 1): 1981</li> <li>16. IS 14528: 1998</li> <li>17. IS 9412 (Part 2): 1980</li> </ol>	<p>Out of these 17 standards, drafts were prepared and wide circulated for IS at Sl. No. 1 to 12 as per the decisions taken in the 6<sup>th</sup> Meeting. The committee in its last meeting, had decided to send these documents for printing.</p>	<p>Drafts for IS at Sl. No 1 to 12 are under publication/published. The wide circulation drafts for the following IS are under preparation:</p> <ol style="list-style-type: none"> <li>1) IS 9412 (Part 2) : 1980</li> <li>2) IS 14528 : 1998</li> <li>3) IS 9724 (Part 1) : 1981</li> <li>4) IS 9746 (Part 2) : 1983</li> <li>5) IS 8805 : 2001</li> </ol> <p>The committee noted the information in given agenda.</p>	<p>The committee noted the information given in the Agenda.</p>
<p><b>3.</b></p>	<p>Some of Indian Standards which are adoptions of ISO Standards had been withdrawn by ISO. The standards are as mentioned below:</p> <ol style="list-style-type: none"> <li>a) 11845 (Part 1) : 1994 Fluid logic circuits for fluid power systems Part 1 symbols for binary logic and related functions (<i>first revision</i>)</li> <li>b) IS 11845 (Part 2) : 1995 Fluid Logic circuits for fluid - Power systems Part 2 symbols for supply and exhausts as related to logic symbols (<i>first revision</i>)</li> <li>c) IS 11845 (Part 3) : 1994 Fluid logic circuits for fluid power systems: Part 3 symbols for logic sequencers and related functions</li> </ol>	<p>The committee requested Shri Shiva Shankar, Chairman PGD 36 to review these standards</p>	<p>Comments from Shri Shiva Shankar, Chairman, PGD 36 on these standards are yet to be received.</p>	<p>The committee decided that the Member Secretary will seek details of various stakeholders related to these standards from Dr. M. Singaperumal and write to them for reviewing these standards.</p>

	<p>d) IS 15045 (Part 3) : 2001 Pneumatic fluid power — Five port directional control valves: Part 3 Code system for communication of valve functions</p> <p>e) IS 11277 : 2004 Hydraulic fluid power — Gas-loaded accumulators with separator — Ranges of pressures and volumes and characteristic quantities (<i>first revision</i>)</p>			
4.	<p>Revision of IS 12738 : 1995 Pneumatic fluid power — Single rod cylinders, 1 000 kPa (10 bar) series, with integral mountings, bores from 32 mm to 250 mm — Mounting dimensions</p>	<p>ISO 6430 : 1992 was superseded by ISO 15552 : 2018. The committee in its previous meeting had decided to revise IS 12728 by adopting ISO 15552 : 2018 ‘Pneumatic fluid power — Cylinders with detachable mountings, 1 000 kPa (10 bar) series, bores from 32 mm to 320 mm — Basic, mounting and accessories dimensions.</p>	<p>The wide circulation draft is under preparation.</p>	<p>The committee noted the information given in the Agenda.</p>

### **Item 3 DRAFT INDIAN STANDARDS UNDER WIDE CIRCULATION DUE FOR FINALISATION**

The following drafts were circulated widely for comments to all the committee members and stake holders for examination and comments. The wide circulation period was over and no comments had been received on these drafts. The committee deliberated and decided to send these documents for printing as Indian Standards.

<b>Sl. No.</b>	<b>IS Number</b>	<b>Document Number</b>	<b>Title</b>
1.	<p>Revision of IS/ISO 7425 (Part 1) : 1988/ ISO by adoption of 7425-1 : 2021</p>	21664	<p>Hydraulic fluid power cylinders — Dimensions and tolerances of housings for elastomer-energized plastic-faced seals: Part 1 Piston seal housings</p>

2.	Revision of IS/ISO 7425 : (Part 2) : 1988/ ISO by adoption of 7425-2 : 2021	21665	Hydraulic fluid power cylinders — Dimensions and tolerances of housings for elastomer-energized plastic-faced seals: Part 2 Rod seal housings
3.	Revision of IS 15181 (Part 1) : 2002/ by adoption of ISO 9110-1 : 2020	21662	Hydraulic fluid power measurement techniques: Part 1 General measurement principles
4.	Revision of IS 15181 (Part 2) : 2002/ by adoption of ISO 9110-2 : 2020	21663	Hydraulic fluid power — Measurement techniques: Part 2 Measurement of average steady-state pressure in a closed conduit
5.	NWIP on “Installation methods for hydraulic cylinders”.	20471	Installation methods for hydraulic cylinder — Guidelines

#### Item 4 REVISION OF INDIAN STANDARDS ADOPTED FROM ISO

PGD 36 has adopted the ISO standards as Indian Standards and some of which are revised/withdrawn by ISO. The committee deliberated on these standards and decided as mentioned in the table given below:

Sl. No.	Indian Standard	Title	Remarks	Decision of the Committee
1.	IS 13535 : 2017/ISO 16889 : 2008	Hydraulic fluid power filters — Filter multi-pass method for evaluating filtration performance of filter element ( <i>second revision</i> )	Base standard has been revised in 2022.	The committee decided to revise IS 13535 : 2017 by adopting the latest version of ISO 16889. The Member Secretary to wide circulated the draft for a period of 2 months.
2.	IS 13251: 2019/ISO 8132 : 2014	Hydraulic fluid power — Mounting dimensions for accessories for single rod cylinders, 16 MPa (160 Bar) medium and 25 MPa (250 Bar) series ( <i>first revision</i> )	Base standard has been revised in 2022.	The committee decided to revise IS 13251 : 2019 by adopting the latest version of ISO 8132. The Member Secretary to wide circulated the draft for a period of 2 months.
3.	IS 10416 : 2019/ISO 5598 : 2008	Fluid power systems and components — Vocabulary ( <i>second revision</i> )	Base standard has been revised in 2020.	The committee decided to revise IS 10416 : 2019 by adopting the latest version of ISO 5598. The Member Secretary to wide circulated the draft for a period of 2 months.

4.	IS 11146 : 1999/ISO 7181 : 1991	Hydraulic fluid power — Cylinders - Bore and rod area ratios ( <i>first revision</i> )	ISO 7181 : 1991 was revised by ISO 3320 : 2013 and the same standard was adopted as IS 8208 : 2020/ISO 3320 : 2013.	The committee decided to withdraw IS 11146 : 1999.
5.	IS 11277 : 2004/ISO 5596 : 1999	Hydraulic fluid power — Gas — Loaded accumulators with separator — Ranges of pressures and volumes and characteristic quantities ( <i>first revision</i> )	ISO 5596 : 1999 has been withdrawn.	The committee decided to review this standard in next meeting of PGD 36.
6.	IS 11559 : 1995/ISO 6982 : 1992	Hydraulic fluid power — Cylinders — Rod end spherical eyes — Mounting dimensions ( <i>first revision</i> )	ISO 6982 : 1992 has been revised by ISO 8132 : 2022 Hydraulic fluid power — Mounting dimensions for accessories for single rod cylinders, 16 MPa (160 bar) medium and 25 MPa (250 bar) series and ISO 8133 : 2022 ‘Hydraulic fluid power — Mounting dimensions for accessories for single rod cylinders, 16 MPa (160 bar) compact series’.	Since ISO 8132 : 2014 was already adopted as IS 13251 : 2019, the committee decided to withdraw IS 11559 : 1995. The committee also decided to create a separate standard by adopting ISO 8133 : 2022. The Member Secretary to wide-circulate the draft for a period of 2 months.
7.	IS 11560 : 1995/ISO 6981: 1992	Hydraulic fluid power — Cylinders — Rod end plain eyes — Mounting dimensions ( <i>first revision</i> )	Mounting dimensions for rod end plain eyes are covered under ISO 8132 : 2014 ‘Hydraulic fluid power — Mounting dimensions for accessories for single rod cylinders, 16 MPa (160 bar) medium and 25 MPa (250 bar) series’. The same standard is adopted as IS 13251 : 2019.	The committee decided to withdraw IS 11560 : 1995.
8.	IS 13102 : 1991/ISO 8137 : 1986	Hydraulic — Fluid power — Single rod cylinders, 250 bar (25 MPa) series — Port dimensions	ISO 8137 : 1986 has been revised by ISO 6022 : 2006 ‘Hydraulic fluid power — Mounting dimensions for single rod cylinders, 25 MPa (250 bar) series’.	The committee decided to revise IS 13102: 1991 by adopting ISO 6022 : 2006. The Member Secretary to wide circulated the draft for a period of 2 months.

9.	IS 13103 : 2005/ISO 8138 : 1998	Hydraulic fluid power — Single rod cylinders, 16 MPa (160 Bar) compact series — Port dimensions ( <i>first revision</i> )	Port dimensions for Single rod cylinders, 16 MPa (160 Bar) compact series have been covered under ISO 6020-2 : 2015 ‘Hydraulic fluid power — Mounting dimensions for single rod cylinders, 16 MPa (160 bar) series — Part 2: Compact series’ and the same standard has been adopted as IS 11003 (Part 2) : 2020.	The committee decided to withdraw IS 13103 : 2005.
10.	13170 (Part 1) : 2021/ISO 6149-1 : 2019	Connections for hydraulic fluid power and general use — Ports and stud ends with ISO 261 metric threads and O-ring sealing: Part 1 Ports with truncated housing for O-ring seal ( <i>second revision</i> )	Based standard has been revised in 2022.	The committee decided to revise IS 13170 (Part 1) : 2021 by adopting the latest version of ISO 6149-1. The Member Secretary to wide circulated the draft for a period of 2 months.
11.	IS 13434 : 2005/ISO 8135 : 1999	Hydraulic fluid power — Single rod cylinders, 16 MPa (160 Bar) medium and 25 MPa (250 Bar) series — Tolerances ( <i>first revision</i> )	ISO 8135 was revised by ISO 6020 (Part 1) : 2007 and the same standard was adopted as IS 11003 (Part 1) : 2017/ISO 6020 (Part 1) : 2007.	The committee decided to withdraw IS 13434 : 2005.
12.	IS 13571 : 2020/ISO 11171- 2016	Hydraulic Fluid Power — Calibration of Automatic Particle Counters for Liquids( <i>first revision</i> )	Base standard has been revised in 2022.	The committee decided to revise IS 13571 : 2020 by adopting the latest version of ISO 11171. The Member Secretary to wide circulated the draft for a period of 2 months
13.	IS 13614 (Part 1): 2021 /ISO 7241 : 2014	Hydraulic fluid power — Dimensions and requirements of quick- action couplings Part 1 Dimensions and requirements ( <i>first revision</i> )	Base standard has been revised in 2023.	The committee decided to revise IS 13614 (Part 1) : 2021 by adopting the latest version of ISO 7241. The Member Secretary to wide circulated the draft for a period of 2 months
14.	IS 13614 (Part 2)/ ISO 7241- 2 : 1986	Hydraulic fluid power — Quick-action couplings: Part 2 Test methods	ISO 7241-2 : 1986 has been revised by ISO 18869 : 2017.	The committee decided to revise IS 13614 (Part 2) by adopting ISO 18869 : 2017. The Member Secretary to

				wide circulated the draft for a period of 2 months
15.	IS 14740 : 1999/ISO 6358 : 1989	Pneumatic fluid power — Components using compressible fluids — Determination of flow-rate characteristic	ISO 6358 : 1989 : has been revised by ISO 6358 (Part 1,2,3) which have already been adopted as 3 parts of 14740.	The committee decided to withdraw IS 14740 : 1999.
16.	IS 15277 : 2002/ISO 8434-5 : 1995	Metallic tube connections for fluid power and general use — Test methods for threaded hydraulic fluid power connections	ISO 8434-5 : 1995 has been revised by ISO 19879 : 2021 ‘Metallic tube connection for fluid power and general use — Test methods for hydraulics fluid power connections.’	The committee decided to revise IS 15277 by adopting ISO 19879 : 2021. The Member Secretary to wide circulated the draft for a period of 2 months.
17.	IS 15097 : 2002/ISO 6150 : 1988	Pneumatic fluid power — Cylindrical quick-action couplings for maximum working pressures of 10 bar, 16 bar and 25 bar (1 MPa, 1.6 MPa and 2.5 MPa) — Plug connecting dimensions, specifications, application guidelines and testing	ISO 6150 : 1988 has been revised by ISO 6150 : 2018.	The committee decided to revise IS 15097 : 2002 by adopting ISO 6150 : 2018. The Member Secretary to wide circulated the draft for a period of 2 months.

## 5 REVIEW/REAFFIRMATION OF PUBLISHED INDIAN STANDARDS

**5.1** The committee reviewed the list of IS Standards which are adoptions ISO standards and due for review. The committee deliberated and decided as mentioned in the table given below:

SI No.	IS No.	Title	Decision of the committee
1.	IS 10416 : 2019/ ISO 5598 : 2008	Fluid power systems and components — Vocabulary ( <i>second revision</i> )	( <i>see 4.3</i> for the decision of the committee).
2.	IS 13102 : 1991/ ISO 8137 : 1986	Hydraulic fluid power — Single rod cylinders, 250 bar (25 MPa) series — Port dimensions	( <i>see 4.8</i> for the decision of the committee)
3.	IS 11146 : 1999/ISO 7181 : 1991	Hydraulic fluid power — Cylinders — Bore and rod area ratios (First Revision)	( <i>see 4.4</i> for the decision of the committee).
4.	IS 13251 : 2019/ ISO 8132	Hydraulic fluid power — Mounting dimensions for accessories for single rod cylinders, 16 mPa (160 Bar) medium and 25 mPa (250 Bar) series ( <i>first</i>	( <i>see 4.2</i> for the decision of the committee).



	: 2014	<i>revision</i> )	
5.	IS 13614 (Part 2) : 1993/ ISO 7241-2 : 1986	Hydraulic fluid power — Quick Action couplings: Part 2 test methods	(see 4.14 for the decision of the committee).
6.	IS 15097 : 2002/ ISO 6150 : 1988	Pneumatic fluid power — Cylindrical quick - Action couplings for maximum working pressures of 10 bar, 16 bar and 25 bar (1 MPa, 1.6 MPa and 2.5 MPa) — Plug connecting dimensions, Specifications, application guidelines and testing	(see 4.17 for the decision of the committee).
7.	IS 15277 : 2002/ISO 8434-5 : 1995	Metallic tube connections for fluid power and general use test methods for threaded hydraulic fluid power connections	(see 4.16 for the decision of the committee).
8.	IS 15045 (Part 3) : 2001/ ISO 5599-3 : 1990	Pneumatic fluid power — Five port directional control valves: Part 3 code system for communication of valve functions	(see 2.3 for the decision of the committee).
9.	IS 13533 : 2019/ ISO 4395 : 2009	Fluid power systems and components — cylinder piston rod end types and dimensions ( <i>first revision</i> )	The committee decided to reaffirm this standard.
10.	IS 13569 : 1993/ ISO 3722 : 1976	Hydraulic fluid power — Fluid sample containers — Qualifying and controlling cleaning methods	-Do-
11.	IS 13570 : 2000/ ISO 4021 : 1992	Hydraulic Fluid Power — Particulate Contamination Analysis — Extraction of Fluid Samples from lines of an operating system ( <i>first revision</i> )	-Do-
12.	IS 14167 : 2019/ ISO 10099 : 2001	Pneumatic fluid power — cylinders — final examination and acceptance criteria ( <i>first revision</i> )	-Do-
13.	IS 14849 (Part 2) : 2018/ISO 4392-2	Hydraulic fluid power — Determination of characteristics of motors: Part 2 Startability ( <i>first revision</i> )	-Do-
14.	IS 15168 : 2002/ ISO 6099 : 2018	Fluid power systems and components — Cylinders — Identification code for mounting dimensions and mounting types	-Do-
15.	IS 15179 : 2002/ ISO 6072 : 2011	Hydraulic fluid power — Compatibility between elastomeric materials and fluids	-Do-
16.	IS 15276 :	Metallic tube connections for fluid power and	-Do-

	2002/ISO 8434-4 : 1995	general use 24° cone connectors with O-ring weld-on nipples	
17.	IS 15331 :2003/ISO 11727 : 1999	Pneumatic fluid power — Identification of ports and control mechanisms of control valves and other components	-Do-
18.	IS 15332 : 2003/ ISO 7285 : 1995	Pneumatic cylinders for mechanized multiple spot welding	-Do-
19.	IS 7513 (Part 2) : 2019/ISO 1219-2 : 2012	Fluid power systems and components — graphical symbols and circuit diagrams: Part 2 Circuit diagrams ( <i>first revision</i> )	-Do-
20.	IS 15432 : 2003/ ISO 7986 : 1997	Hydraulic fluid power — Sealing devices — Standard test methods to assess the performance of seals used in oil hydraulic reciprocating applications	-Do-
21.	IS 7513 (Part 1) : 2019/ ISO 1219-1:2012	Fluid power systems and components — Graphical symbols and circuit diagrams: Part 1 Graphical symbols for conventional use and data-processing applications ( <i>first revision</i> )	-Do-
22.	IS/ISO 3939 : 1977	Fluid power systems and components — Multiple lip packing sets — Methods for measuring stack heights	-Do-

**5.2** The committee reviewed the list of Indigenous IS Standards which are due for review. The committee deliberated and decided as mentioned in the table given below:

<b>SI No.</b>	<b>IS No.</b>	<b>Title</b>	<b>Decision of the Committee</b>
1.	IS 10410 : 1983	Specification for lock nuts for bulk head coupling assembly for oil - Hydraulic systems	Committee decided to deliberate this subject in the next meeting of PGD 36
2.	IS 11337 : 2002	Purchase Specification for hydraulic cylinders ( <i>first revision</i> )	-Do-
3.	IS 12096 : 1987	Specification for hexagon socket screw plugs with parallel screw threads for fluid power system	-Do-
4.	IS 12116 (Part 1) : 1987	Specification for hexagon head taper plugs for oil hydraulic systems: Part 1 Made from	-Do-

		forgings	
5.	IS 12498 : 1988	Method of test for evaluation of performance of air pressure regulators	-Do-
6.	IS 12597 : 1988	Recommendation on units for fluid power system	-Do-
7.	IS 13053 : 1991	Hydraulic fluid power system commissioning and maintenance of complete hydraulic systems recommendations	-Do-
8.	IS 13336 : 1992	Reducer coupling assemblies for oil hydraulic system — Specification	-Do-
9.	IS 13337 : 1992	Straight reducer coupling body for oil hydraulic system — Specification	-Do-
10.	IS 13338 : 1992	Hexagonal head screw plugs with shoulder and parallel screw threads — Specification	-Do-
11.	IS 13617 : 1992	Evaluation of pressure drop versus flow characteristics of pneumatic filters — Method of test	-Do-
12.	IS 13876 (Part 3) : 1993	Guide for marking system for fluid power components: Part 3 Pumps and motors	-Do-
13.	IS 14528 : 1998	Tube end straight reducers for oil-hydraulic couplings	-Do-
14.	IS 14602 : 1999	Installation methods of positive displacement hydraulic pumps and motors — Guidelines	-Do-
15.	IS 14875 : 2000	Compressed air filters — Evaluation parameters	-Do-
16.	IS 5108 : 1969	Recommendation on nominal rates of flow for oil — Hydraulic system elements	-Do-
17.	IS 5109 : 1969	Recommendation on nominal bores for oil-hydraulic system elements	-Do-
18.	IS 8801 : 1978	Specification for male stud coupling body for oil-hydraulic couplings	The committee requested to Shri G. R. Deshpande to review this standard and submit his inputs to the Member Secretary within 2 months of circulation of minutes.

19.	IS 8802 : 1987	Specification for ferrules for oil hydraulic couplings ( <i>first revision</i> )	-Do-
20.	IS 8803 : 1987	Specification for coupling nuts for oil hydraulic system ( <i>first revision</i> )	-Do-
21.	IS 9387 (Part 1) : 2018	Specification for taper male stud elbow body for oil-hydraulic coupling: Part 1 Made from forgings	-Do-
22.	IS 9387 (Part 2) : 2018	Specification for taper male stud elbow body for oil-hydraulic couplings: Part 2 Made from bar stock	-Do-
23.	IS 9388 (Part 2) : 2019	Equal elbow body for oil-hydraulic couplings — Specification: Part 2 Made from bar stock ( <i>first revision</i> )	-Do-
24.	IS 9391 : 1980	Specification for straight coupling assemblies for oil - Hydraulic systems	-Do-
25.	IS 9392 : 1980	Specification for taper male stud coupling body for oil-hydraulic couplings	-Do-
26.	IS 9411 : 1980	Specification for elbow coupling assemblies for oil-hydraulic systems	-Do-
27.	IS 9725 (Part 1) : 1981	Specification for male stud tee body (Stud Branch) for oil-hydraulic couplings: Part 1 Made from forgings	-Do-
28.	IS 9746 (Part 2) : 1981	Specification for equal cross body for oil-hydraulic couplings: Part 2 Made from bar stock	-Do-
29.	IS 9767 : 1981	Specification for tee coupling assemblies for oil -hydraulic systems	-Do-
30.	IS 9769 : 1981	Specification for bulkhead straight coupling assembly for oil-hydraulic systems	-Do-
31.	IS 9770 : 1981	Specification for bulkhead elbow coupling assembly for oil-hydraulic systems	-Do-
32.	IS 9388 (Part 1) : 1979	Specification for equal elbow body for oil - Hydraulic couplings: Part 1 Made from forgings	-Do-
33.	IS 17215 : 2019	Fluid power system — Hexagon socket screw plugs with parallel screw threads with	-Do-

		elastomeric sealing — Specification	
34.	IS 10417 : 1983	Specification for equal cross coupling assembly for oil - Hydraulic systems	-Do-
35.	IS 10433 (Part 2) : 2002	Male stud tee body (Stud run) for oil-hydraulic couplings — Specification: Part 2 Made from bar stock ( <i>first revision</i> )	-Do-

### Item 6. INTERNATIONAL ACTIVITIES

The committee noted the membership status of India (BIS) on the ISO/TC 131 and its sub-committees related to Fluid Power Systems Sectional Committee, PGD 36. Further, the committee also decided to nominate experts in various working groups of ISO/TC 131 as mentioned in the table given below:

Sl No.	ISO TC/SC	Working Group	Name of the expert Nominated
1.	ISO/TC 131/SC 4 Connectors and similar products and components	ISO/TC 131/SC 4/WG 1	Shri G. R. Deshpande, Hyloc Hydrotechnic Private Ltd., Belgaum
		ISO/TC 131/SC 4/WG 2	
		ISO/TC 131/SC 4/WG 4	
		ISO/TC 131/SC 4/WG 6	
2.	ISO/TC 131/SC 7 Sealing devices	ISO/TC 131/SC 7/WG 3	Shri Bony Paul, Triada Technologies India Private Limited, Bengaluru
		ISO/TC131/SC 7/WG 10	
		ISO/TC131/SC 7/WG 4	

## **Item 7 COMPOSITION OF THE SECTIONAL COMMITTEE**

**7.1** The committee reviewed the composition of Fluid Power Systems Sectional Committee, PGD 36 and decided to remove the following organisations in light of their non participation in 3 subsequent meetings.

<b>Sl. No.</b>	<b>Organization</b>
1.	Oil and Natural Gas Corporation Limited, New Delhi
2.	Naval Headquarters, New Delhi
3.	Reliance Industries Limited, Mumbai

**7.2** The committee decided to write letter of nomination to rail coach factory and Integral Coach Factory, Chennai for nomination in this committee. Additionally, it was decided that the Member Secretary will seek details of various organisations in the field of Fluid Power Systems from the existing members. Subsequently, the Member Secretary will reach out to these organizations to request their nominations.

## **Item 8 PROGRAM OF WORK**

The committee noted the information given in the agenda.

## **Item 9. DATE AND PLACE OF NEXT MEETING**

The committee decided to conduct the next meeting of PGD 36 in the second week of December 2023.