

Manufacturer of High Pressure  
Hydraulic Fittings and Hose  
Assemblies



**Hydraulic Power Solutions Pvt. Ltd.**  
[www.hpspl.com](http://www.hpspl.com), [www.hpsindia.co.in](http://www.hpsindia.co.in)

# Testing Certificates

**Certification of Registration**

**HYDRAULIC POWER SOLUTIONS PVT. LTD.**

ADDRESS: PLOT NO. 39, 40, 46, 47, 58, BALAJI COMPLEX SECTOR-23, FARIDABAD -121006, INDIA

**ISO 9001:2015**

For The Following Scope  
MANUFACTURE AND SUPPLY OF HOSE ASSEMBLY, FITTINGS AND THEIR ACCESSORIES

Certificate No.: QACS-A-HP-07.20.018  
EA Code: 18

Authorized Signatory: QA Certification Services Pvt. Ltd.

ISO 9001:2015

**IMPULSE TEST**

Print only page

Number: 153 Lot number: SAC Test site: SAC

Production site: SAC Date of test start: 10.06.2014 Customer: Hydraulic Power solution

Free hose length: 650 mm Detailed reason for test: Hose type: Braid

Test Stands: 1-Braid 2 2-Braid 2 3-Braid 2 4-Braid 4

**HOSE DATA**

Cover skived length: mm  
Inverting skived length: mm  
No skive

Hose type: ZSN DN: 12(1/2")

Production year: 2014 Q: 2

Test Data EN ISO 6803:2008  
Test Data EN ISO 6802:2005

Impulse pressure: 300 bar  
Press. incr.: 15% Temperature: 120 C +/- 3 C  
Press. decr.: 5% Temperature: 130 C +/- 3 C

Impulse cycle: 200,000  
Radius: 150 mm  
Bendradius minimum: 180 mm

| Code | Impulse cycles | OK (1)                              | Burst (2)                | Broken window (3)        | Coupling leak (4)        | Coupling remove (5)      | Broken fitting (6)       | Wire broken (7)          | Remarks | Entrustment (8)          | Waist end of female (9)  | Leakage behind nut (10)  | Stop without failure (11) |
|------|----------------|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|---------|--------------------------|--------------------------|--------------------------|---------------------------|
| 1    | 200,000        | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>  |
| 2    | 200,000        | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>  |
| 3    | 200,000        | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>  |
| 4    | 200,000        | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>  |
| 5    | 200,000        | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>  |
| 6    | 200,000        | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>  |

Approved by: SEMPERIT Date: 18.6.2014 Signature: KARNER

Impulse Test Certificate

**BEML LIMITED**

(A Govt. Of India Mini Ratna Company under Ministry of Defence)

EARTH MOVER DIVISION, KGF COMPLEX

**FLUID POWER LABORATORY, R&D, BEML LIMITED, KGF-563 115**

IMPULSE TEST CERTIFICATE

REF NO.: GV/NHT/01/6769 DATE: 2013.06.22

|                              |  |
|------------------------------|--|
| 1. CUSTOMER                  | SAE HYDRAULIC POWER SOLUTIONS, FARIDABAD   |
| 2. SIZE & TYPE OF HOSE       | 1 1/2" ID, PARKER  |
| 3. HOSE DETAIL               | PARKER 1 1/2" SAE 100R2 AT-4 EN837/2SN/12 DIN CONFORMS TO SAE J143-2004                      |
| 4. MARKING ON END FITTINGS   | HPS (HYDRAULIC POWER SOLUTIONS)  |
| 5. HOSE BRAND                | PARKER   |
| 6. TEST STANDARD/APPLICATION | SAE J243-2004  |
| 7. NUMBER OF TEST SAMPLES    | FOUR   |
| 8. TYPE OF TEST              | 180° BEND FIXED IMPULSE TEST   |
| 9. WORKING PRESSURE          | 241 Kg/cm <sup>2</sup>   |
| 10. IMPULSE TEST PRESSURE    | 321 Kg/cm <sup>2</sup>   |
| 11. TEST FLUID               | SAE 30 MINERAL OIL   |
| 12. TEST FLUID TEMPERATURE   | 100°   |
| 13. IMPULSE FREQUENCY        | 60 CYCLES PER MINUTE   |
| 14. TEST VENUE               | FLUID POWER LAB., R&D CENTRE, BEML LIMITED, KGF.   |
| 15. TESTED DURING            | 2013-05-15 to 2013-05-21   |
| 16. TEST FINDINGS            | HOSE ASSEMBLIES HAVE WITHSTOOD STIPULATED NUMBER TWO LAKH IMPULSE CYCLES WITHOUT ANY FAILURE |

TESTED BY: [Signature] CHECKED BY: [Signature]

**WIDMANS LABORATORY (P) LTD.**

Address: Plot No. 155 E, Sector - 7, IMT Manesar, Gurgaon (Haryana) 122050

Phone: 0124-4014550, 09810930809, 07838350726  
E-mail: mail@widmanslab.com | Website: www.widmanslab.com

**TEST REPORT** Cert. No. TC7332190 00018936 F

Party Name & Address: J. D. Industries, Plot No.-40-41, Eicher Compound Near Punjab Rolling Mill, Sanjay Colony, Sector-23, Faridabad 121005

Sample Reference: HW-1012-FJ

Sample Recd. Date: 6-Nov-19  
Testing Date: 11-Nov-19  
Test Certificate Issued: 18986  
Job Order No.: 1 OF 2  
Page No.:

**SALT SPRAY (FOG) TEST:**  
Test Method: ASTM B 117:2011

TEST CONDITION:

TEMP: 35± 2°C  
pH: 6.5 - 7.2  
SALT CONCENTRATION: 5% NaCl  
FOG COLLECTION: 1 - 2 ml/hour  
AIR COMPRESSURE: 0.8 - 1.2 Bar

Started Date & Time: 7 November 2019 10:00 AM  
Completed Date & Time: 11 November 2019 10:00 AM

**OBSERVATION** White Rust Observed After 96 hours

**BEFORE** **AFTER 96 HOURS**

Continue---->

Checked By: [Signature] Reviewed By: [Signature] Authorised Signatory: [Signature]

Metal Test certificate

**WIDMANS LABORATORY (P) LTD.**

Address: Plot No. 155 E, Sector - 7, IMT Manesar, Gurgaon (Haryana) 122050

Phone: 0124-4014550, 09810930809, 07838350726  
E-mail: mail@widmanslab.com | Website: www.widmanslab.com

**TEST REPORT** Cert. No. TC7332190 00018936 F

Party Name & Address: J. D. Industries, Plot No.-40-41, Eicher Compound Near Punjab Rolling Mill, Sanjay Colony, Sector-23, Faridabad 121005

Sample Reference: HW-1012-FJ

Sample Recd. Date: 6-Nov-19  
Testing Date: 11-Nov-19  
Test Certificate Issued: 18986  
Job Order No.: 2 OF 2  
Page No.:

**SALT SPRAY (FOG) TEST:**  
(Test Method: ASTM B 117:2011)

TEST CONDITION:

TEMP: 35± 2°C  
pH: 6.5 - 7.2  
SALT CONCENTRATION: 5% NaCl

**DURATION** AFTER 24 HRS  
AFTER 48 HRS  
AFTER 72 HRS  
AFTER 96 HRS

**OBSERVATION** No White Rust observed.  
No White Rust observed.  
No White Rust observed.  
White Rust Observed.

END OF RESULTS

Checked By: [Signature] Reviewed By: [Signature] Authorised Signatory: [Signature]

Plating Test Certificate



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www.hpsndia.co.in



# About Us

Hydraulic Power Solution Private Limited was established in Faridabad, India as a partnership firm and has over 15 years of experience in the field of hydraulic hose end-fitting manufacturing and assembly. The company is known and recognised in the market for its quality product and best in class service. Hydraulic Power Solutions Private Limited is an ISO 9001:2015 certified company.

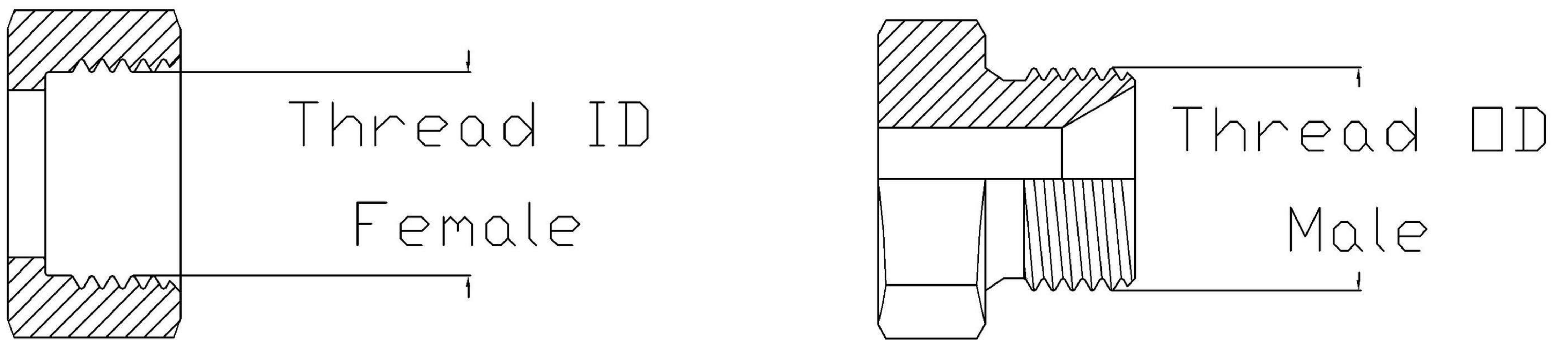
The company manufactures a wide range of adaptors, flanges, and hose end-fittings, for low to ultra- high-pressure range. They are compatible to high temperature in single/double wire braided and multi-spiral hoses and conform to SAE, DIN, JIC, JIS, BSP and other international standards. Focusing on manufacturing quality product, the company has over 25 CNC turning centres, SPM drilling, automats and allied machineries in-house. The company uses UNIFLEX and FINNPOWER hose and nut crimpers, and has other facilities such as magnetic crack detection, profile projection, roughness and hardness testing, and pressure testing machines up to 5000 bar in-house.

The company has a wide network of over 600 customers across the continent. We are authorised dealer and assembler for complete range of GATES and SEMPERIT hydraulic and industrial hoses. Our trusted customers range from OEMs (such as NORMAT, ISGEC, WINDLASS, Jindal Stainless Steels, GROZ tools, SEBROS etc.) to resellers, distributors, service providers and end users.

Hydraulic Power Solution Pvt. Ltd. is your one stop solution for hydraulic hose end fittings and assemblies. The company strives to deliver quality products, timely delivery and efficient services.



## Thread Size Chart



| DASH | INCH   | BSP       |             |      | JIC (UNF)  |             |      | ORFS (UNF)  |             |      |
|------|--------|-----------|-------------|------|------------|-------------|------|-------------|-------------|------|
|      |        | SIZE      | THREAD SIZE | MALE | FEMALE     | THREAD SIZE | MALE | FEMALE      | THREAD SIZE | MALE |
| -02  | 1/8"   | 1/8"-28   | 9.6         | 8.7  | 5/16-24    | 7.9         | 6.9  |             |             |      |
| -04  | 1/4"   | 1/4"-19   | 13          | 11.6 | 7/16-20    | 11          | 9.9  | 9/16"-18    | 14.2        | 12.9 |
| -05  |        |           |             |      | 1/2"-20    | 12.7        | 11.4 |             |             |      |
| -06  | 3/8"   | 3/8"-19   | 16.6        | 15.1 | 9/16"-18   | 14.2        | 12.9 | 11/16"-16   | 17.4        | 15.9 |
| -07  |        |           |             |      | 5/8"-18    | 15.8        | 14.8 |             |             |      |
| -08  | 1/2"   | 1/2"-14   | 20.8        | 18.8 | 3/4"-16    | 18.8        | 17.5 | 13/16"-16   | 20.6        | 19.1 |
| -10  | 5/8"   | 5/8"-14   | 22.8        | 20.9 | 7/8"-14    | 22.1        | 20.4 | 1"-14       | 25.3        | 23.6 |
| -12  | 3/4"   | 3/4"-14   | 26.3        | 24.5 | 1-1/16"-12 | 26.8        | 24.8 | 1-3/16"-12  | 30          | 28   |
| -16  | 1"     | 1"-11     | 33.1        | 30.7 | 1-5/16"-12 | 33.2        | 31.2 | 1-7/16"-12  | 36.4        | 34.4 |
| -20  | 1-1/4" | 1-1/4"-11 | 41.7        | 39.4 | 1-5/8"-12  | 41.1        | 38.8 | 1-11/16"-12 | 42.7        | 40.7 |
| -24  | 1-1/2" | 1-1/2"-11 | 47.7        | 45.2 | 1-7/8"-12  | 47.5        | 45.1 | 2"-12       | 50.7        | 48.7 |
| -32  | 2"     | 2"-11     | 59.4        | 57.4 | 2-1/2"-12  | 63.3        | 61.1 |             |             |      |

## O-Ring Size Chart

| DASH | INCH   | BSP          | ORFS       | FLANGE     | METRIC  |          |
|------|--------|--------------|------------|------------|---------|----------|
|      |        |              |            |            | TUBE OD | SIZE     |
| -02  | 1/8"   | ---          | ---        | ---        | 6       | 4X1.5    |
| -04  | 1/4"   | 5.5 X 1      | 7.64X1.78  | ---        | 8       | 6X1.5    |
| -06  | 3/8"   | 7.0 X 1.5    | 9.25X1.78  | ---        | 10      | 7.5X1.5  |
| -08  | 1/2"   | 11.0 X 1.5   | 12.42X1.78 | 18.66X3.53 | 12      | 9X1.5    |
| -10  | 5/8"   | 12.0 X 1.5   | 15.60X1.78 | ---        | 14      | 10X2     |
| -12  | 3/4"   | 15.0 X 1.5   | 18.77X1.78 | 25.00X3.53 | 15      | 12X2     |
| -16  | 1"     | 20.0 X 1.5   | 23.52X1.78 | 32.92X3.53 | 18      | 15X2     |
| -20  | 1-1/4" | 27.0 X 1.5   | 29.87X1.78 | 37.70X3.53 | 20      | 16.5X2.5 |
| -24  | 1-1/2" | 35.1 X 1.6   | 37.82X1.78 | 47.22X3.53 | 22      | 20X2     |
| -32  | 2"     | 47.37 X 1.78 | ---        | 57.35X3.53 | 25      | 20X2.5   |
|      |        |              |            |            | 28      | 26X2     |
|      |        |              |            |            | 30      | 25X2.5   |
|      |        |              |            |            | 35      | 32X2.5   |
|      |        |              |            |            | 38      | 33X2.5   |
|      |        |              |            |            | 42      | 38X2.5   |

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## WIRE BRAID FITTINGS

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| 6. BSP Female 90 degree bend Skive type      | 11 |
| 7. BANJO straight                            | 12 |
| 8. JIC Female Straight                       | 13 |
| 9. JIC Female 90 degree bend                 | 14 |
| 10. JIC Female 45 degree bend                | 15 |
| 11. JIC Male straight                        | 16 |
| 12. ORFS Female Straight                     | 17 |
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| 14. ORFS Female 90 degree bend               | 18 |
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| 21. Flange Code 62 bend 45 degree            | 50 |
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# ***Wire Braid Fittings***



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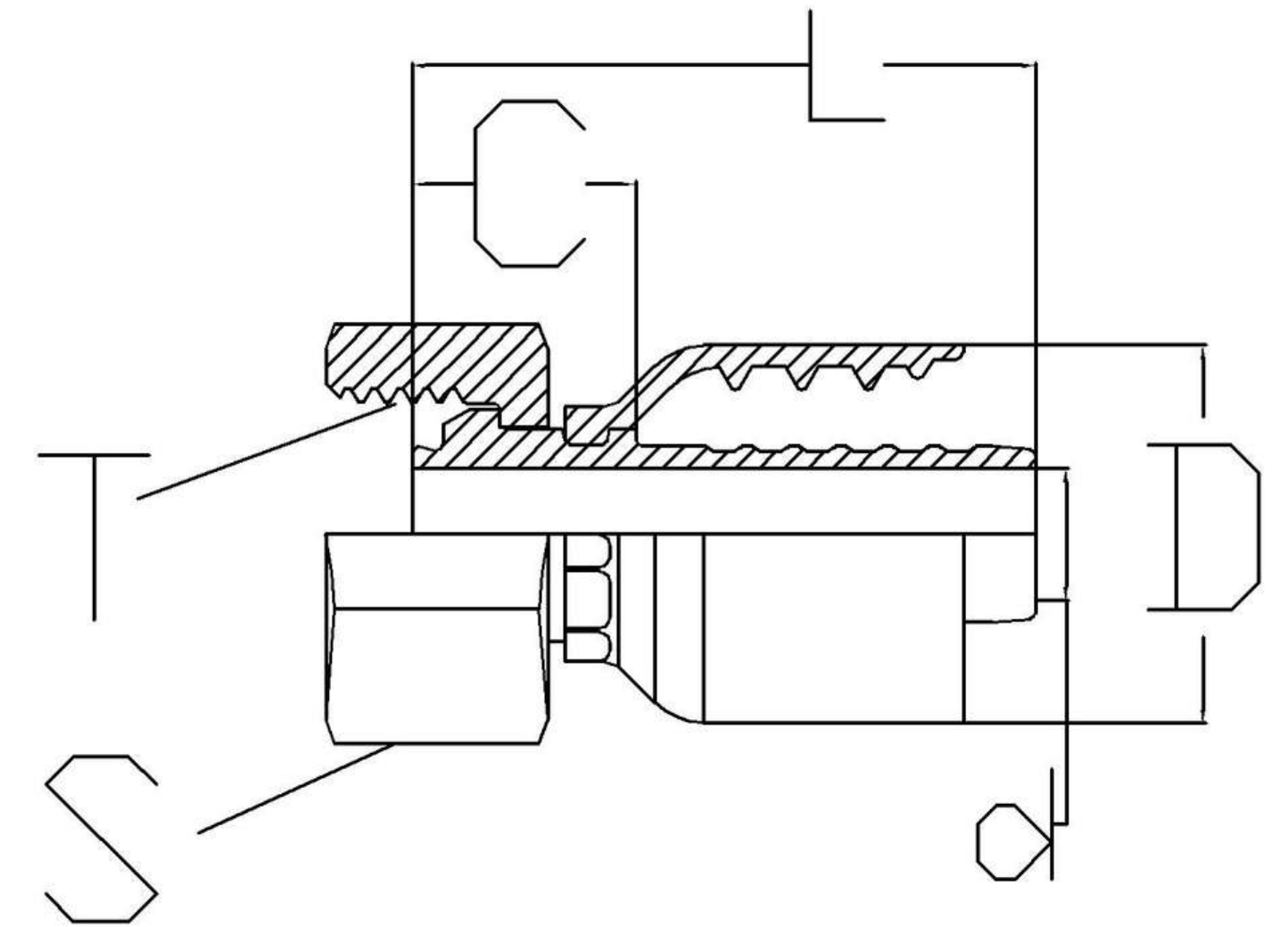
**Standard - ISO 8434-6**

**Cone - 60°**

**O- Ring - NBR\*\***

**Used for hose type -**

SAE 100 R1, R2, R16, R17,  
R19, R7\*, R6\*, R4\*, TEFLON\*



| DESCRIPTION      | HOSE ID (DASH) | HOSE ID (inch) | Thread (T)  | S  | L   | C    | d  | D  |
|------------------|----------------|----------------|-------------|----|-----|------|----|----|
| HW-0402-FB       | 4              | 1/4            | 1/8-28BSP   | 14 | 46  | 17   | 4  | 23 |
| HW-0404-FB       | 4              | 1/4            | 1/4-19BSP   | 19 | 45  | 16   | 4  | 23 |
| HW-0404-FBO      | 4              | 1/4            | 1/4-19BSP   | 19 | 45  | 16   | 4  | 23 |
| HW-0406-FBO      | 4              | 1/4            | 3/8-19BSP   | 22 | 46  | 17   | 4  | 23 |
| HW-0506-FBO      | 5              | 5/16           | 3/8-19BSP   | 22 | 46  | 12   | 5  | 25 |
| HW-0606-FB       | 6              | 3/8            | 3/8-19BSP   | 22 | 45  | 16   | 7  | 27 |
| HW-0606-FBO      | 6              | 3/8            | 3/8-19BSP   | 22 | 45  | 16   | 7  | 27 |
| HW-0608-FBO      | 6              | 3/8            | 1/2-14BSP   | 27 | 46  | 17   | 7  | 27 |
| HW-0808-FB       | 8              | 1/2            | 1/2-14BSP   | 27 | 45  | 17   | 9  | 30 |
| HW-0808-FBO      | 8              | 1/2            | 1/2-14BSP   | 27 | 45  | 17   | 9  | 30 |
| HW-0810-FBO      | 8              | 1/2            | 5/8-14BSP   | 30 | 46  | 17   | 9  | 30 |
| HW-0812-FBO      | 8              | 1/2            | 3/4-14BSP   | 32 | 48  | 19   | 10 | 30 |
| HW-1010-FB       | 10             | 5/8            | 5/8-14BSP   | 30 | 51  | 18   | 12 | 32 |
| HW-1010-FBO      | 10             | 5/8            | 5/8-14BSP   | 30 | 51  | 18   | 12 | 32 |
| HW-1012-FBO      | 10             | 5/8            | 3/4-14BSP   | 32 | 54  | 21   | 13 | 32 |
| HW-1212-FB       | 12             | 3/4            | 3/4-14BSP   | 32 | 66  | 23   | 14 | 40 |
| HW-1216-FBO      | 12             | 3/4            | 1-11BSP     | 41 | 67  | 23   | 15 | 40 |
| HW-1616-FB       | 16             | 1              | 1-11BSP     | 41 | 67  | 16   | 21 | 50 |
| HW-1616-FBO      | 16             | 1              | 1-11BSP     | 41 | 67  | 16   | 21 | 50 |
| HW-1620-FB       | 16             | 1              | 1.1/4-11BSP | 50 | 66  | 23   | 22 | 50 |
| HW-2020-FB       | 20             | 1 -1/4         | 1.1/4-11BSP | 50 | 99  | 40   | 27 | 60 |
| HW-2024-FB       | 20             | 1 -1/4         | 1.1/2-11BSP | 55 | 119 | 48   | 26 | 60 |
| HW-2424-FB       | 24             | 1 -1/2         | 1.1/2-11BSP | 55 | 119 | 45   | 32 | 72 |
| HW-2432-FB       | 24             | 1 -1/2         | 2-11BSP     | 70 | 122 | 49   | 32 | 72 |
| HW-3232-FB       | 32             | 2              | 2-11BSP     | 70 | 151 | 59   | 43 | 85 |
| HW-3240-FB-SKIVE | 32             | 2              | 2.1/2-11BSP | 85 | 92  | 31.5 | 42 | 73 |

\* To order fittings for R6, R7, R4 and Teflon hose, mention the hose type with part number

\*\* If part number contains FBO, the fitting is with O-Ring and if it contains FB, it is without O-Ring



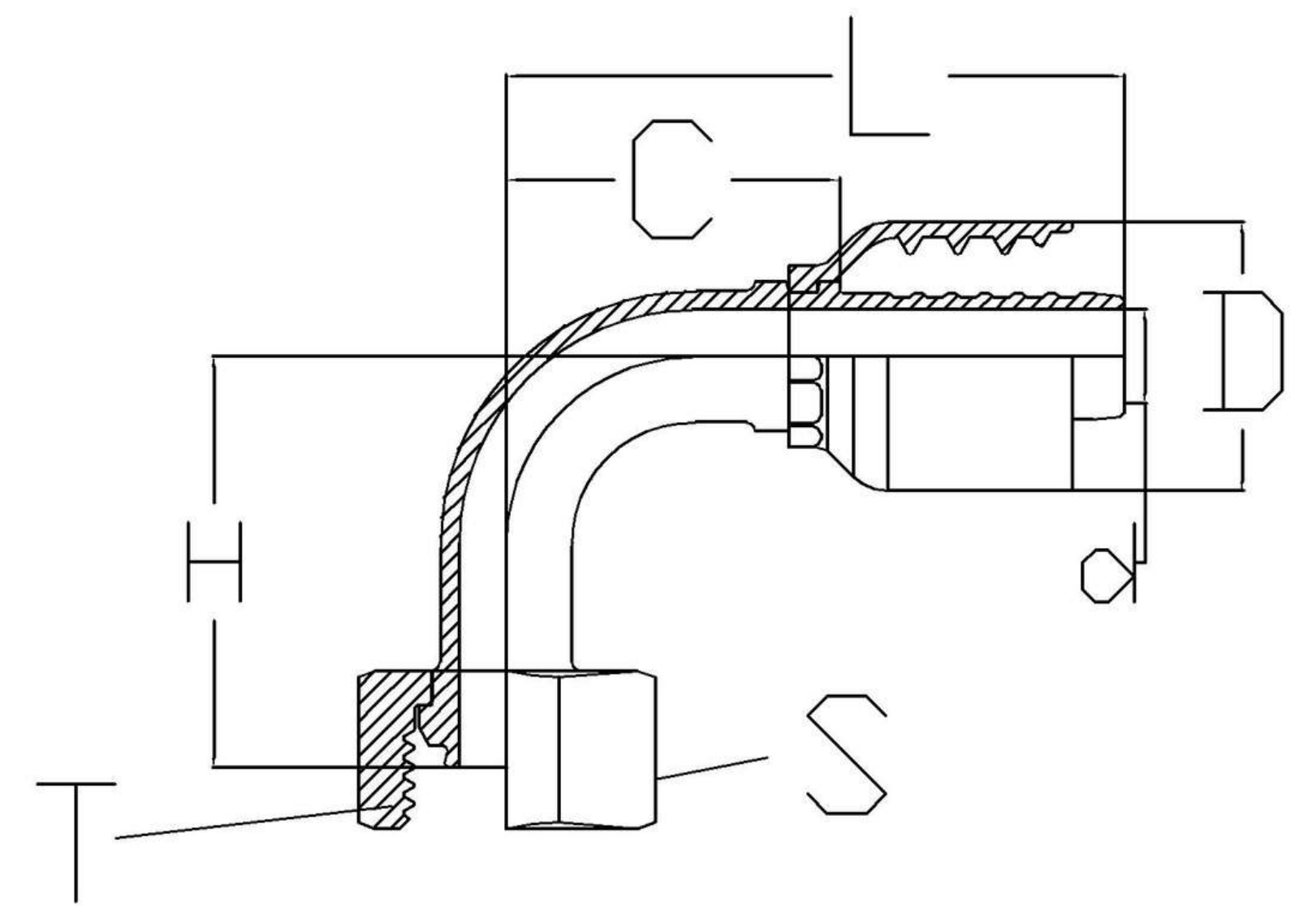
**Standard - ISO 8434-6**

**Cone - 60°**

**O- Ring - NBR\*\***

**Used for hose type -**

SAE 100 R1, R2, R16, R17,  
R19, R7\*, R6\*, R4\*, TEFLON\*



| DESCRIPTION        | HOSE ID (DASH) | HOSE ID (inch) | Thread (T)  | S  | L       | C   | d  | D  | H   |
|--------------------|----------------|----------------|-------------|----|---------|-----|----|----|-----|
| HW-0402-FB-90-23   | 4              | 1/4            | 1/8-28BSP   | 14 | 54      | 25  | 4  | 23 | 23  |
| HW-0404-FB-90-26   | 4              | 1/4            | 1/4-19BSP   | 19 | 56      | 27  | 4  | 23 | 26  |
| HW-0404-FBO-90-24  | 4              | 1/4            | 1/4-19BSP   | 19 | 55      | 21  | 4  | 23 | 24  |
| HW-0404-FBO-90-72  | 4              | 1/4            | 1/4-19BSP   | 19 | 55      | 21  | 4  | 23 | 72  |
| HW-0406-FBO-90-23  | 4              | 1/4            | 3/8-19BSP   | 22 | 53      | 25  | 4  | 23 | 23  |
| HW-0506-FBO-90-35  | 5              | 5/16           | 3/8-19BSP   | 22 | 64      | 32  | 6  | 25 | 35  |
| HW-0606-FB-90-31   | 6              | 3/8            | 3/8-19BSP   | 22 | 57      | 28  | 7  | 27 | 31  |
| HW-0606-FBO-90-31  | 6              | 3/8            | 3/8-19BSP   | 22 | 57      | 28  | 7  | 27 | 31  |
| HW-0606-FBO-90-72  | 6              | 3/8            | 3/8-19BSP   | 22 | 61      | 31  | 7  | 27 | 72  |
| HW-0608-FBO-90-31  | 6              | 3/8            | 1/2-14BSP   | 27 | 58      | 30  | 7  | 27 | 31  |
| HW-0808-FB-90-75   | 8              | 1/2            | 1/2-14BSP   | 27 | 74      | 44  | 9  | 30 | 75  |
| HW-0808-FB-90-37   | 8              | 1/2            | 1/2-14BSP   | 27 | 71      | 43  | 10 | 30 | 37  |
| HW-0808-FBO-90-37  | 8              | 1/2            | 1/2-14BSP   | 27 | 71      | 43  | 10 | 30 | 37  |
| HW-0812-FBO-90-57  | 8              | 1/2            | 3/4-14BSP   | 32 | 73      | 44  | 10 | 30 | 57  |
| HW-1010-FB-90-48   | 10             | 5/8            | 5/8-14BSP   | 30 | 85      | 52  | 12 | 32 | 48  |
| HW-1010-FBO-90-48  | 10             | 5/8            | 5/8-14BSP   | 30 | 85      | 52  | 12 | 32 | 48  |
| HW-1012-FBO-90-54  | 10             | 5/8            | 3/4-14BSP   | 32 | 84      | 51  | 12 | 32 | 54  |
| HW-1212-FB-90-56   | 12             | 3/4            | 3/4-14BSP   | 32 | 105     | 62  | 14 | 40 | 56  |
| HW-1212-FBO-90-57  | 12             | 3/4            | 3/4-14BSP   | 32 | 150     | 60  | 15 | 40 | 150 |
| HW-1212-FBO-90-150 | 12             | 3/4            | 3/4-14BSP   | 32 | 150     | 60  | 15 | 40 | 150 |
| HW-1216-FBO-90-66  | 12             | 3/4            | 1-11BSP     | 41 | 102     | 57  | 14 | 40 | 66  |
| HW-1216-FBO-90-150 | 12             | 3/4            | 1-11BSP     | 41 | 102     | 57  | 14 | 40 | 150 |
| HW-1616-FB-90-61   | 16             | 1              | 1-11BSP     | 41 | 115     | 74  | 19 | 50 | 61  |
| HW-1616-FBO-90-65  | 16             | 1              | 1-11BSP     | 41 | 115/145 | 74  | 19 | 50 | 65  |
| HW-1616-FBO-90-150 | 16             | 1              | 1-11BSP     | 41 | 115/145 | 74  | 19 | 50 | 150 |
| HW-2020-FB-90-95   | 20             | 1 -1/4         | 1.1/4-11BSP | 50 | 140     | 108 | 24 | 60 | 95  |
| HW-2424-FB-90-100  | 24             | 1 -1/2         | 1.1/2-11BSP | 55 | 230     | 135 | 26 | 68 | 100 |
| HW-3232-FB-90-130  | 32             | 2              | 2-11BSP     | 70 | 285     | 175 | 38 | 83 | 130 |

\* To order fittings for R6, R7, R4 and Teflon hose, mention the hose type with part number

\*\* If part number contains FBO, the fitting is with O-Ring and if it contains FB, it is without O-Ring

## BSP Female 45 degree bend

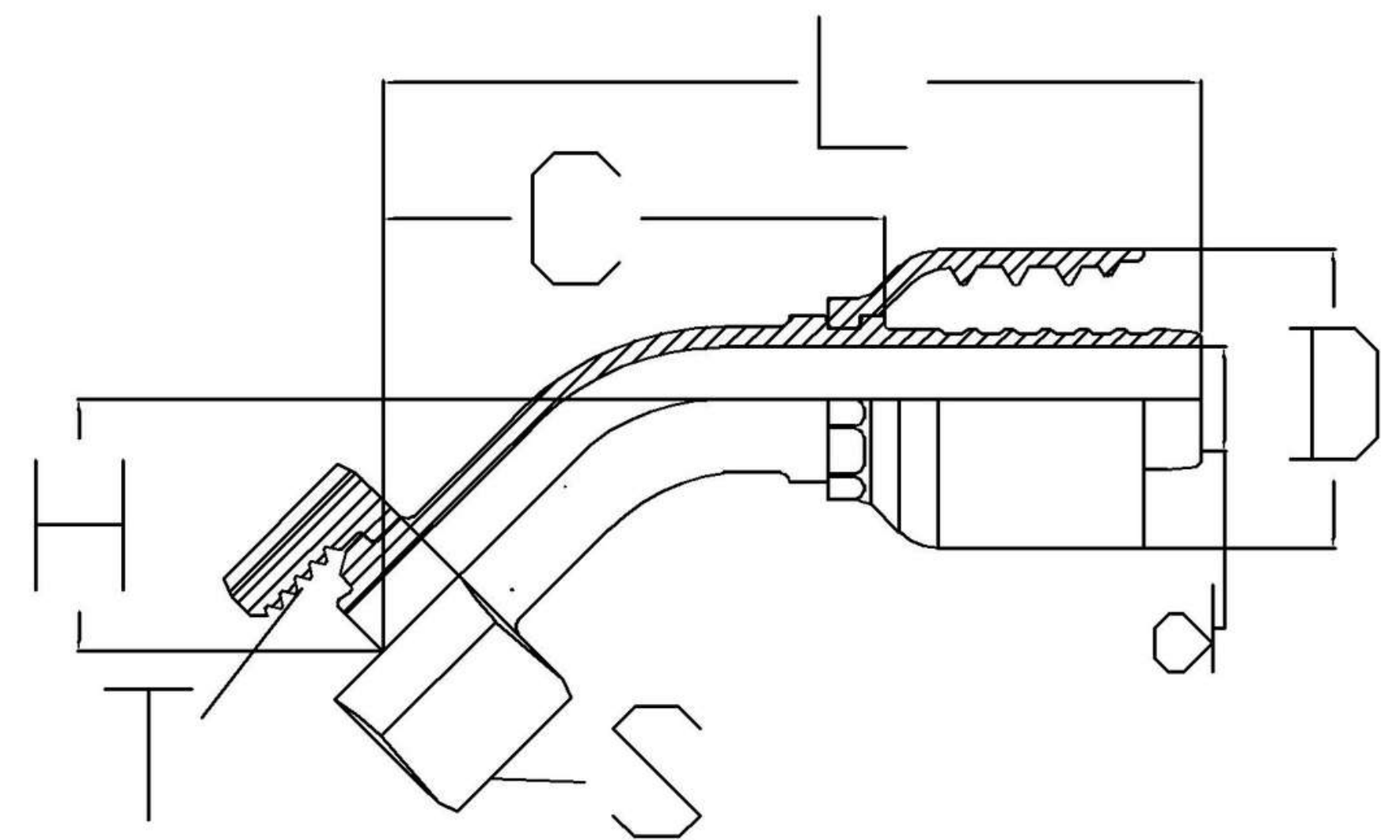
Standard - ISO 8434-6

Cone - 60°

O- Ring - NBR\*\*

Used for hose type -

SAE 100 R1, R2, R16, R17,  
R19, R7\*, R6\*, R4\*, TEFLON\*



| DESCRIPTION            | HOSE ID (DASH) | HOSE ID (inch) | Thread (T)  | S  | L   | C   | d  | D  | H  |
|------------------------|----------------|----------------|-------------|----|-----|-----|----|----|----|
| HW-0404-FB-45-13       | 4              | 1/4            | 1/4-19BSP   | 19 | 54  | 24  | 4  | 23 | 13 |
| HW-0404-FBO-45-15      | 4              | 1/4            | 1/4-19BSP   | 19 | 59  | 30  | 4  | 23 | 15 |
| HW-0606-FB-45-17       | 6              | 3/8            | 3/8-19BSP   | 22 | 63  | 34  | 7  | 27 | 17 |
| HW-0606-FBO-45-13      | 6              | 3/8            | 3/8-19BSP   | 22 | 67  | 39  | 7  | 27 | 13 |
| HW-0808-FB-45-23       | 8              | 1/2            | 1/2-14BSP   | 27 | 69  | 40  | 10 | 30 | 23 |
| HW-0808-FBO-45-27      | 8              | 1/2            | 1/2-14BSP   | 27 | 84  | 57  | 9  | 30 | 27 |
| HW-1012-FBO-45-36      | 10             | 5/8            | 3/4-14BSP   | 32 | 109 | 75  | 13 | 32 | 36 |
| HW-1212-FBO-45-37      | 12             | 3/4            | 3/4-14BSP   | 32 | 125 | 81  | 14 | 40 | 37 |
| HW-1616-FBO-45-44      | 16             | 1              | 1-11BSP     | 41 | 137 | 92  | 19 | 50 | 44 |
| HW-2020-FB-45-45-SKIVE | 20             | 1 -1/4         | 1.1/4-11BSP | 50 | 163 | 108 | 25 | 54 | 45 |
| HW-2424-FB-45-49-SKIVE | 24             | 1 -1/2         | 1.1/2-11BSP | 55 | 187 | 131 | 32 | 60 | 49 |
| HW-3232-FB-45-62-SKIVE | 32             | 2              | 2-11BSP     | 70 | 217 | 156 | 44 | 73 | 62 |

\* To order fittings for R6, R7, R4 and Teflon hose, mention the hose type with part number

\*\* If part number contains FBO, the fitting is with O-Ring and if it contains FB, it is without O-Ring

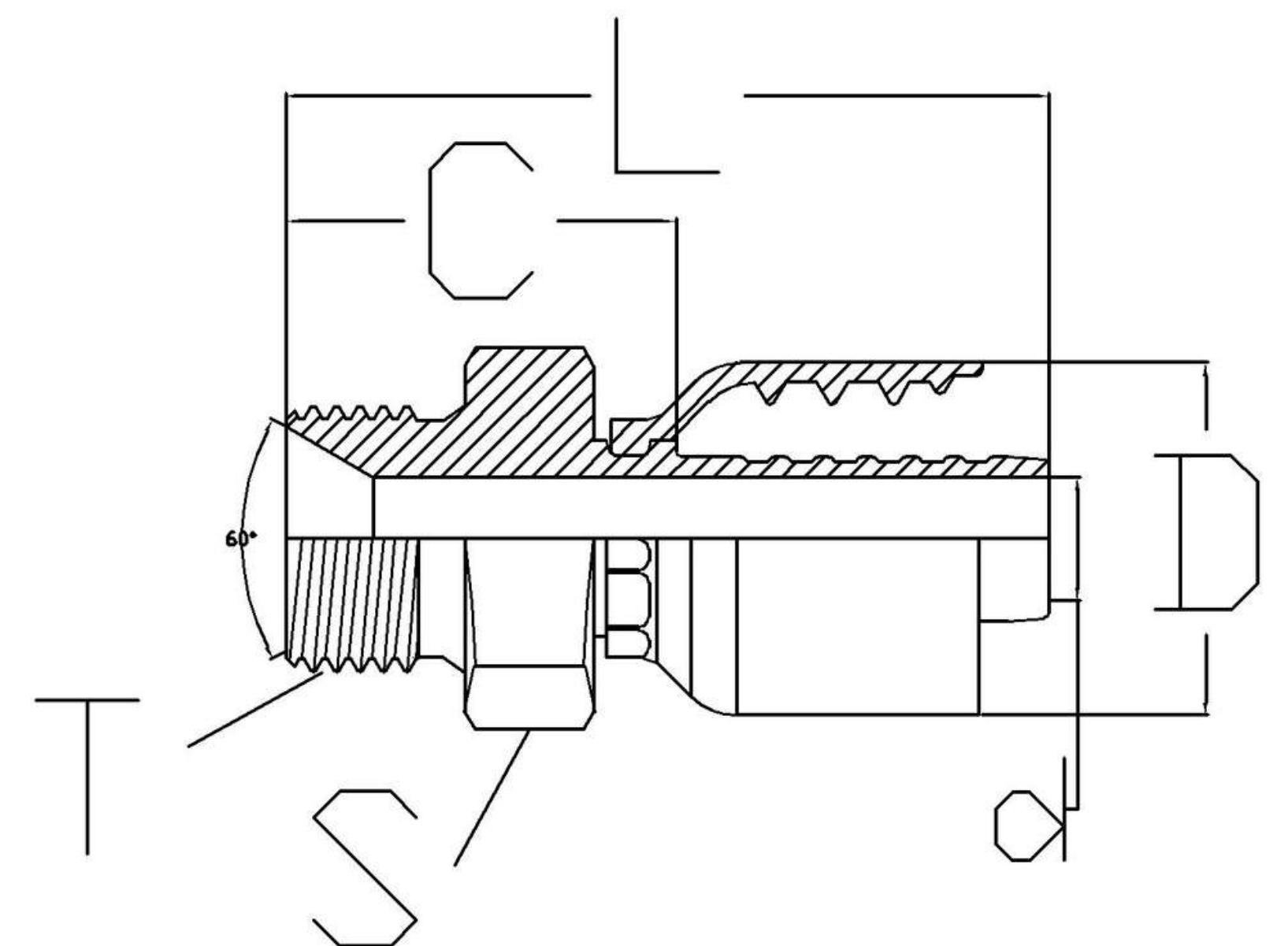
## BSP Male straight / 90 degree bend

Standard - ISO 8434-6

Cone - 60°

Used for hose type -

SAE 100 R1, R2, R16, R17,  
R19, R7\*, R6\*, R4\*, TEFLON\*



| DESCRIPTION         | HOSE ID (DASH) | HOSE ID (inch) | Thread (T)  | S  | L   | C  | d  | D  |
|---------------------|----------------|----------------|-------------|----|-----|----|----|----|
| HW-0404-MB          | 4              | 1/4            | 1/4-19BSP   | 19 | 55  | 26 | 4  | 23 |
| HW-0406-MB          | 4              | 1/4            | 3/8-19BSP   | 22 | 58  | 28 | 4  | 23 |
| HW-0606-MB          | 6              | 3/8            | 3/8-19BSP   | 22 | 55  | 26 | 7  | 27 |
| HW-0806-MB          | 8              | 1/2            | 3/8-19BSP   | 22 | 55  | 20 | 9  | 30 |
| HW-0808-MB          | 8              | 1/2            | 1/2-14BSP   | 27 | 58  | 30 | 9  | 30 |
| HW-0808-MB-BULKHEAD | 8              | 1/2            | 1/2-14BSP   | 27 | 73  | 44 | 10 | 30 |
| HW-1010-MB-BULKHEAD | 10             | 5/8            | 5/8-14BSP   | 30 | 81  | 48 | 13 | 32 |
| HW-1212-MB          | 12             | 3/4            | 3/4-14BSP   | 32 | 75  | 32 | 14 | 40 |
| HW-1216-MB          | 12             | 3/4            | 1-11BSP     | 41 | 82  | 38 | 14 | 40 |
| HW-1616-MB          | 16             | 1              | 1-11BSP     | 38 | 80  | 36 | 20 | 50 |
| HW-2020-MB          | 20             | 1 - 1/4        | 1.1/4-11BSP | 50 | 120 | 49 | 29 | 60 |
| HW-3232-MB-SKIVE    | 32             | 2              | 2-11BSP     | 70 | 112 | 52 | 42 | 73 |
| HW-0808-MB-90-74    | 8              | 1 - 1/2        | 1/2-14BSP   | 27 | 72  | 45 | 9  | 30 |

\* To order fittings for R6, R7, R4 and Teflon hose, mention the hose type with part number

## BSP Female Straight Skive Type

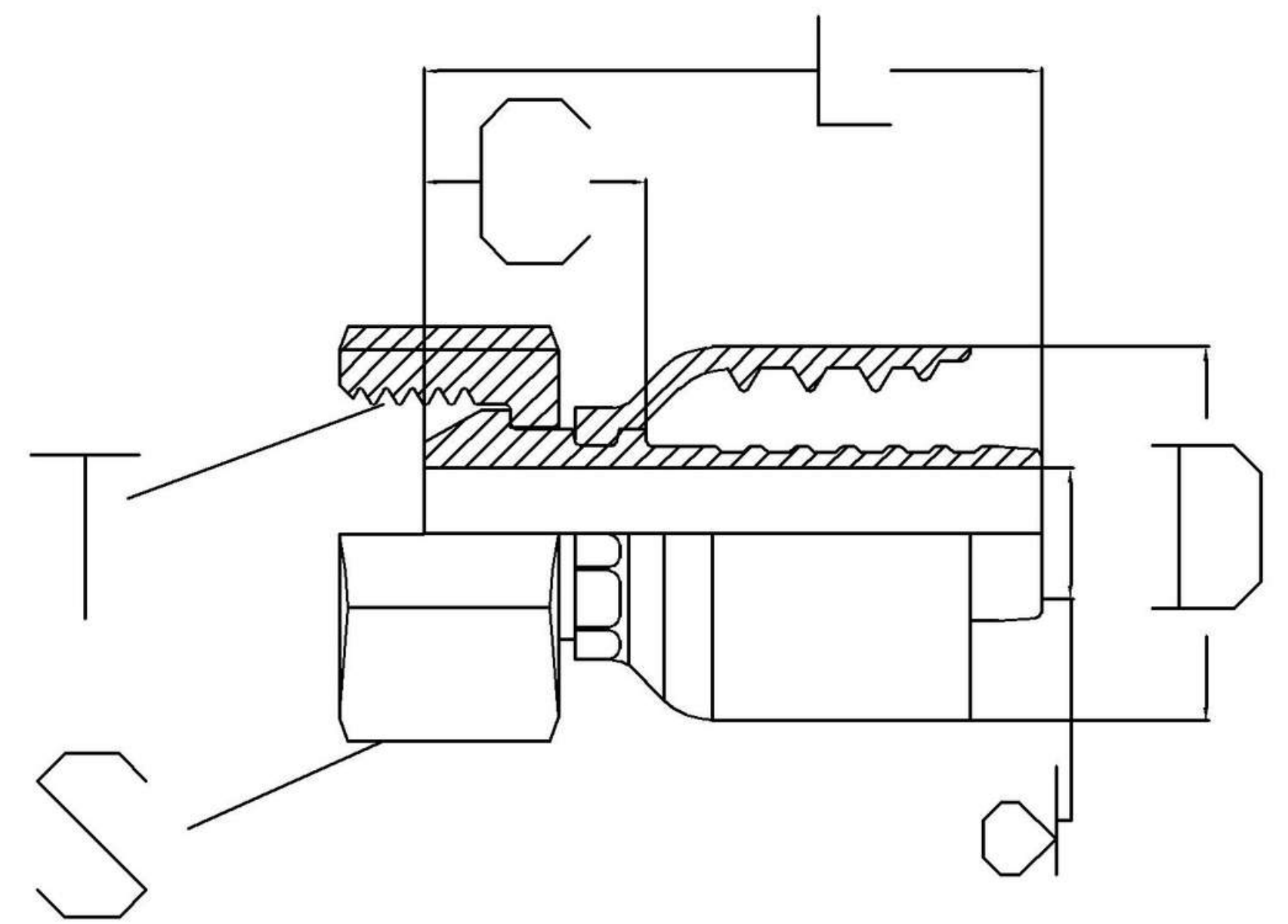
**Standard - ISO 8434-6**

**Cone - 60°**

**O- Ring - NBR\*\***

**Used for hose type -**

SAE 100 R1, R2, R16, R17,  
R19, R7\*, R6\*, R4\*, TEFLON\*



| DESCRIPTION      | HOSE ID (DASH) | HOSE ID (inch) | Thread (T)  | S  | L   | C  | d  | D   |
|------------------|----------------|----------------|-------------|----|-----|----|----|-----|
| HW-2020-FB-SKIVE | 20             | 1 - 1/4        | 1.1/4-11BSP | 50 | 85  | 29 | 25 | 54  |
| HW-2424-FB-SKIVE | 24             | 1 - 1/2        | 1.1/2-11BSP | 55 | 85  | 30 | 32 | 60  |
| HW-3232-FB-SKIVE | 32             | 2              | 2-11BSP     | 70 | 94  | 33 | 42 | 73  |
| HW-4040-FB-SKIVE | 40             | 2 - 1/2        | 2.1/2-11BSP | 85 | 96  | 31 | 57 | 86  |
| HW-4848-FB-SKIVE | 48             | 3              | 3-11BSP     | 94 | 103 | 32 | 68 | 100 |

\* To order fittings for R6, R7, R4 and Teflon hose, mention the hose type with part number

\*\* If part number contains FBO, the fitting is with O-Ring and if it contains FB, it is without O-Ring

## BSP Female 90 degree bend Skive type

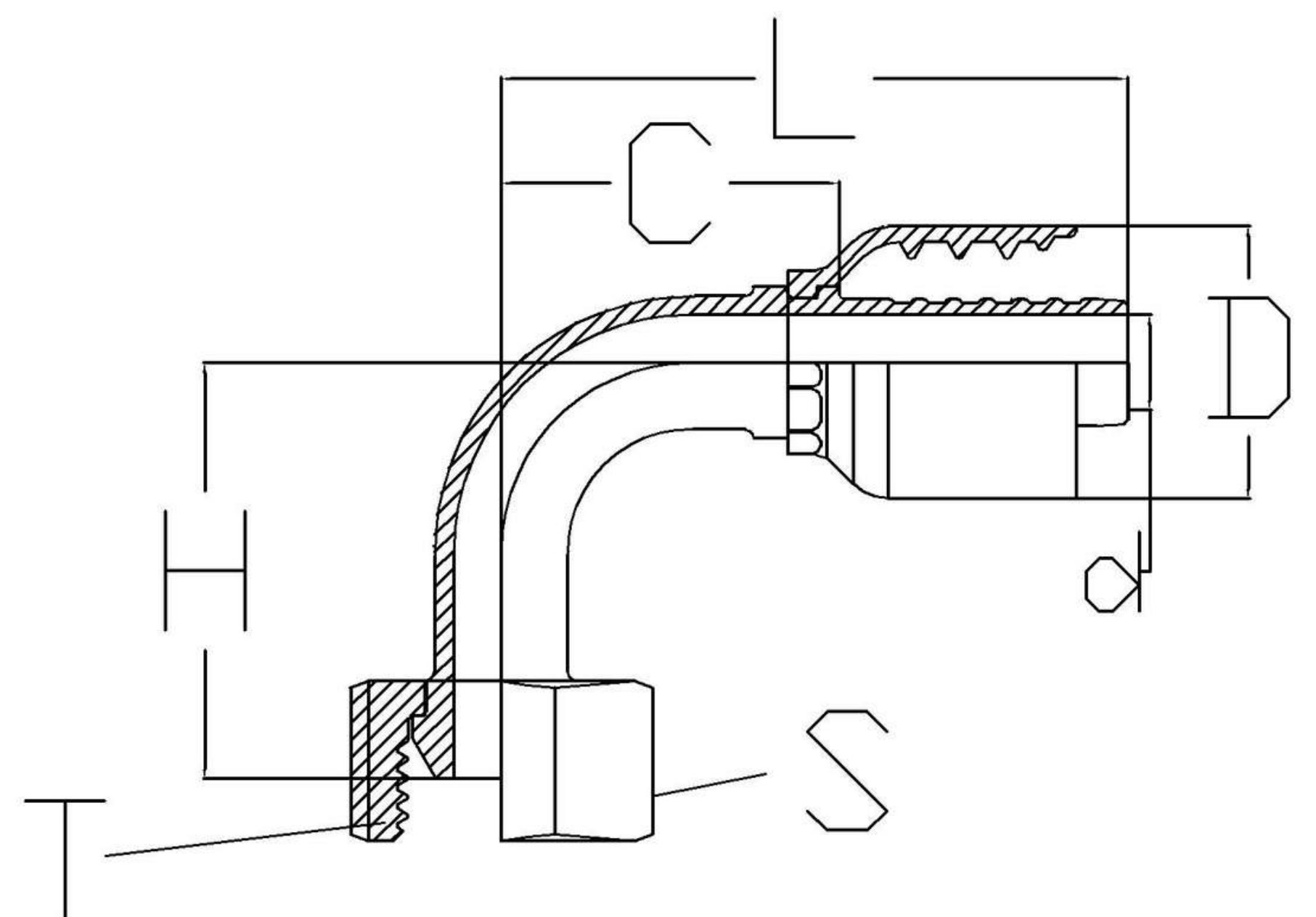
**Standard - ISO 8434-6**

**Cone - 60°**

**O- Ring - NBR\*\***

**Used for hose type -**

SAE 100 R1, R2, R16, R17,  
R19, R7\*, R6\*, R4\*, TEFLON\*



| DESCRIPTION             | HOSE ID (DASH) | HOSE ID (inch) | Thread (T)  | S  | L   | C   | d  | D  | H   |
|-------------------------|----------------|----------------|-------------|----|-----|-----|----|----|-----|
| HW-2424-FB-90-100-SKIVE | 24             | 1 - 1/2        | 1.1/2-11BSP | 55 | 185 | 118 | 29 | 60 | 100 |
| HW-3232-FB-90-130-SKIVE | 32             | 2              | 2-11BSP     | 70 | 205 | 145 | 42 | 73 | 130 |
| HW-4040-FB-90-96-SKIVE  | 40             | 2 - 1/2        | 2.1/2-11BSP | 85 | 175 | 104 | 57 | 86 | 96  |
| HW-4848-FB-90-100-SKIVE | 48             | 3              | 3-11BSP     | 95 | 200 | 110 | 68 | 96 | 100 |

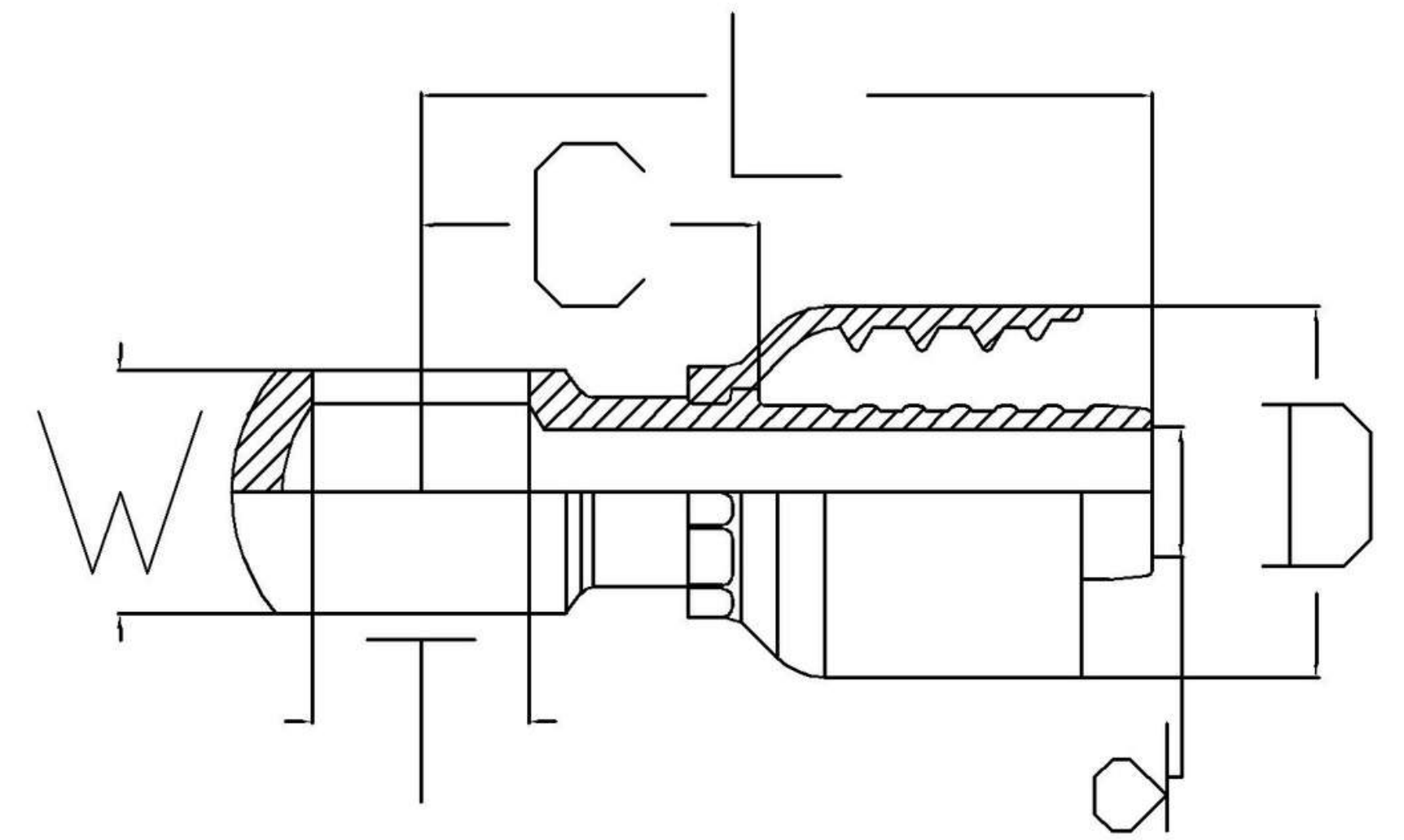
\* To order fittings for R6, R7, R4 and Teflon hose, mention the hose type with part number

\*\* If part number contains FBO, the fitting is with O-Ring and if it contains FB, it is without O-Ring

**Standard - DIN-7642**

**Used for hose type -**

SAE 100 R1, R2, R16, R17,  
R19, R7\*, R6\*, R4\*, TEFLON\*



| DESCRIPTION     | Compatible METRIC Bolt | Compatible BSP Bolt | HOSE ID (DASH) | HOSE ID (inch) | TYPE     | L  | C  | d  | D  | W    |
|-----------------|------------------------|---------------------|----------------|----------------|----------|----|----|----|----|------|
| HW-0410-BJ      | M10                    | 1/8"                | 4              | 1/4            | 10 mm ID | 52 | 24 | 4  | 23 | 10   |
| HW-0412-BJ      | M12                    |                     | 4              | 1/4            | 12 mm ID | 55 | 25 | 4  | 23 | 12   |
| HW-0412-BJO-W16 | M12                    |                     | 4              | 1/4            | 12 mm ID | 55 | 25 | 4  | 23 | 16   |
| HW-0412-BJO-W20 | M12                    |                     | 4              | 1/4            | 12 mm ID | 55 | 25 | 4  | 23 | 20   |
| HW-0412-BJO-W25 | M12                    |                     | 4              | 1/4            | 12 mm ID | 55 | 25 | 4  | 23 | 25   |
| HW-0414-BJ      | M14                    | 1/4"                | 4              | 1/4            | 14 mm ID | 58 | 40 | 4  | 23 | 14   |
| HW-0416-BJO-W15 | M16                    |                     | 4              | 1/4            | 16 mm ID | 74 | 46 | 4  | 23 | 15   |
| HW-0416-BJO-W21 | M16                    |                     | 4              | 1/4            | 16 mm ID | 74 | 46 | 4  | 23 | 21   |
| HW-0512-BJ      | M12                    |                     | 5              | 5/16           | 12 mm ID | 58 | 28 | 5  | 25 | 12   |
| HW-0514-BJ      | M14                    | 1/4"                | 5              | 5/16           | 14 mm ID | 58 | 29 | 5  | 25 | 13,8 |
| HW-0614-BJ      | M14                    | 1/4"                | 6              | 3/8            | 14 mm ID | 58 | 29 | 7  | 27 | 14   |
| HW-0616-BJ      | M16                    |                     | 6              | 3/8            | 16 mm ID | 63 | 35 | 7  | 27 | 15.9 |
| HW-0618-BJ      | M18                    | 3/8"                | 6              | 3/8            | 18 mm ID | 70 | 41 | 7  | 27 | 19.9 |
| HW-0622-BJ      | M21                    | 1/2"                | 6              | 3/8            | 22 mm ID | 72 | 45 | 7  | 27 | 25   |
| HW-0816-BJ      | M16                    |                     | 8              | 1/2            | 16 mm ID | 59 | 31 | 9  | 30 | 16   |
| HW-0818-BJ      | M18                    | 3/8"                | 8              | 1/2            | 18 mm ID | 63 | 34 | 10 | 30 | 19.9 |
| HW-0822-BJ      | M22                    | 1/2"                | 8              | 1/2            | 22 mm ID | 65 | 34 | 9  | 30 | 25   |
| HW-1227-BJ      | M27                    | 3/4"                | 12             | 3/4            | 27 mm ID | 77 | 33 | 14 | 40 | 30   |
| HW-1233-BJ      | M33                    | 1"                  | 12             | 3/4            | 33 mm ID | 90 | 47 | 14 | 40 | 33   |

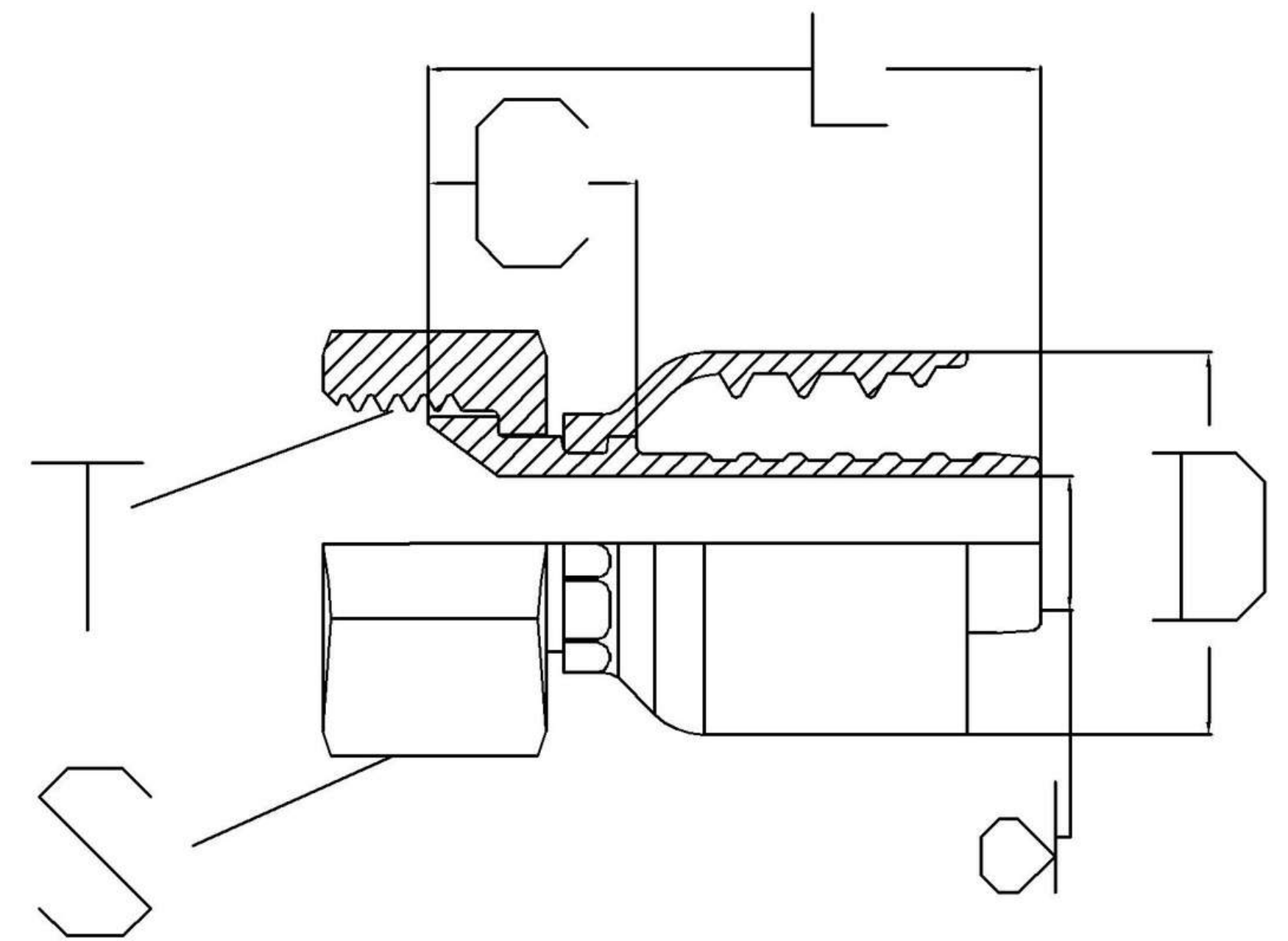
\* To order fittings for R6, R7, R4 and Teflon hose, mention the hose type with part number

**Standard - ISO-8434-2**

**Cone - 37°**

**Used for hose type -**

SAE 100 R1, R2, R16, R17,  
R19, R7\*, R6\*, R4\*, TEFLON\*



| DESCRIPTION | HOSE ID (DASH) | HOSE ID (inch) | Thread (T)  | S  | L   | C  | d  | D  |
|-------------|----------------|----------------|-------------|----|-----|----|----|----|
| HW-0404-FJ  | 4              | 1/4            | 7/16-20UN   | 17 | 43  | 14 | 4  | 23 |
| HW-0405-FJ  | 4              | 1/4            | 1/2-20UN    | 17 | 46  | 17 | 4  | 23 |
| HW-0406-FJ  | 4              | 1/4            | 9/16-18UN   | 19 | 46  | 17 | 4  | 23 |
| HW-0505-FJ  | 5              | 5/16           | 1/2-20UN    | 17 | 46  | 17 | 5  | 25 |
| HW-0506-FJ  | 5              | 5/16           | 9/16-18UN   | 19 | 47  | 18 | 5  | 25 |
| HW-0606-FJ  | 6              | 3/8            | 9/16-18UN   | 19 | 46  | 17 | 6  | 27 |
| HW-0607-FJ  | 6              | 3/8            | 5/8-18UN    | 22 | 46  | 17 | 7  | 27 |
| HW-0608-FJ  | 6              | 3/8            | 3/4-16UN    | 24 | 46  | 17 | 6  | 27 |
| HW-0808-FJ  | 8              | 1/2            | 3/4-16UN    | 24 | 45  | 17 | 9  | 30 |
| HW-0810-FJ  | 8              | 1/2            | 7/8-14UN    | 27 | 45  | 16 | 9  | 30 |
| HW-1010-FJ  | 10             | 5/8            | 7/8-14UN    | 27 | 51  | 18 | 12 | 32 |
| HW-1012-FJ  | 10             | 5/8            | 1.1/16-12UN | 32 | 53  | 20 | 12 | 32 |
| HW-1212-FJ  | 12             | 3/4            | 1.1/16-12UN | 32 | 62  | 18 | 14 | 40 |
| HW-1216-FJ  | 12             | 3/4            | 1.5/16-12UN | 41 | 64  | 21 | 14 | 40 |
| HW-1616-FJ  | 16             | 1              | 1.5/16-12UN | 41 | 66  | 22 | 20 | 50 |
| HW-1620-FJ  | 16             | 1              | 1.5/8-12UN  | 50 | 69  | 25 | 20 | 50 |
| HW-2020-FJ  | 20             | 1 - 1/4        | 1.5/8-12UN  | 50 | 118 | 48 | 26 | 61 |
| HW-2024-FJ  | 20             | 1 - 1/4        | 1.7/8-12UN  | 60 | 119 | 48 | 26 | 60 |
| HW-2424-FJ  | 24             | 1 - 1/2        | 1.7/8-12UN  | 60 | 84  | 28 | 31 | 68 |
| HW-2432-FJ  | 24             | 1 - 1/2        | 2.1/2-12UN  | 75 | 112 | 49 | 32 | 72 |
| HW-3232-FJ  | 32             | 2              | 2.1/2-12UN  | 75 | 93  | 32 | 44 | 73 |

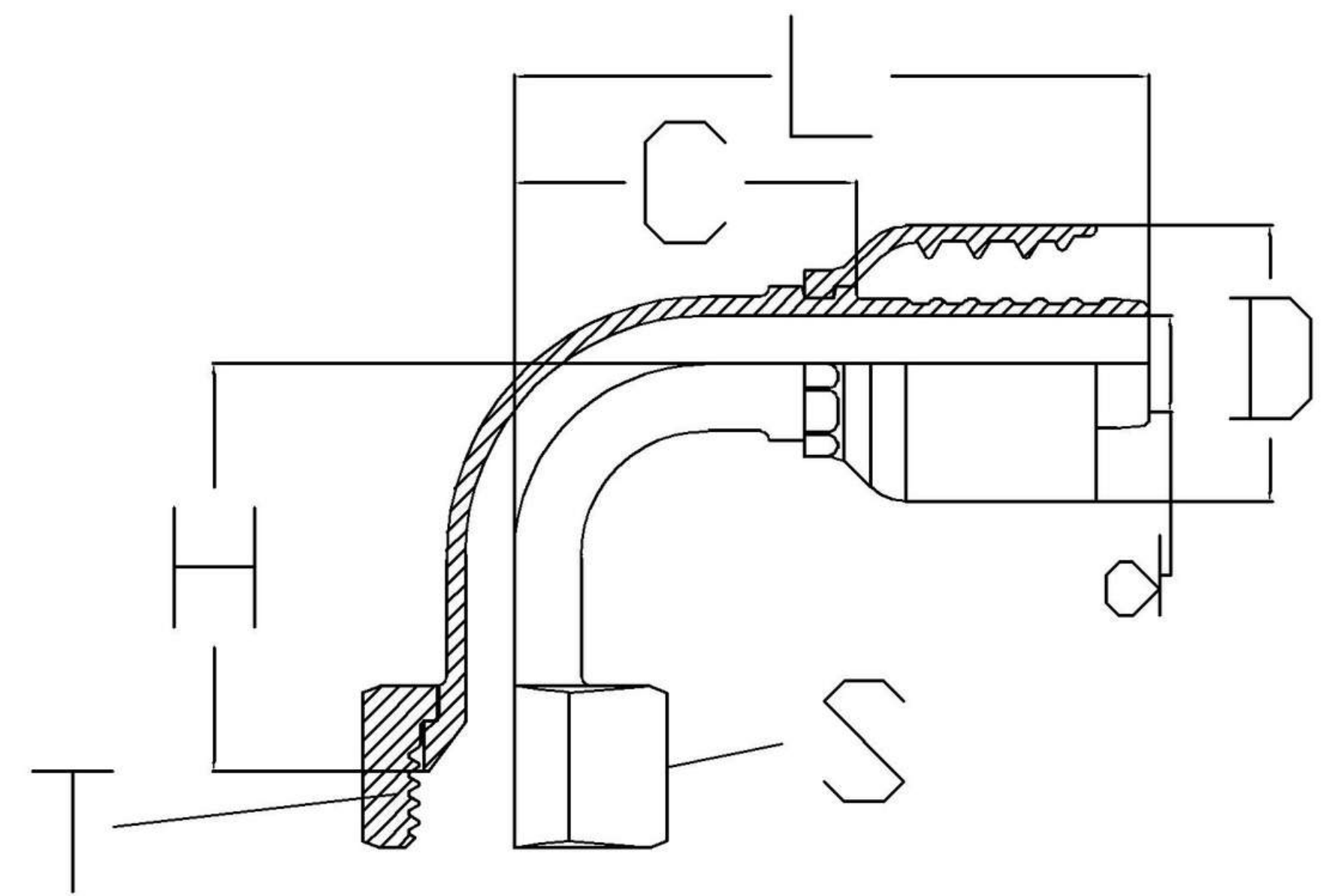
\* To order fittings for R6, R7, R4 and Teflon hose, mention the hose type with part number

**Standard - ISO-8434-2**

**Cone - 37°**

**Used for hose type -**

SAE 100 R1, R2, R16, R17,  
R19, R7\*, R6\*, R4\*, TEFLON\*



| DESCRIPTION       | HOSE ID (DASH) | HOSE ID (inch) | Thread (T)  | S  | L   | C   | d  | D  | H   |
|-------------------|----------------|----------------|-------------|----|-----|-----|----|----|-----|
| HW-0404-FJ-90-21  | 4              | 1/4            | 7/16-20UN   | 17 | 54  | 23  | 4  | 23 | 21  |
| HW-0405-FJ-90-25  | 4              | 1/4            | 1/2-20UN    | 17 | 56  | 25  | 4  | 23 | 25  |
| HW-0406-FJ-90-28  | 4              | 1/4            | 9/16-18UN   | 19 | 61  | 32  | 4  | 23 | 28  |
| HW-0505-FJ-90-25  | 5              | 5/16           | 1/2-20UN    | 17 | 51  | 23  | 5  | 25 | 25  |
| HW-0506-FJ-90-33  | 5              | 5/16           | 9/16-18UN   | 19 | 59  | 30  | 5  | 25 | 33  |
| HW-0606-FJ-90-28  | 6              | 3/8            | 9/16-18UN   | 19 | 67  | 37  | 7  | 27 | 28  |
| HW-0606-FJ-90-52  | 6              | 3/8            | 9/16-18UN   | 19 | 67  | 37  | 7  | 27 | 52  |
| HW-0607-FJ-90-28  | 6              | 3/8            | 5/8-18UN    | 22 | 64  | 35  | 6  | 27 | 28  |
| HW-0608-FJ-90-29  | 6              | 3/8            | 3/4-16UN    | 24 | 63  | 34  | 7  | 27 | 29  |
| HW-0808-FJ-90-37  | 8              | 1/2            | 3/4-16UN    | 24 | 69  | 40  | 9  | 30 | 37  |
| HW-0810-FJ-90-39  | 8              | 1/2            | 7/8-14UN    | 27 | 71  | 43  | 9  | 30 | 39  |
| HW-1010-FJ-90-50  | 10             | 5/8            | 7/8-14UN    | 27 | 84  | 53  | 13 | 32 | 50  |
| HW-1012-FJ-90-51  | 10             | 5/8            | 1.1/16-12UN | 32 | 88  | 55  | 12 | 32 | 51  |
| HW-1212-FJ-90-54  | 12             | 3/4            | 1.1/16-12UN | 32 | 103 | 60  | 14 | 40 | 54  |
| HW-1216-FJ-90-66  | 12             | 3/4            | 1.5/16-12UN | 41 | 115 | 73  | 15 | 40 | 66  |
| HW-1616-FJ-90-62  | 16             | 1              | 1.5/16-12UN | 41 | 117 | 72  | 20 | 50 | 62  |
| HW-1620-FJ-90-67  | 16             | 1              | 1.5/8-12UN  | 50 | 114 | 72  | 20 | 50 | 67  |
| HW-1816-FJ-90-90  | 18             | 1 - 1/8        | 1.5/16-12UN | 41 | 110 | 65  | 20 | 44 | 90  |
| HW-2020-FJ-90-90  | 20             | 1 - 1/4        | 1.5/8-12UN  | 50 | 190 | 118 | 23 | 61 | 90  |
| HW-2024-FJ-90-90  | 20             | 1 - 1/4        | 1.7/8-12UN  | 60 | 161 | 103 | 27 | 54 | 90  |
| HW-2424-FJ-90-100 | 24             | 1 - 1/2        | 1.7/8-12UN  | 60 | 185 | 118 | 29 | 68 | 100 |
| HW-2432-FJ-90-115 | 24             | 1 - 1/2        | 2.1/2-12UN  | 70 | 170 | 112 | 32 | 60 | 115 |
| HW-3232-FJ-90-130 | 32             | 2              | 2.1/2-12UN  | 70 | 205 | 145 | 42 | 73 | 130 |

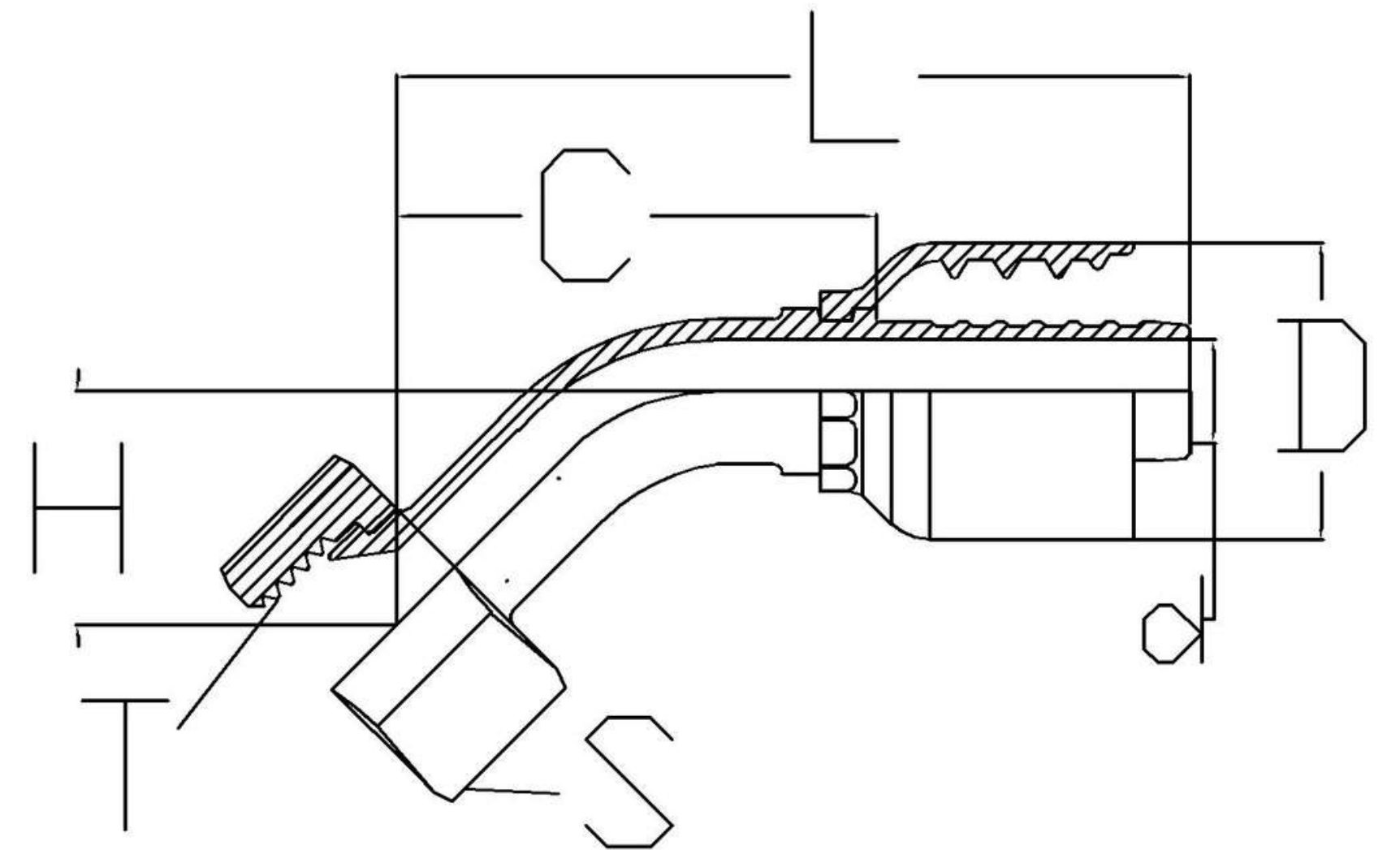
\* To order fittings for R6, R7, R4 and Teflon hose, mention the hose type with part number

**Standard - ISO-8434-2**

**Cone - 37°**

**Used for hose type -**

SAE 100 R1, R2, R16, R17,  
R19, R7\*, R6\*, R4\*, TEFLON\*



| DESCRIPTION       | HOSE ID (DASH) | HOSE ID (inch) | Thread (T)  | S  | L   | C   | d  | D  | H   |
|-------------------|----------------|----------------|-------------|----|-----|-----|----|----|-----|
| HW-0404-FJ-45-12  | 4              | 1/4            | 7/16-20UN   | 17 | 58  | 29  | 4  | 23 | 12  |
| HW-0405-FJ-45-13  | 4              | 1/4            | 1/2-20UN    | 17 | 59  | 30  | 4  | 23 | 13  |
| HW-0406-FJ-45-13  | 4              | 1/4            | 9/16-18UN   | 19 | 67  | 38  | 4  | 23 | 13  |
| HW-0505-FJ-45-13  | 5              | 5/16           | 1/2-20UN    | 17 | 62  | 33  | 5  | 25 | 13  |
| HW-0506-FJ-45-16  | 5              | 5/16           | 9/16-18UN   | 19 | 67  | 38  | 5  | 25 | 16  |
| HW-0606-FJ-45-16  | 6              | 3/8            | 9/16-18UN   | 19 | 68  | 39  | 7  | 27 | 16  |
| HW-0607-FJ-45-16  | 6              | 3/8            | 5/8-18UN    | 22 | 68  | 39  | 7  | 27 | 16  |
| HW-0608-FJ-45-16  | 6              | 3/8            | 3/4-16UN    | 24 | 68  | 39  | 7  | 27 | 16  |
| HW-0808-FJ-45-18  | 8              | 1/2            | 3/4-16UN    | 24 | 75  | 46  | 10 | 30 | 18  |
| HW-0810-FJ-45-20  | 8              | 1/2            | 7/8-14UN    | 27 | 77  | 48  | 10 | 30 | 20  |
| HW-1010-FJ-45-24  | 10             | 5/8            | 7/8-14UN    | 37 | 90  | 57  | 13 | 32 | 24  |
| HW-1012-FJ-45-24  | 10             | 5/8            | 1.1/16-12UN | 32 | 90  | 57  | 13 | 32 | 24  |
| HW-1212-FJ-45-30  | 12             | 3/4            | 1.1/16-12UN | 32 | 96  | 52  | 14 | 40 | 30  |
| HW-1216-FJ-45-30  | 12             | 3/4            | 1.5/16-12UN | 41 | 114 | 71  | 14 | 40 | 30  |
| HW-1616-FJ-45-30  | 16             | 1              | 1.5/16-12UN | 41 | 122 | 78  | 21 | 50 | 30  |
| HW-1620-FJ-45-36  | 16             | 1              | 1.5/8-12UN  | 50 | 127 | 83  | 21 | 50 | 36  |
| HW-2020-FJ-45-44  | 20             | 1 - 1/4        | 1.5/8-12UN  | 50 | 163 | 107 | 25 | 54 | 44  |
| HW-2024-FJ-45-45  | 20             | 1 - 1/4        | 1.7/8-12UN  | 60 | 164 | 96  | 25 | 54 | 45  |
| HW-2424-FJ-45-54  | 24             | 1 - 1/2        | 1.7/8-12UN  | 60 | 191 | 135 | 54 | 60 | 54  |
| HW-2432-FJ-45-56  | 24             | 1 - 1/2        | 2.1/2-12UN  | 75 | 195 | 139 | 57 | 60 | 56  |
| HW-3232-FJ-45-62  | 32             | 2              | 2.1/2-12UN  | 75 | 216 | 156 | 59 | 73 | 62  |
| HW-2432-FJ-90-115 | 24             | 1 - 1/2        | 2.1/2-12UN  | 70 | 170 | 112 | 32 | 60 | 115 |
| HW-3232-FJ-90-130 | 32             | 2              | 2.1/2-12UN  | 70 | 205 | 145 | 42 | 73 | 130 |

\* To order fittings for R6, R7, R4 and Teflon hose, mention the hose type with part number

## JIC Male straight

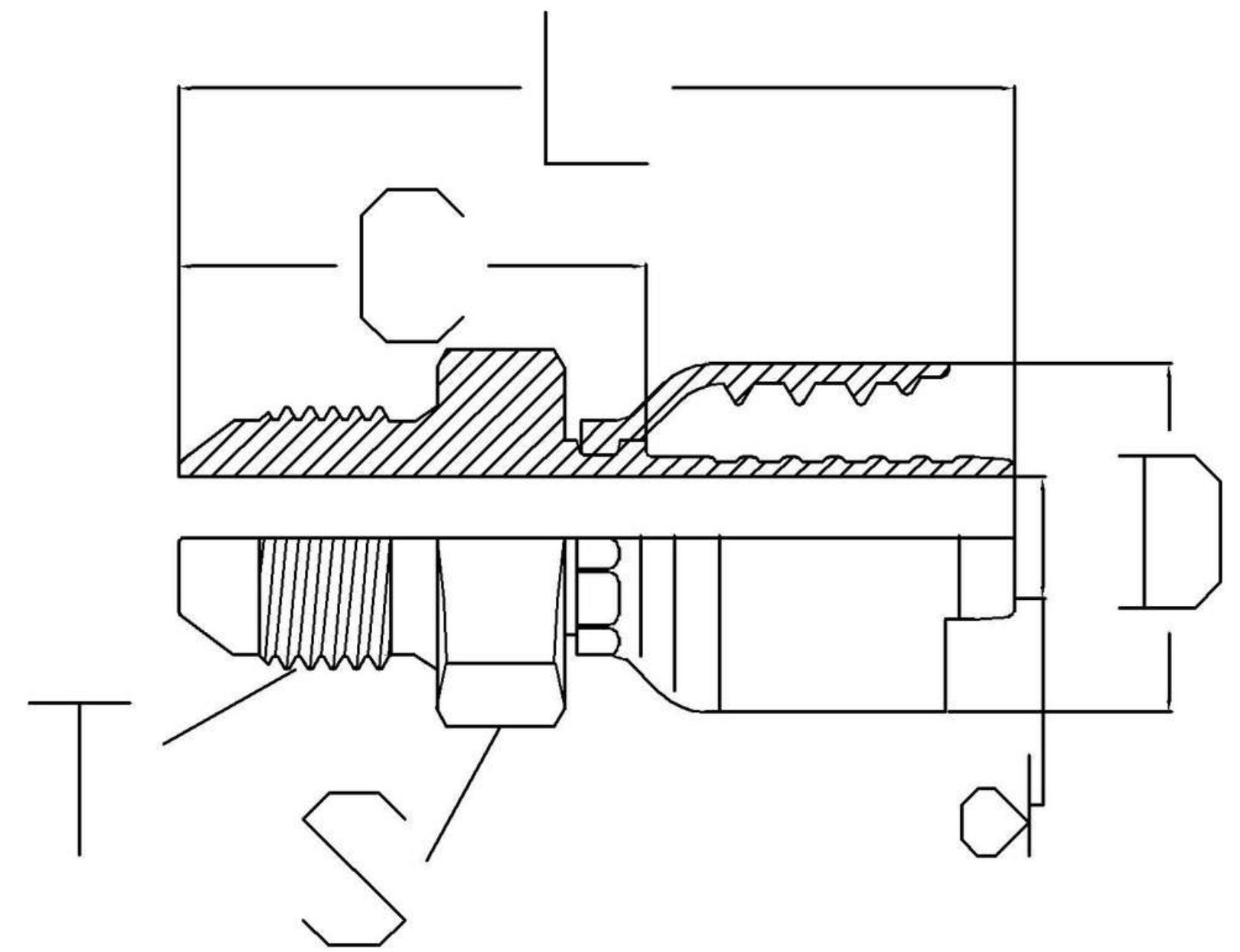
## Wire Braid Fittings

**Standard - ISO-8434-2**

**Cone - 37°**

**Used for hose type -**

SAE 100 R1, R2, R16, R17,  
R19, R7\*, R6\*, R4\*, TEFLON\*



| DESCRIPTION         | HOSE ID (DASH) | HOSE ID (inch) | Thread (T)  | S  | L  | C  | d  | D  |
|---------------------|----------------|----------------|-------------|----|----|----|----|----|
| HW-0404-MJ          | 4              | 1/4            | 7/16-20UN   | 17 | 59 | 29 | 4  | 23 |
| HW-0406-MJ          | 4              | 1/4            | 9/16-18UN   | 17 | 57 | 27 | 7  | 23 |
| HW-0606-MJ          | 6              | 3/8            | 9/16-18UN   | 16 | 57 | 31 | 7  | 27 |
| HW-0606-MJ-BULKHEAD | 6              | 3/8            | 9/16-18UN   | 16 | 75 | 46 | 6  | 27 |
| HW-0608-MJ          | 6              | 3/8            | 3/4-16UN    | 22 | 64 | 35 | 7  | 25 |
| HW-0808-MJ          | 8              | 1/2            | 3/4-16UN    | 22 | 64 | 35 | 9  | 30 |
| HW-0810-MJ          | 8              | 1/2            | 7/8-14UN    | 24 | 64 | 35 | 9  | 30 |
| HW-1010-MJ          | 10             | 5/8            | 7/8-14UN    | 24 | 69 | 36 | 12 | 32 |
| HW-1212-MJ          | 12             | 3/4            | 1.1/16-12UN | 32 | 82 | 38 | 14 | 40 |
| HW-1616-MJ          | 16             | 1              | 1.5/16-12UN | 38 | 84 | 40 | 21 | 50 |

\* To order fittings for R6, R7, R4 and Teflon hose, mention the hose type with part number



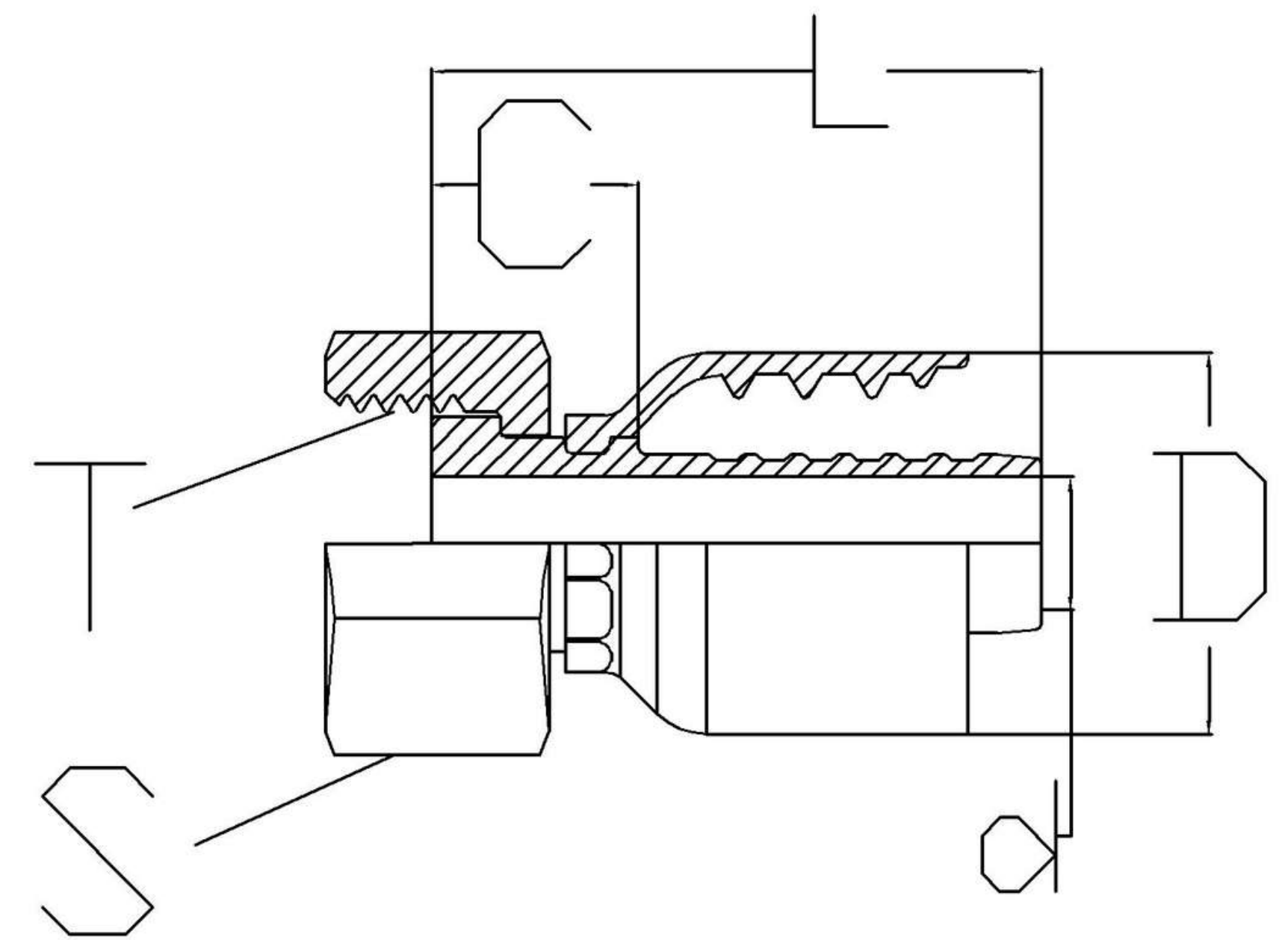
## ORFS Female Straight

**Standard - ISO 8434-3**

**Cone - Flat face**

**Used for hose type -**

SAE 100 R1, R2, R16, R17,  
R19, R7\*, R6\*, R4\*, TEFLON\*



| DESCRIPTION | HOSE ID (DASH) | HOSE ID (inch) | Thread (T)   | S  | L   | C  | d  | D  |
|-------------|----------------|----------------|--------------|----|-----|----|----|----|
| HW-0404-FO  | 4              | 1/4            | 9/16-18UN    | 17 | 43  | 14 | 4  | 23 |
| HW-0406-FO  | 4              | 1/4            | 11/16-16UN   | 22 | 44  | 15 | 4  | 23 |
| HW-0604-FO  | 6              | 3/8            | 9/16-18UN    | 17 | 42  | 13 | 7  | 27 |
| HW-0606-FO  | 6              | 3/8            | 11/16-16UN   | 22 | 43  | 15 | 7  | 27 |
| HW-0608-FO  | 6              | 3/8            | 13/16-16UN   | 24 | 44  | 15 | 7  | 27 |
| HW-0808-FO  | 8              | 1/2            | 13/16-16UN   | 24 | 45  | 16 | 9  | 30 |
| HW-0810-FO  | 8              | 1/2            | 1-14UN       | 30 | 50  | 21 | 9  | 30 |
| HW-1010-FO  | 10             | 5/8            | 1-14UN       | 30 | 51  | 18 | 13 | 32 |
| HW-1012-FO  | 10             | 5/8            | 1.3/16 12UN  | 36 | 59  | 26 | 13 | 32 |
| HW-1212-FO  | 12             | 3/4            | 1.3/16 12UN  | 36 | 75  | 32 | 15 | 40 |
| HW-1216-FO  | 12             | 3/4            | 1.7/16 12UN  | 41 | 78  | 34 | 15 | 40 |
| HW-1616-FO  | 16             | 1              | 1.7/16 12UN  | 41 | 80  | 37 | 20 | 50 |
| HW-1620-FO  | 16             | 1              | 1.11/16 12UN | 50 | 81  | 37 | 20 | 50 |
| HW-2020-FO  | 20             | 1 - 1/4        | 1.11/16 12UN | 50 | 128 | 57 | 30 | 60 |
| HW-2424-FO  | 24             | 1 - 1/2        | 2-12UN       | 60 | 116 | 43 | 32 | 68 |

\* To order fittings for R6, R7, R4 and Teflon hose, mention the hose type with part number

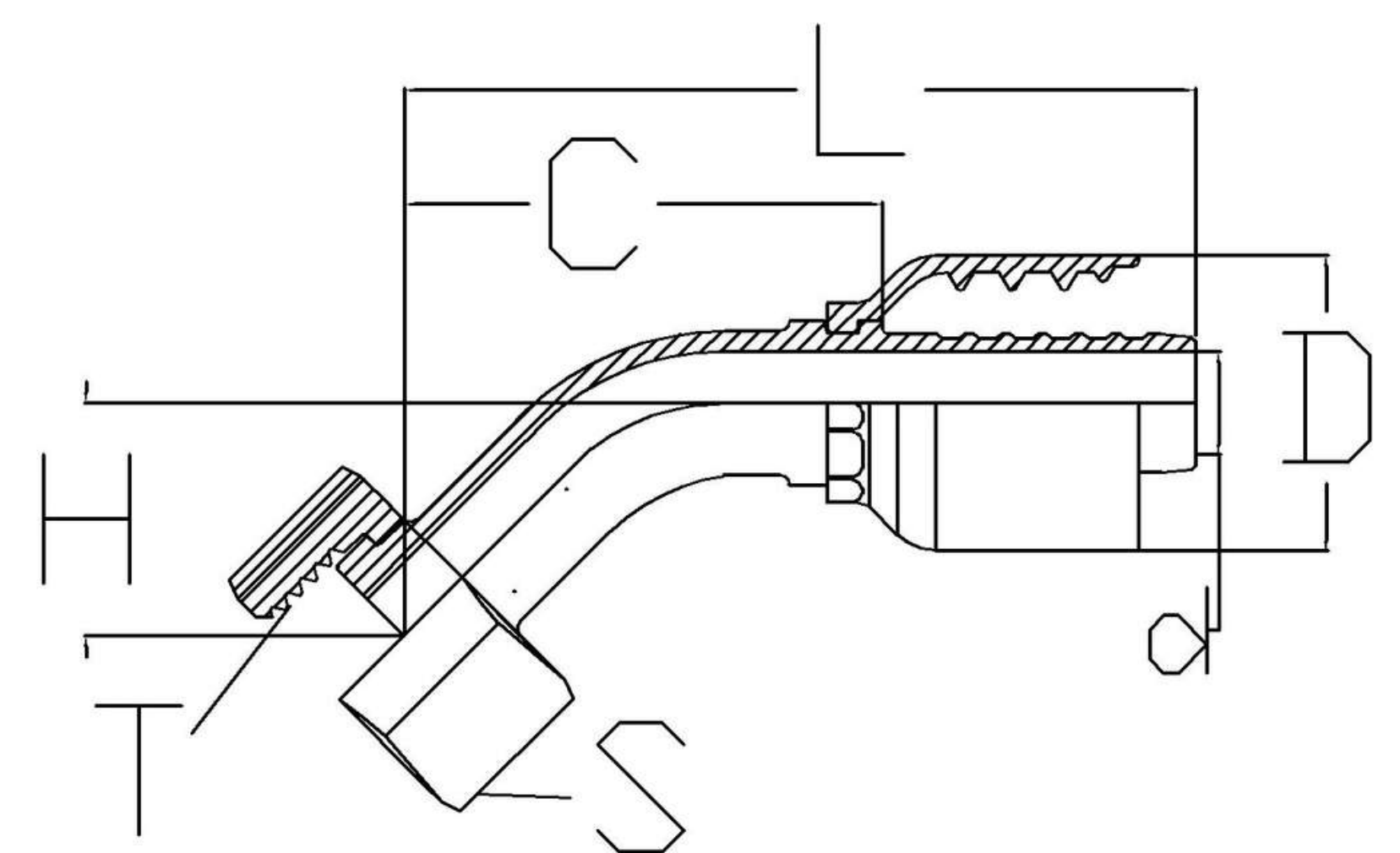
## ORFS Female 45 degree bend

**Standard - ISO 8434-3**

**Cone - Flat face**

**Used for hose type -**

SAE 100 R1, R2, R16, R17,  
R19, R7\*, R6\*, R4\*, TEFLON\*



| DESCRIPTION      | HOSE ID (DASH) | HOSE ID (inch) | Thread (T)   | S  | L   | C   | d  | D  | H  |
|------------------|----------------|----------------|--------------|----|-----|-----|----|----|----|
| HW-0404-FO-45-14 | 4              | 1/4            | 9/16-18UN    | 17 | 60  | 32  | 4  | 23 | 14 |
| HW-0606-FO-45-17 | 6              | 3/8            | 11/16-16UN   | 22 | 58  | 29  | 7  | 27 | 17 |
| HW-0808-FO-45-23 | 8              | 1/2            | 13/16-16UN   | 24 | 69  | 40  | 9  | 30 | 23 |
| HW-1010-FO-45-23 | 10             | 5/8            | 1-14UN       | 30 | 91  | 58  | 13 | 32 | 23 |
| HW-1212-FO-45-31 | 12             | 3/4            | 1.3/16 12UN  | 36 | 99  | 55  | 14 | 40 | 31 |
| HW-1616-FO-45-39 | 16             | 1              | 1.7/16 12UN  | 41 | 119 | 76  | 20 | 50 | 39 |
| HW-2020-FO-45-42 | 20             | 1 - 1/4        | 1.11/16 12UN | 50 | 195 | 140 | 27 | 60 | 42 |

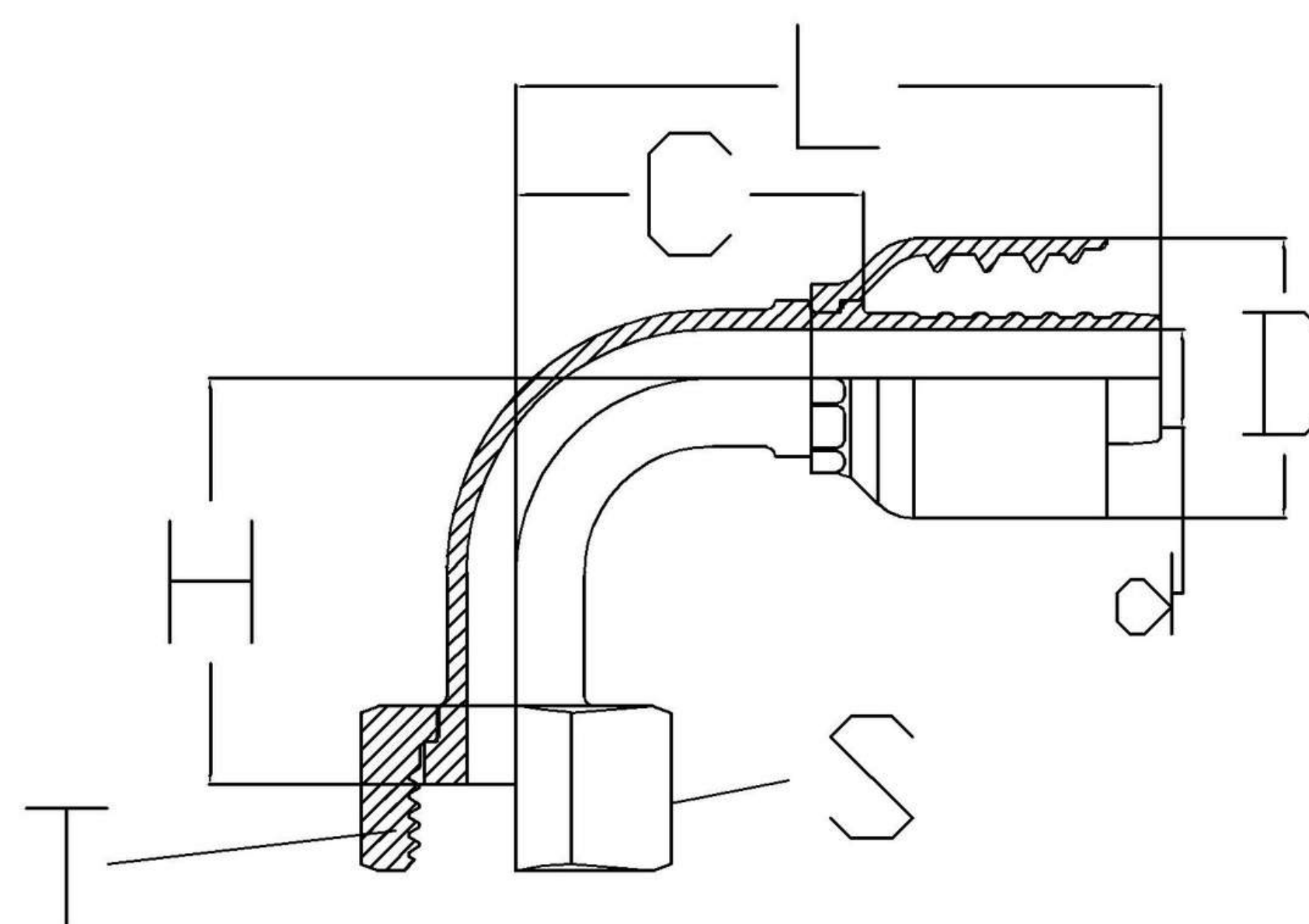
\* To order fittings for R6, R7, R4 and Teflon hose, mention the hose type with part number

**Standard - ISO 8434-3**

**Cone - Flat face**

**Used for hose type -**

SAE 100 R1, R2, R16, R17,  
R19, R7\*, R6\*, R4\*, TEFLON\*



| DESCRIPTION       | HOSE ID (DASH) | HOSE ID (inch) | Thread (T)   | S  | L   | C     | d  | D  | H   |
|-------------------|----------------|----------------|--------------|----|-----|-------|----|----|-----|
| HW-0404-FO-90-23  | 4              | 1/4            | 9/16-18UN    | 17 | 55  | 25    | 4  | 23 | 23  |
| HW-0404-FO-90-32  | 4              | 1/4            | 9/16-18UN    | 17 | 55  | 25    | 4  | 23 | 32  |
| HW-0406-FO-90-29  | 4              | 1/4            | 11/16-16UN   | 22 | 55  | 26    | 4  | 23 | 29  |
| HW-0604-FO-90-30  | 6              | 3/8            | 9/16-18UN    | 17 | 61  | 33    | 7  | 27 | 30  |
| HW-0606-FO-90-29  | 6              | 3/8            | 11/16-16UN   | 22 | 61  | 32    | 6  | 27 | 29  |
| HW-0606-FO-90-70  | 6              | 3/8            | 11/16-16UN   | 22 | 61  | 32    | 6  | 27 | 70  |
| HW-0608-FO-90-30  | 6              | 3/8            | 13/16-16UN   | 24 | 61  | 32    | 7  | 27 | 30  |
| HW-0808-FO-90-38  | 8              | 1/2            | 13/16-16UN   | 24 | 68  | 41    | 9  | 30 | 38  |
| HW-0808-FO-90-71  | 8              | 1/2            | 13/16-16UN   | 24 | 74  | 44    | 9  | 30 | 71  |
| HW-0810-FO-90-38  | 8              | 1/2            | 1-14UN       | 30 | 71  | 41    | 9  | 30 | 38  |
| HW-0810-FO-90-70  | 8              | 1/2            | 1-14UN       | 30 | 71  | 41    | 9  | 30 | 70  |
| HW-1010-FO-90-47  | 10             | 5/8            | 1-14UN       | 30 | 85  | 52    | 13 | 32 | 47  |
| HW-1010-FO-90-52  | 10             | 5/8            | 1-14UN       | 30 | 85  | 52    | 13 | 32 | 52  |
| HW-1010-FO-90-65  | 10             | 5/8            | 1-14UN       | 30 | 85  | 52    | 13 | 32 | 65  |
| HW-1012-FO-90-54  | 10             | 5/8            | 1.3/16 12UN  | 36 | 82  | 50    | 13 | 32 | 54  |
| HW-1212-FO-90-58  | 12             | 3/4            | 1.3/16 12UN  | 36 | 105 | 62    | 14 | 40 | 58  |
| HW-1212-FO-90-100 | 12             | 3/4            | 1.3/16 12UN  | 36 | 105 | 62    | 14 | 40 | 100 |
| HW-1212-FO-90-48  | 12             | 3/4            | 1.3/16 12UN  | 36 | 102 | 59    | 15 | 40 | 48  |
| HW-1216-FO-90-57  | 12             | 3/4            | 1.7/16 12UN  | 41 | 105 | 61    | 14 | 40 | 57  |
| HW-1616-FO-90-58  | 16             | 1              | 1.7/16 12UN  | 41 | 115 | 69/75 | 21 | 50 | 58  |
| HW-1616-FO-90-90  | 16             | 1              | 1.7/16 12UN  | 41 | 115 | 69/75 | 21 | 50 | 90  |
| HW-1616-FO-90-120 | 16             | 1              | 1.7/16 12UN  | 41 | 115 | 69/75 | 21 | 50 | 120 |
| HW-1620-FO-90-72  | 16             | 1              | 1.11/16 12UN | 50 | 118 | 74    | 21 | 50 | 72  |
| HW-2020-FO-90-85  | 20             | 1 - 1/4        | 1.11/16 12UN |    | 175 | 115   | 23 | 60 | 85  |
| HW-2424-FO-90-110 | 24             | 1 - 1/2        | 2-12UN       | 60 | 210 | 43    | 28 | 68 | 110 |

\* To order fittings for R6, R7, R4 and Teflon hose, mention the hose type with part number

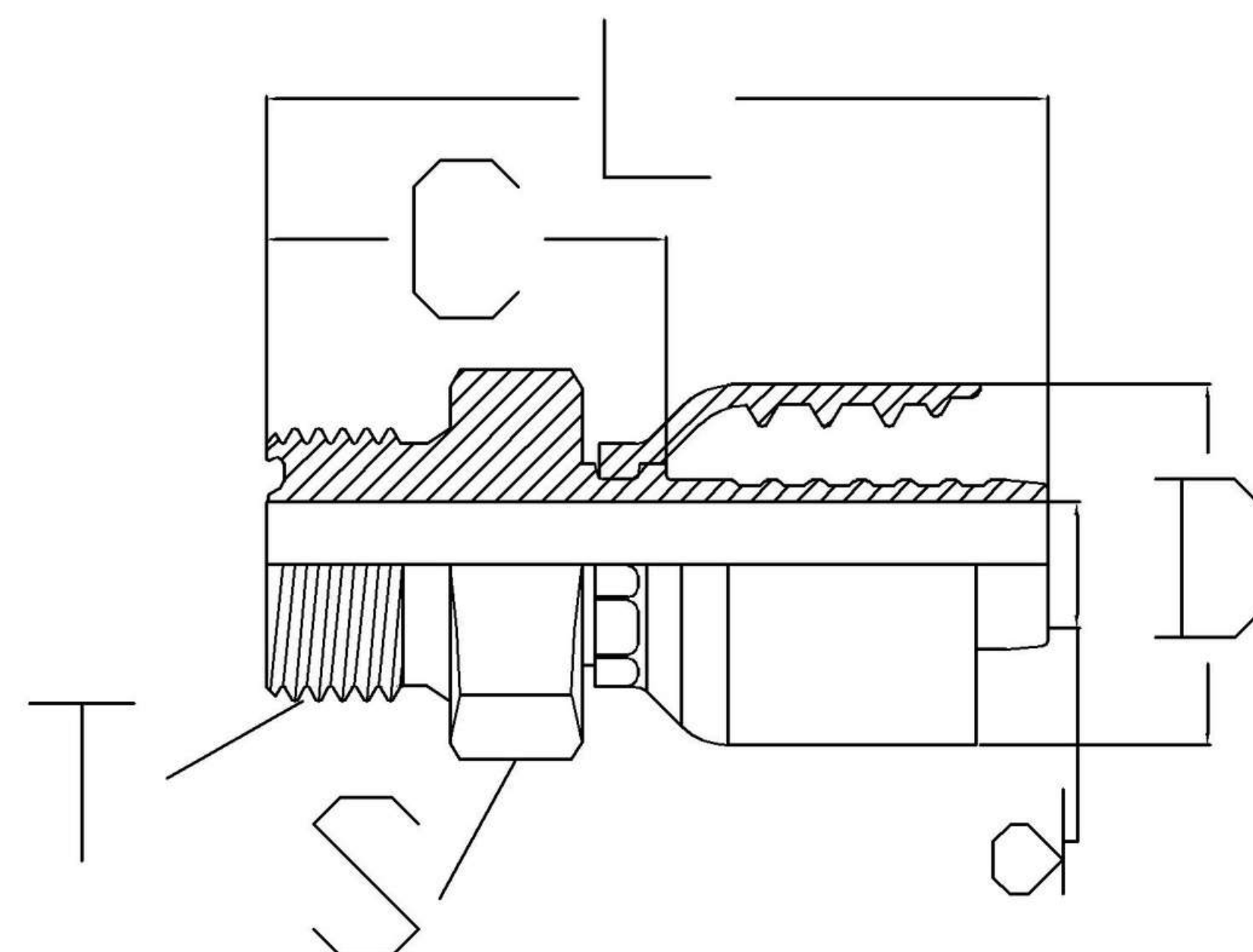
## ORFS Male Straight

**Standard - ISO 8434-3**

**Cone - Flat face**

**Used for hose type -**

SAE 100 R1, R2, R16, R17,  
R19, R7\*, R6\*, R4\*, TEFLON\*



| DESCRIPTION | HOSE ID (DASH) | HOSE ID (inch) | Thread (T)  | S  | L  | C  | d  | D  |
|-------------|----------------|----------------|-------------|----|----|----|----|----|
| HW-0404-MO  | 4              | 1/4            | 9/16-18UN   | 17 | 54 | 26 | 4  | 23 |
| HW-0606-MO  | 6              | 3/8            | 11/16-16UN  | 19 | 56 | 27 | 5  | 27 |
| HW-0608-MO  | 8              | 1/2            | 13/16-16UN  | 22 | 58 | 29 | 7  | 27 |
| HW-0808-MO  | 8              | 1/2            | 13/16-16UN  | 22 | 59 | 28 | 10 | 30 |
| HW-0810-MO  | 8              | 1/2            | 1-14UN      | 27 | 64 | 35 | 10 | 30 |
| HW-0812-MO  | 8              | 1/2            | 1.3/16 12UN | 32 | 64 | 34 | 10 | 30 |
| HW-1012-MO  | 10             | 5/8            | 1.3/16 12UN | 32 | 69 | 36 | 12 | 32 |
| HW-1212-MO  | 12             | 3/4            | 1.3/16 12UN | 32 | 77 | 32 | 14 | 40 |
| HW-1616-MO  | 16             | 1              | 1.7/16 12UN | 38 | 81 | 37 | 21 | 50 |

\* To order fittings for R6, R7, R4 and Teflon hose, mention the hose type with part number

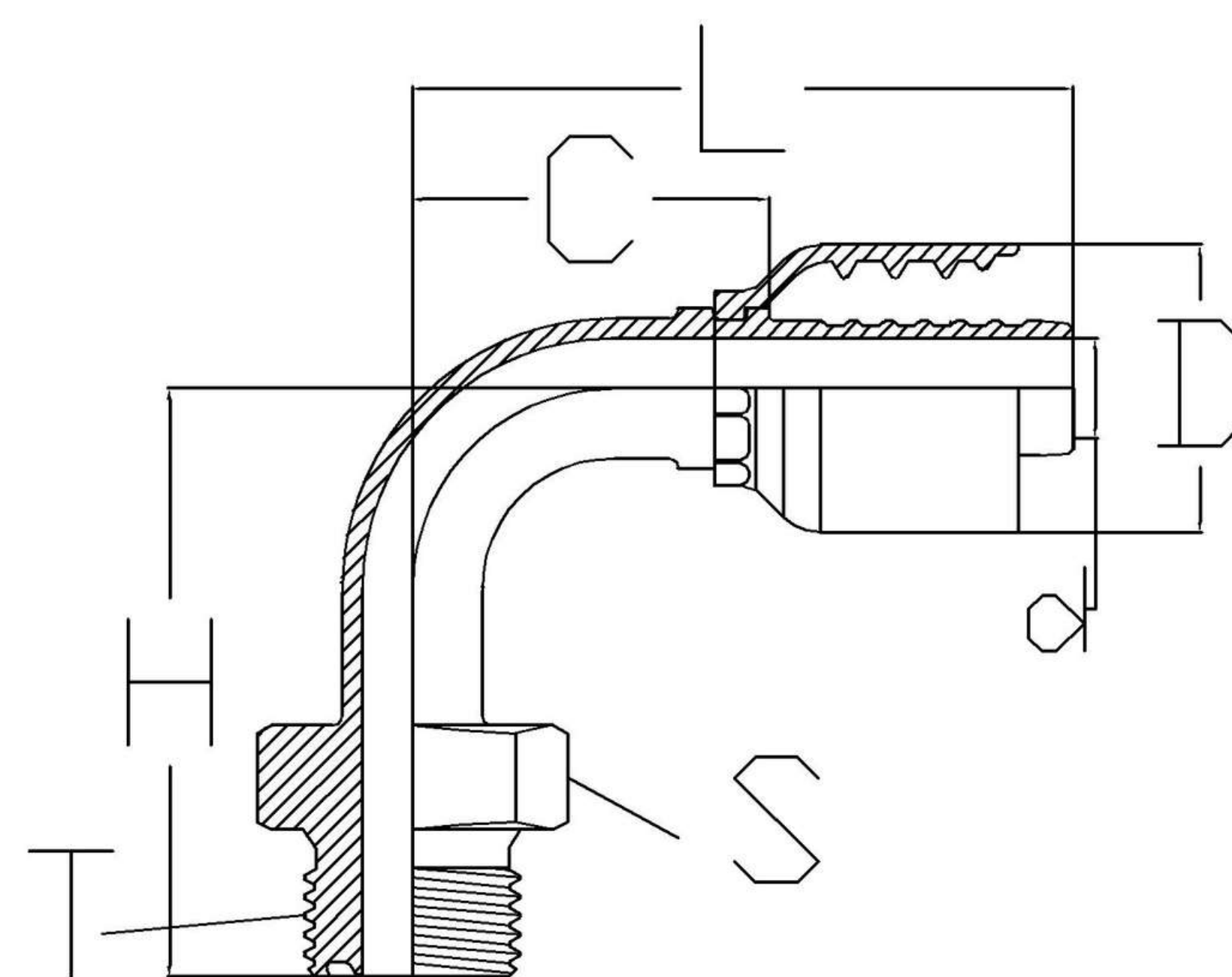
## ORFS Male 90 degree bend

**Standard - ISO 8434-3**

**Cone - Flat face**

**Used for hose type -**

SAE 100 R1, R2, R16, R17,  
R19, R7\*, R6\*, R4\*, TEFLON\*



| DESCRIPTION               | HOSE ID (DASH) | HOSE ID (inch) | Thread (T)  | S  | L  | C  | d  | D  | H   |
|---------------------------|----------------|----------------|-------------|----|----|----|----|----|-----|
| HW-0606-MO-90-45          | 6              | 3/8            | 11/16-16UN  | 19 | 60 | 30 | 7  | 27 | 45  |
| HW-0606-MO-90-100         | 6              | 3/8            | 11/16-16UN  | 19 | 60 | 30 | 7  | 27 | 100 |
| HW-0810-MO-90-109         | 8              | 1/2            | 1-14UN      | 27 | 69 | 38 | 9  | 30 | 109 |
| HW-1012-MO-90-121-WELDING | 10             | 5/8            | 1.3/16 12UN | 36 | 85 | 51 | 13 | 32 | 121 |

\* To order fittings for R6, R7, R4 and Teflon hose, mention the hose type with part number

## Din Metric 24° Cone Female Straight

Standard - Din EN ISO 8434-1

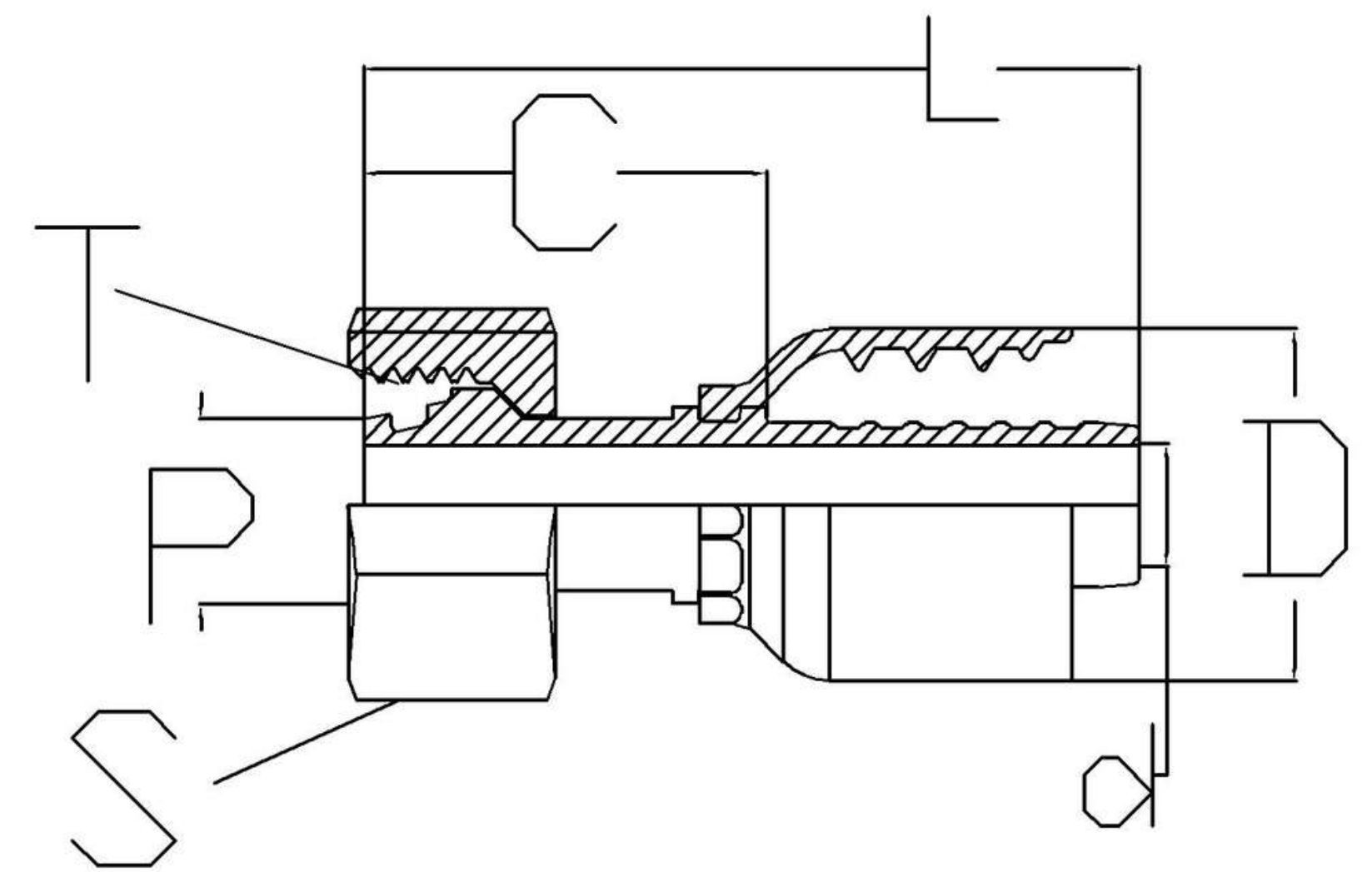
O-ring - NBR

Light series - FDLO

Heavy series - FDHO

Used for hose type -

SAE 100 R1, R2, R16, R17,  
R19, R7\*, R6\*, R4\*, TEFLON\*



| DESCRIPTION  | HOSE ID (DASH) | HOSE ID (inch) | Pipe OD (P) | Thread (T) | S  | L   | C  | d  | D  |
|--------------|----------------|----------------|-------------|------------|----|-----|----|----|----|
| HW-0406-FDH  | 4              | 1/4            | 06H         | 14X1.5     | 17 | 55  | 26 | 4  | 23 |
| HW-0406-FDL  | 4              | 1/4            | 06L         | 12X1.5     | 14 | 55  | 26 | 4  | 23 |
| HW-0408-FDHO | 4              | 1/4            | 08H         | 16X1.5     | 19 | 55  | 26 | 4  | 23 |
| HW-0408-FDLO | 4              | 1/4            | 08L         | 14X1.5     | 17 | 55  | 26 | 4  | 23 |
| HW-0410-FDHO | 4              | 1/4            | 10H         | 18X1.5     | 22 | 55  | 26 | 4  | 23 |
| HW-0410-FDLO | 4              | 1/4            | 10L         | 16X1.5     | 19 | 55  | 26 | 4  | 23 |
| HW-0412-FDHO | 4              | 1/4            | 12H         | 20X1.5     | 24 | 53  | 24 | 4  | 23 |
| HW-0412-FDLO | 4              | 1/4            | 12L         | 18X1.5     | 22 | 52  | 23 | 4  | 23 |
| HW-0508-FDHO | 5              | 5/16           | 08H         | 16X1.5     | 19 | 55  | 26 | 5  | 25 |
| HW-0508-FDLO | 4              | 1/4            | 08L         | 14X1.5     | 17 | 54  | 26 | 5  | 25 |
| HW-0510-FDHO | 5              | 5/16           | 10H         | 18X1.5     | 22 | 55  | 26 | 5  | 25 |
| HW-0510-FDLO | 5              | 5/16           | 10L         | 16X1.5     | 19 | 55  | 26 | 5  | 25 |
| HW-0512-FDHO | 5              | 5/16           | 12H         | 20X1.5     | 24 | 58  | 29 | 5  | 25 |
| HW-0512-FDLO | 5              | 5/16           | 12L         | 18X1.5     | 22 | 58  | 29 | 5  | 25 |
| HW-0610-FDHO | 6              | 3/8            | 10H         | 18X1.5     | 22 | 56  | 27 | 7  | 27 |
| HW-0610-FDLO | 6              | 3/8            | 10L         | 16X1.5     | 19 | 57  | 28 | 7  | 27 |
| HW-0612-FDHO | 6              | 3/8            | 12H         | 20X1.5     | 24 | 53  | 24 | 7  | 27 |
| HW-0612-FDLO | 6              | 3/8            | 12L         | 18X1.5     | 22 | 53  | 24 | 7  | 27 |
| HW-0614-FDHO | 6              | 3/8            | 14H         | 22X1.5     | 27 | 56  | 27 | 7  | 27 |
| HW-0615-FDLO | 6              | 3/8            | 15L         | 22X1.5     | 27 | 56  | 27 | 7  | 27 |
| HW-0616-FDHO | 6              | 3/8            | 16H         | 24X1.5     | 30 | 61  | 32 | 7  | 26 |
| HW-0812-FDHO | 8              | 1/2            | 12H         | 20X1.5     | 24 | 54  | 25 | 9  | 30 |
| HW-0812-FDLO | 8              | 1/2            | 12L         | 18X1.5     | 22 | 55  | 26 | 9  | 30 |
| HW-0814-FDHO | 8              | 1/2            | 14H         | 22X1.5     | 27 | 57  | 28 | 9  | 30 |
| HW-0815-FDLO | 8              | 1/2            | 15L         | 22X1.5     | 27 | 56  | 27 | 9  | 30 |
| HW-0816-FDHO | 8              | 1/2            | 16H         | 24X1.5     | 30 | 60  | 31 | 9  | 30 |
| HW-0818-FDLO | 8              | 1/2            | 18L         | 26X1.5     | 32 | 58  | 29 | 9  | 30 |
| HW-1016-FDHO | 10             | 5/8            | 16H         | 24X1.5     | 30 | 61  | 28 | 12 | 32 |
| HW-1018-FDLO | 10             | 5/8            | 18L         | 26X1.5     | 32 | 61  | 28 | 13 | 32 |
| HW-1020-FDHO | 10             | 5/8            | 20H         | 30X2.0     | 36 | 64  | 30 | 13 | 32 |
| HW-1022-FDLO | 10             | 5/8            | 22L         | 30X2.0     | 36 | 65  | 32 | 13 | 32 |
| HW-1218-FDLO | 12             | 3/4            | 18L         | 26X1.5     | 32 | 70  | 27 | 14 | 40 |
| HW-1220-FDHO | 12             | 3/4            | 20H         | 30X2.0     | 36 | 76  | 33 | 15 | 40 |
| HW-1222-FDLO | 12             | 3/4            | 22L         | 30X2.0     | 36 | 75  | 31 | 14 | 40 |
| HW-1225-FDHO | 12             | 3/4            | 25H         | 36X2.0     | 41 | 85  | 42 | 14 | 40 |
| HW-1230-FDHO | 12             | 3/4            | 30H         | 42X2.0     | 50 | 88  | 45 | 15 | 40 |
| HW-1625-FDHO | 16             | 1              | 25H         | 36X2.0     | 41 | 79  | 36 | 20 | 50 |
| HW-1628-FDLO | 16             | 1              | 28L         | 36X2.0     | 41 | 77  | 33 | 20 | 50 |
| HW-1630-FDHO | 16             | 1              | 30H         | 42X2.0     | 50 | 87  | 43 | 20 | 50 |
| HW-2030-FDHO | 20             | 1 - 1/4        | 30H         | 42X2.0     | 50 | 130 | 71 | 27 | 61 |
| HW-2035-FDLO | 20             | 1 - 1/4        | 35L         | 45X2.0     | 50 | 125 | 52 | 27 | 61 |
| HW-2038-FDHO | 20             | 1 - 1/4        | 38H         | 52X2.0     | 60 | 135 | 60 | 25 | 61 |
| HW-2442-FDLO | 24             | 1 - 1/2        | 42L         | 52X2.0     | 60 | 130 | 59 | 26 | 68 |

\* To order fittings for R6, R7, R4 and Teflon hose, mention the hose type with part number



## METRIC Female 90 degree bend with O-Ring

**Din Metric 24° Cone Female bend 90°**

**Standard - Din EN ISO 8434-1**

**O-ring - NBR**

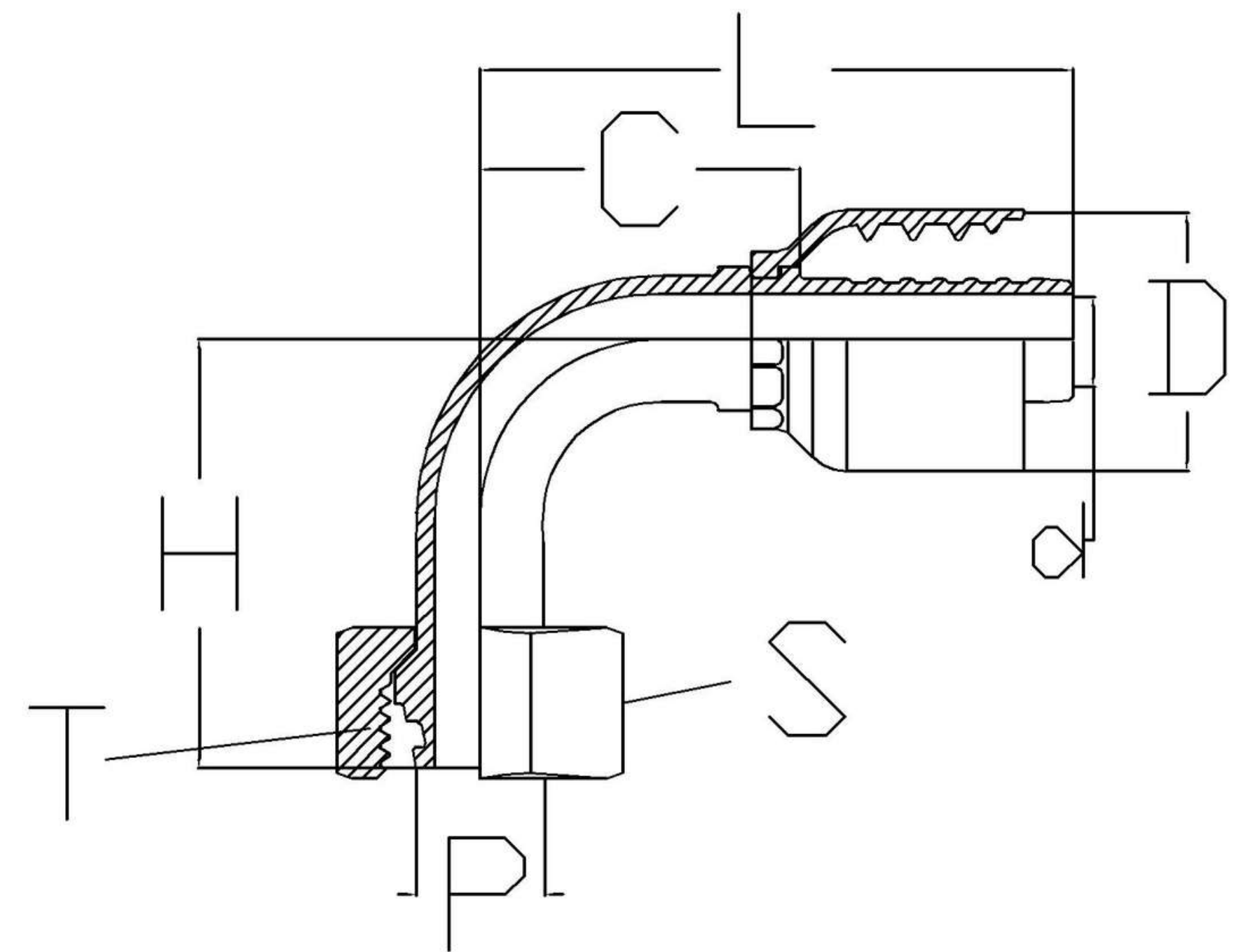
**Light series - FDLO**

**Heavy series - FDHO**

**Used for hose type -**

SAE 100 R1, R2, R16, R17,

R19, R7\*, R6\*, R4\*, TEFLON\*



| DESCRIPTION         | HOSE ID (DASH) | HOSE ID (inch) | Pipe OD (P) | Thread (T) | S  | L   | C   | d  | D  | H   |
|---------------------|----------------|----------------|-------------|------------|----|-----|-----|----|----|-----|
| HW-0406-FDH-90-31   | 4              | 1/4            | 06H         | 14X1.5     | 17 | 58  | 29  | 4  | 23 | 31  |
| HW-0406-FDL-90-35   | 4              | 1/4            | 06L         | 12X1.5     | 14 | 59  | 30  | 4  | 23 | 35  |
| HW-0408-FDHO-90-33  | 4              | 1/4            | 08H         | 16X1.5     | 19 | 57  | 28  | 4  | 23 | 33  |
| HW-0408-FDLO-90-33  | 4              | 1/4            | 08L         | 14X1.5     | 17 | 59  | 30  | 4  | 23 | 33  |
| HW-0408-FDLO-90-55  | 4              | 1/4            | 08L         | 14X1.5     | 17 | 59  | 30  | 4  | 23 | 55  |
| HW-0410-FDHO-90-32  | 4              | 1/4            | 10H         | 18X1.5     | 22 | 57  | 28  | 4  | 23 | 32  |
| HW-0410-FDLO-90-33  | 4              | 1/4            | 10L         | 16X1.5     | 19 | 58  | 29  | 4  | 23 | 33  |
| HW-0510-FDHO-90-36  | 5              | 5/16           | 10H         | 18X1.5     | 22 | 60  | 30  | 5  | 25 | 36  |
| HW-0510-FDLO-90-32  | 5              | 5/16           | 10L         | 16X1.5     | 19 | 61  | 34  | 5  | 25 | 32  |
| HW-0512-FDHO-90-43  | 5              | 5/16           | 12H         | 20X1.5     | 24 | 71  | 41  | 5  | 25 | 43  |
| HW-0512-FDLO-90-43  | 5              | 5/16           | 12L         | 18X1.5     | 22 | 69  | 40  | 5  | 25 | 43  |
| HW-0610-FDHO-90-37  | 6              | 3/8            | 10H         | 18X1.5     | 22 | 64  | 37  | 7  | 27 | 37  |
| HW-0610-FDLO-90-37  | 6              | 3/8            | 10L         | 16X1.5     | 19 | 64  | 37  | 7  | 27 | 37  |
| HW-0612-FDHO-90-37  | 6              | 3/8            | 12H         | 20X1.5     | 24 | 62  | 33  | 7  | 27 | 37  |
| HW-0612-FDLO-90-37  | 6              | 3/8            | 12L         | 18X1.5     | 22 | 63  | 34  | 7  | 27 | 37  |
| HW-0615-FDLO-90-35  | 6              | 3/8            | 15L         | 22X1.5     | 27 | 61  | 32  | 6  | 27 | 35  |
| HW-0616-FDHO-90-40  | 6              | 3/8            | 16H         | 24X1.5     | 30 | 61  | 32  | 7  | 27 | 40  |
| HW-0812-FDHO-90-48  | 8              | 1/2            | 12H         | 20X1.5     | 24 | 72  | 44  | 9  | 30 | 48  |
| HW-0812-FDLO-90-47  | 8              | 1/2            | 12L         | 18X1.5     | 22 | 73  | 44  | 9  | 30 | 47  |
| HW-0815-FDLO-90-43  | 8              | 1/2            | 15L         | 22X1.5     | 27 | 75  | 46  | 9  | 30 | 43  |
| HW-0816-FDHO-90-44  | 8              | 1/2            | 16H         | 24X1.5     | 30 | 75  | 46  | 9  | 30 | 44  |
| HW-0818-FDLO-90-45  | 8              | 1/2            | 18L         | 26X1.5     | 32 | 74  | 45  | 9  | 30 | 45  |
| HW-1018-FDLO-90-52  | 10             | 5/8            | 18L         | 26X1.5     | 32 | 85  | 53  | 13 | 32 | 52  |
| HW-1020-FDHO-90-56  | 10             | 5/8            | 20H         | 30X2.0     | 36 | 85  | 53  | 12 | 32 | 56  |
| HW-1022-FDLO-90-60  | 12             | 3/4            | 22L         | 30X2.0     | 36 | 86  | 53  | 9  | 32 | 60  |
| HW-1218-FDLO-90-59  | 12             | 3/4            | 18L         | 26X1.5     | 32 | 100 | 59  | 15 | 40 | 59  |
| HW-1220-FDHO-90-65  | 12             | 3/4            | 20H         | 30X2.0     | 36 | 105 | 57  | 15 | 40 | 65  |
| HW-1222-FDLO-90-58  | 12             | 3/4            | 22L         | 30X2.0     | 36 | 107 | 64  | 14 | 40 | 58  |
| HW-1225-FDHO-90-65  | 12             | 3/4            | 25H         | 36X2.0     | 41 | 101 | 58  | 14 | 40 | 65  |
| HW-1625-FDHO-90-73  | 16             | 1              | 25H         | 36X2.0     | 41 | 122 | 79  | 20 | 50 | 73  |
| HW-1628-FDLO-90-73  | 16             | 1              | 28L         | 36X2.0     | 41 | 125 | 81  | 21 | 50 | 73  |
| HW-1630-FDHO-90-77  | 16             | 1              | 30H         | 42X2.0     | 50 | 116 | 75  | 20 | 50 | 77  |
| HW-2035-FDLO-90-90  | 20             | 1 - 1/4        | 35L         | 45X2.0     | 50 | 180 | 110 | 26 | 61 | 90  |
| HW-2038-FDHO-90-85  | 20             | 1 - 1/4        | 38H         | 52X2.0     | 60 | 180 | 110 | 23 | 61 | 85  |
| HW-2442-FDLO-90-120 | 24             | 1 - 1/2        | 42L         | 52X2.0     | 60 | 200 | 115 | 31 | 68 | 120 |

\* To order fittings for R6, R7, R4 and Teflon hose, mention the hose type with part number

## METRIC Female 45 degree bend with O-Ring

Din Metric 24° Cone Female bend 45°

Standard - Din EN ISO 8434-1

O-ring - NBR

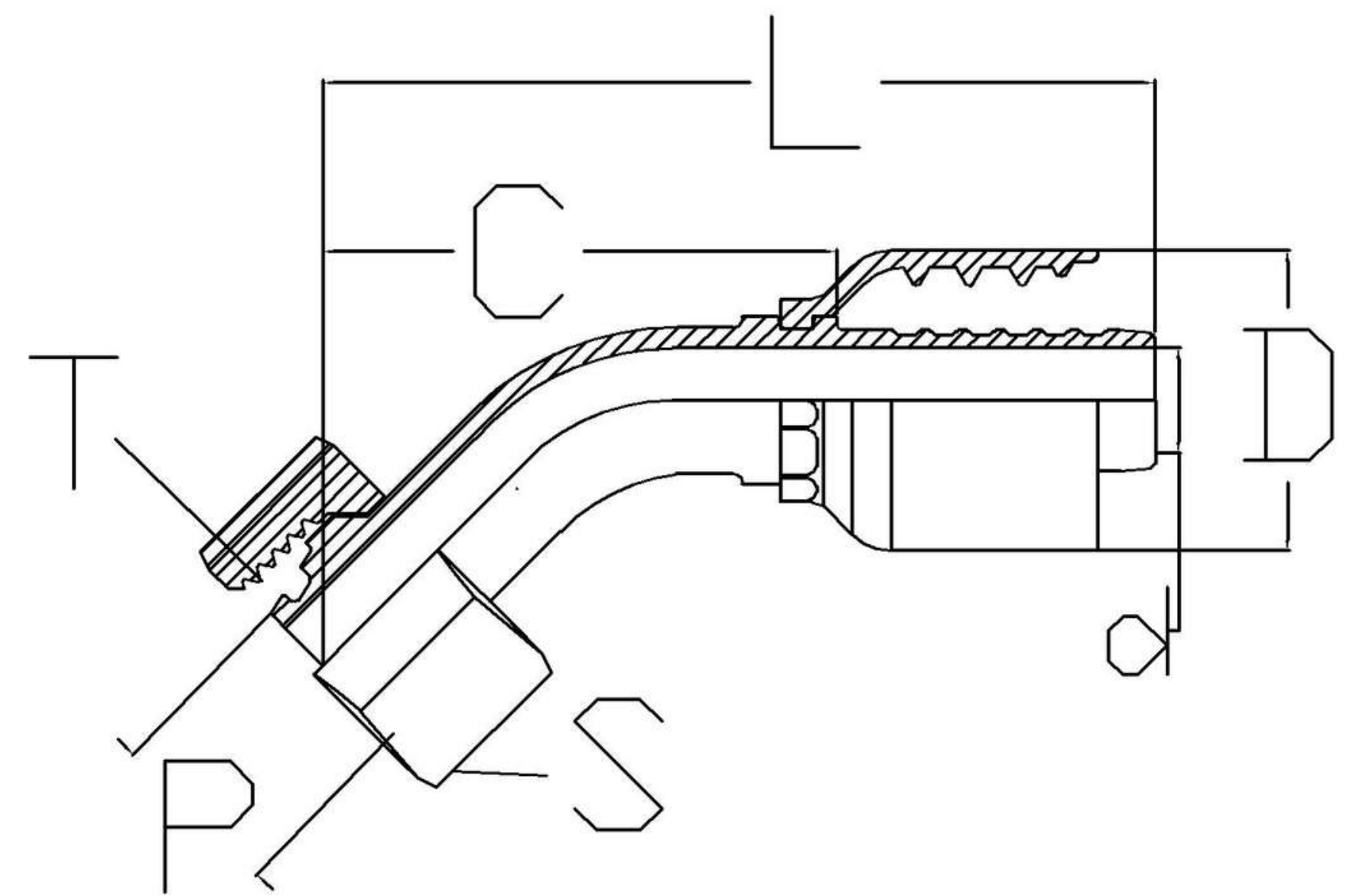
Light series - FDLO

Heavy series - FDHO

Used for hose type -

SAE 100 R1, R2, R16, R17,

R19, R7\*, R6\*, R4\*, TEFLON\*



| DESCRIPTION        | HOSE ID (DASH) | HOSE ID (inch) | Pipe OD (P) | Thread (T) | S  | L   | C   | d  | D  | H  |
|--------------------|----------------|----------------|-------------|------------|----|-----|-----|----|----|----|
| HW-0406-FDH-45-23  | 4              | 1/4            | 06H         | 14X1.5     | 17 | 67  | 38  | 4  | 23 | 17 |
| HW-0406-FDL-45-17  | 4              | 1/4            | 06L         | 12X1.5     | 14 | 67  | 38  | 4  | 23 | 17 |
| HW-0408-FDHO-45-17 | 4              | 1/4            | 08H         | 16X1.5     | 19 | 66  | 37  | 4  | 23 | 17 |
| HW-0408-FDLO-45-17 | 4              | 1/4            | 08L         | 14X1.5     | 17 | 66  | 37  | 4  | 23 | 17 |
| HW-0410-FDHO-45-18 | 4              | 1/4            | 10H         | 18X1.5     | 22 | 67  | 38  | 4  | 23 | 18 |
| HW-0410-FDLO-45-18 | 4              | 1/4            | 10L         | 16X1.5     | 19 | 67  | 38  | 4  | 23 | 18 |
| HW-0412-FDHO-45-18 | 4              | 1/4            | 12H         | 20X1.5     | 24 | 68  | 39  | 4  | 23 | 18 |
| HW-0412-FDLO-45-18 | 4              | 1/4            | 12L         | 18X1.5     | 22 | 68  | 39  | 4  | 23 | 18 |
| HW-0508-FDHO-45-17 | 5              | 5/16           | 08H         | 16X1.5     | 19 | 67  | 38  | 4  | 25 | 17 |
| HW-0508-FDLO-45-17 | 5              | 5/16           | 08L         | 14X1.5     | 17 | 67  | 38  | 4  | 25 | 17 |
| HW-0510-FDHO-45-19 | 5              | 5/16           | 10H         | 18X1.5     | 22 | 71  | 42  | 5  | 25 | 19 |
| HW-0510-FDLO-45-19 | 5              | 5/16           | 10L         | 16X1.5     | 19 | 71  | 42  | 5  | 25 | 19 |
| HW-0512-FDHO-45-20 | 5              | 5/16           | 12H         | 20X1.5     | 24 | 72  | 43  | 5  | 25 | 20 |
| HW-0512-FDLO-45-20 | 5              | 5/16           | 12L         | 18X1.5     | 22 | 72  | 43  | 5  | 25 | 20 |
| HW-0610-FDHO-45-19 | 6              | 3/8            | 10H         | 18X1.5     | 22 | 71  | 42  | 7  | 27 | 19 |
| HW-0610-FDLO-45-19 | 6              | 3/8            | 10L         | 16X1.5     | 19 | 71  | 42  | 7  | 27 | 19 |
| HW-0612-FDHO-45-20 | 6              | 3/8            | 12H         | 20X1.5     | 24 | 73  | 44  | 7  | 27 | 20 |
| HW-0612-FDLO-45-20 | 6              | 3/8            | 12L         | 18X1.5     | 22 | 73  | 44  | 7  | 27 | 20 |
| HW-0614-FDHO-45-21 | 6              | 3/8            | 14H         | 22X1.5     | 27 | 74  | 45  | 7  | 27 | 21 |
| HW-0615-FDLO-45-20 | 6              | 3/8            | 15L         | 22X1.5     | 27 | 73  | 44  | 7  | 27 | 20 |
| HW-0616-FDHO-45-21 | 6              | 3/8            | 16H         | 24X1.5     | 30 | 74  | 45  | 7  | 27 | 21 |
| HW-0812-FDHO-45-21 | 8              | 1/2            | 12H         | 20X1.5     | 24 | 78  | 49  | 9  | 30 | 21 |
| HW-0812-FDLO-45-21 | 8              | 1/2            | 12L         | 18X1.5     | 22 | 78  | 49  | 9  | 30 | 21 |
| HW-0814-FDHO-45-22 | 8              | 1/2            | 14H         | 22X1.5     | 27 | 79  | 50  | 9  | 30 | 22 |
| HW-0815-FDLO-45-22 | 8              | 1/2            | 15L         | 22X1.5     | 27 | 79  | 50  | 9  | 30 | 22 |
| HW-0816-FDHO-45-23 | 8              | 1/2            | 16H         | 24X1.5     | 30 | 80  | 51  | 9  | 30 | 23 |
| HW-0818-FDLO-45-24 | 8              | 1/2            | 18L         | 26X1.5     | 32 | 81  | 52  | 9  | 30 | 24 |
| HW-1016-FDHO-45-25 | 10             | 5/8            | 16H         | 24X1.5     | 30 | 92  | 59  | 13 | 32 | 25 |
| HW-1018-FDLO-45-25 | 10             | 5/8            | 18L         | 26X1.5     | 32 | 91  | 58  | 13 | 32 | 25 |
| HW-1020-FDHO-45-29 | 10             | 5/8            | 20H         | 30X2.0     | 36 | 95  | 62  | 13 | 32 | 29 |
| HW-1022-FDLO-45-26 | 10             | 5/8            | 22L         | 30X2.0     | 36 | 96  | 62  | 13 | 32 | 26 |
| HW-1218-FDLO-45-27 | 12             | 3/4            | 18L         | 26X1.5     | 32 | 111 | 68  | 14 | 40 | 27 |
| HW-1220-FDHO-45-32 | 12             | 3/4            | 20H         | 30X2.0     | 36 | 117 | 73  | 14 | 40 | 32 |
| HW-1222-FDLO-45-27 | 12             | 3/4            | 22L         | 30X2.0     | 36 | 111 | 68  | 14 | 40 | 27 |
| HW-1225-FDHO-45-34 | 12             | 3/4            | 25H         | 36X2.0     | 41 | 118 | 75  | 14 | 40 | 34 |
| HW-1230-FDHO-45-34 | 12             | 3/4            | 30H         | 42X2.0     | 50 | 118 | 75  | 14 | 40 | 34 |
| HW-1625-FDHO-45-39 | 16             | 1              | 25H         | 36X2.0     | 41 | 131 | 87  | 20 | 50 | 39 |
| HW-1628-FDLO-45-27 | 16             | 1              | 28L         | 36X2.0     | 41 | 129 | 86  | 21 | 50 | 27 |
| HW-1630-FDHO-45-27 | 16             | 1              | 30H         | 42X2.0     | 50 | 129 | 86  | 21 | 50 | 27 |
| HW-2030-FDHO-45-49 | 20             | 1 - 1/4        | 30H         | 42X2.0     | 50 | 183 | 124 | 25 | 61 | 49 |
| HW-2035-FDLO-45-50 | 20             | 1 - 1/4        | 35L         | 45X2.0     | 50 | 184 | 124 | 25 | 61 | 50 |
| HW-2038-FDHO-45-50 | 20             | 1 - 1/4        | 38H         | 52X2.0     | 60 | 184 | 126 | 25 | 61 | 50 |
| HW-2442-FDLO-45-55 | 24             | 1 - 1/2        | 42L         | 52X2.0     | 60 | 226 | 126 | 32 | 68 | 55 |

\* To order fittings for R6, R7, R4 and Teflon hose, mention the hose type with part number

## METRIC Male Straight

**Din Metric 24° Cone Male Straight**

**Standard - Din EN ISO 8434-1**

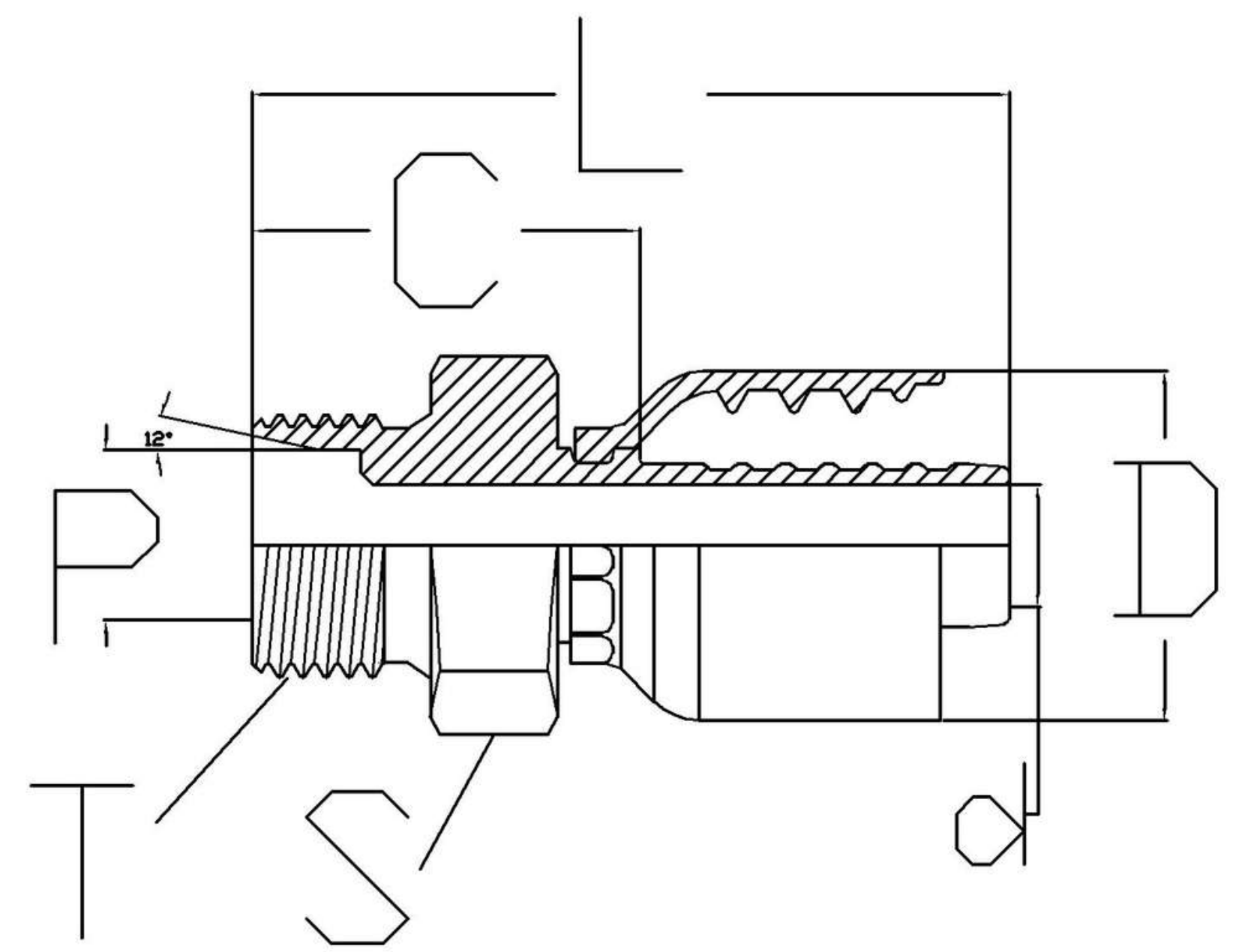
**O-ring - NBR**

**Light series - FDLO**

**Heavy series - FDHO**

**Used for hose type -**

SAE 100 R1, R2, R16, R17,  
R19, R7\*, R6\*, R4\*, TEFLON\*



| DESCRIPTION  | HOSE ID (DASH) | HOSE ID (inch) | Pipe OD (P) | Thread (T) | S  | L  | C  | d  | D  |
|--------------|----------------|----------------|-------------|------------|----|----|----|----|----|
| HW-0408-MDL  | 4              | 1/4            | 08L         | 14X1.5     | 17 | 53 | 24 | 4  | 23 |
| HW-0510-MDL  | 5              | 5/16           | 10L         | 16X1.5     | 19 | 58 | 29 | 5  | 25 |
| HW-0610-MDL  | 6              | 3/8            | 10L         | 16X1.5     | 19 | 58 | 29 | 7  | 23 |
| HW-0612-MDH  | 6              | 3/8            | 12H         | 20X1.5     | 22 | 60 | 31 | 7  | 27 |
| HW-0612-MDL  | 6              | 3/8            | 12L         | 18X1.5     | 19 | 55 | 26 | 7  | 27 |
| HW-0815-MDL  | 8              | 1/2            | 15L         | 22X1.5     | 24 | 59 | 30 | 9  | 30 |
| HW-0816-MDH  | 8              | 1/2            | 16H         | 24X1.5     | 27 | 63 | 34 | 10 | 30 |
| HW-0818-MDL  | 8              | 1/2            | 18L         | 26X1.5     | 27 | 61 | 28 | 13 | 30 |
| HW-1220-MDH  | 12             | 3/4            | 20H         | 30X2.0     | 32 | 80 | 36 | 15 | 40 |
| HW-1225-MDH  | 12             | 3/4            | 25H         | 36X2.0     | 41 | 82 | 38 | 14 | 40 |
| HW-1628-MDL  | 16             | 1              | 28L         | 36X2.0     | 41 | 78 | 35 | 21 | 50 |
| HW-0815-BMDL | 8              | 1/2            | 15L         | 22X1.5     | 24 | 85 | 56 | 9  | 30 |

\* To order fittings for R6, R7, R4 and Teflon hose, mention the hose type with part number

## METRIC Male 90 degree bend

**Din Metric 24° Cone Male Bend 90°**

**Standard - Din EN ISO 8434-1**

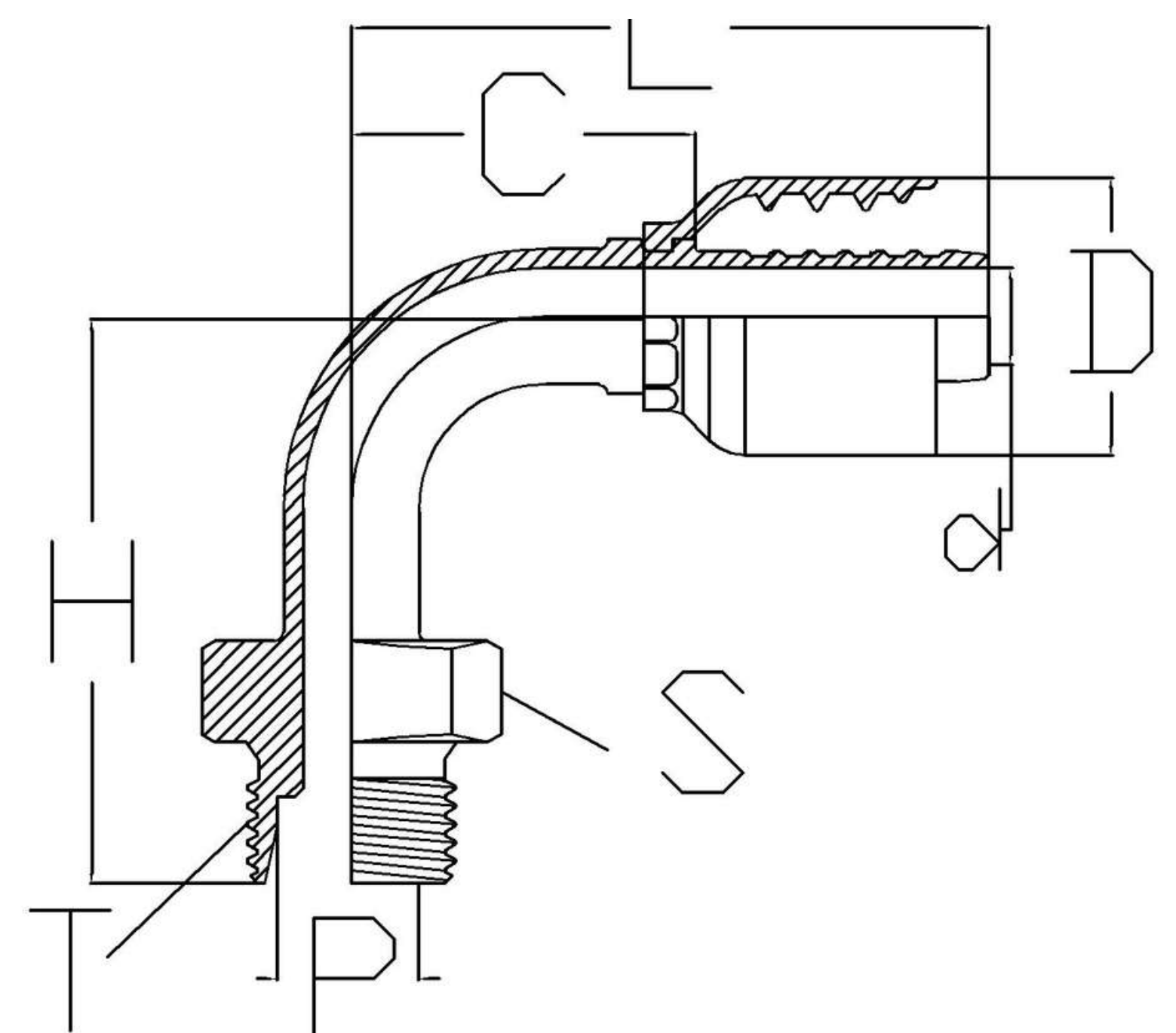
**O-ring - NBR**

**Light series - FDLO**

**Heavy series - FDHO**

**Used for hose type -**

SAE 100 R1, R2, R16, R17,  
R19, R7\*, R6\*, R4\*, TEFLON\*



| DESCRIPTION       | HOSE ID (DASH) | HOSE ID (inch) | Pipe OD (P) | Thread (T) | S  | L  | C  | d | D  | H  |
|-------------------|----------------|----------------|-------------|------------|----|----|----|---|----|----|
| HW-0815-MDL-90-45 | 8              | 1/2            | 15L         | 22X1.5     | 24 | 76 | 47 | 9 | 30 | 45 |

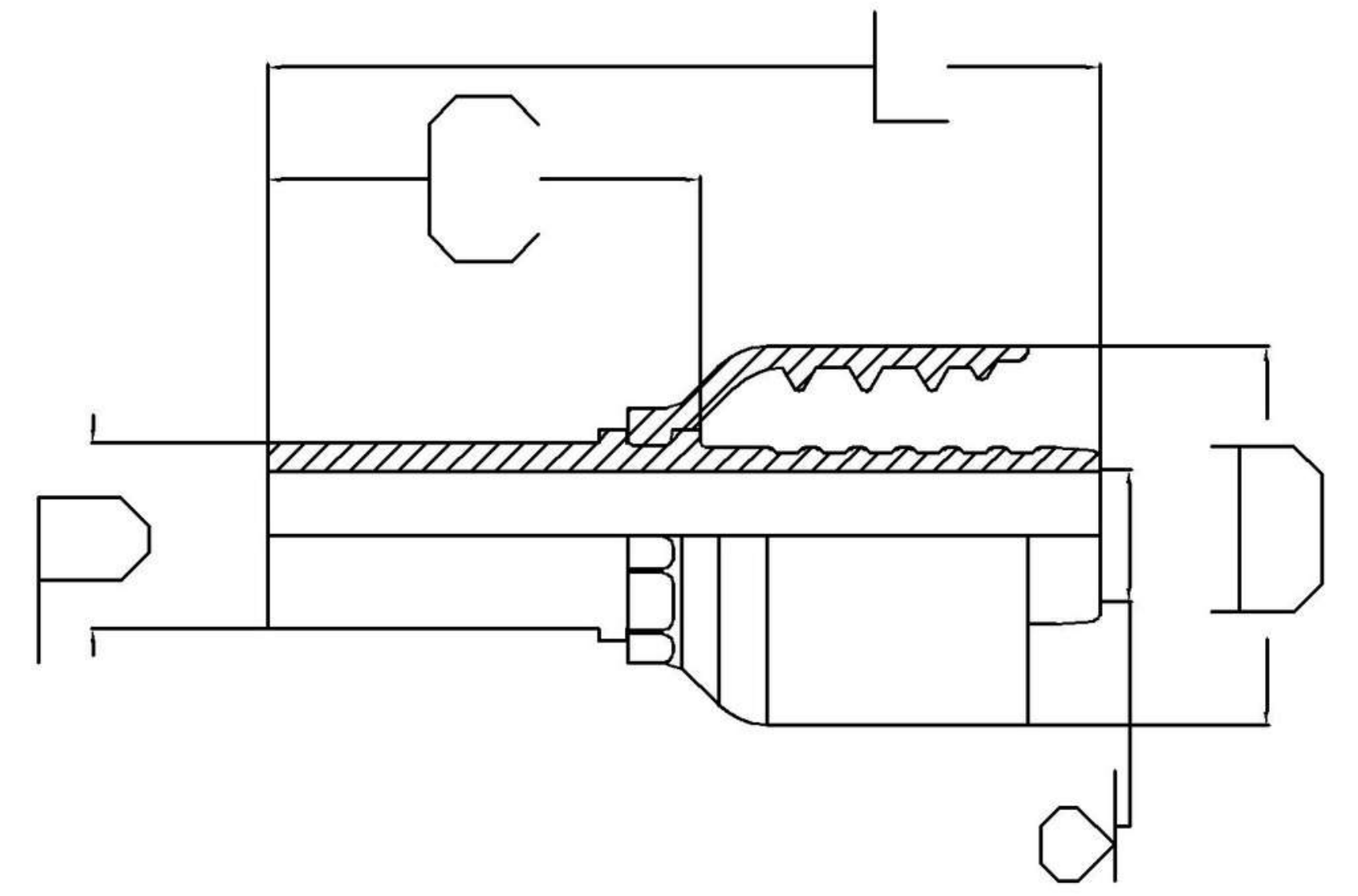
\* To order fittings for R6, R7, R4 and Teflon hose, mention the hose type with part number

## Din Metric Stand Pipe

Standard - Din EN ISO 8434-1

Used for hose type -

SAE 100 R1, R2, R16, R17,  
R19, R7\*, R6\*, R4\*, TEFLON\*



| DESCRIPTION | HOSE ID (DASH) | HOSE ID (inch) | Thread (T) | S  | L  | C  | d  | D  |
|-------------|----------------|----------------|------------|----|----|----|----|----|
| HW-0406-PDL | 4              | 1/4            | 12X1.5     | 6  | 70 | 41 | 4  | 23 |
| HW-0510-PDL | 5              | 5/16           | 16X1.5     | 10 | 59 | 30 | 5  | 25 |
| HW-0612-PDL | 6              | 3/8            | 18X1.5     | 12 | 62 | 33 | 7  | 27 |
| HW-0815-PDL | 8              | 1/2            | 22X1.5     | 15 | 71 | 42 | 10 | 30 |
| HW-1218-PDL | 12             | 3/4            | 26X1.5     | 18 | 77 | 33 | 18 | 40 |
| HW-1222-PDL | 12             | 3/4            | 30X2.0     | 22 | 91 | 47 | 15 | 40 |

\* To order fittings for R6, R7, R4 and Teflon hose, mention the hose type with part number



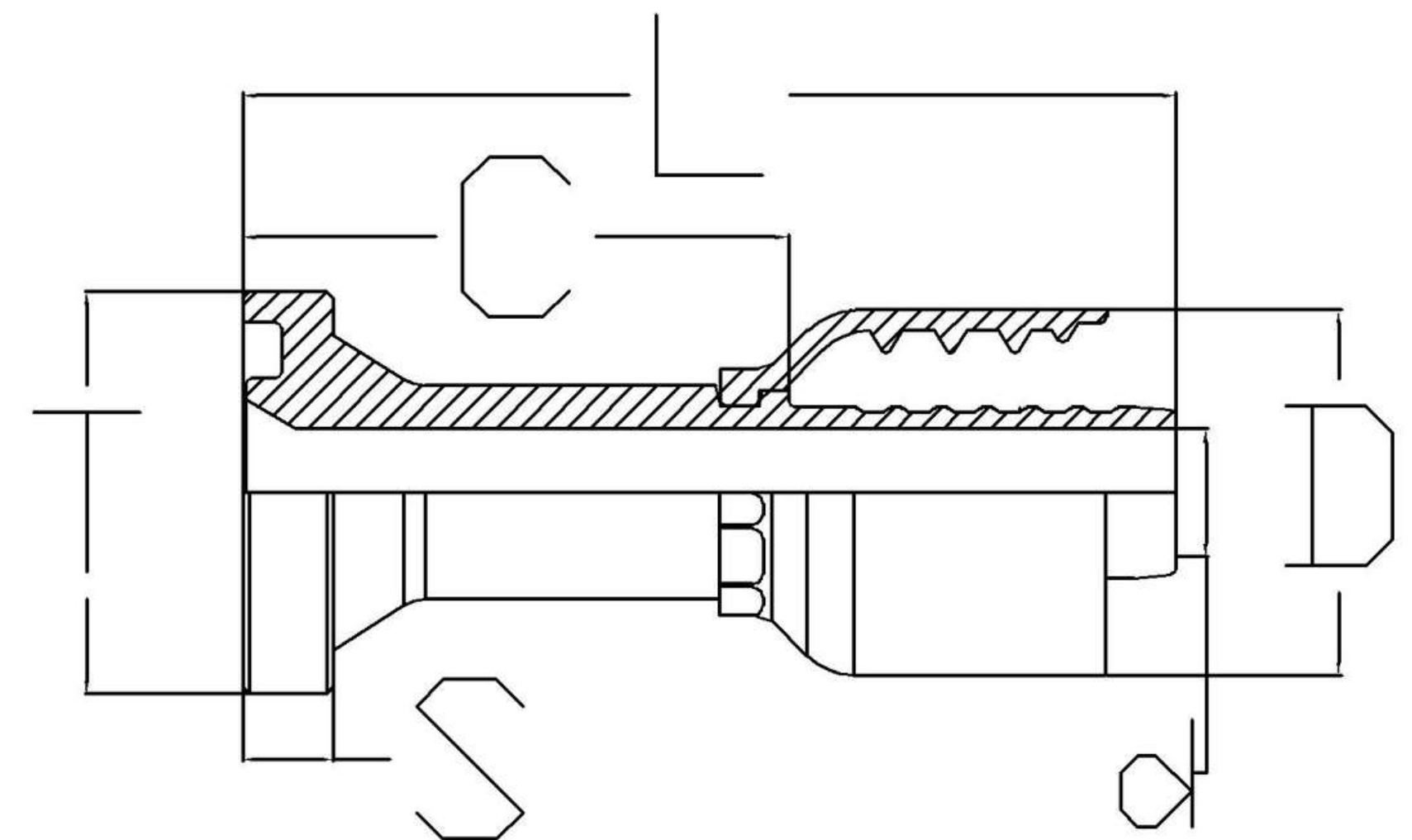
**Standard - SAE 6162-1**

**3000 PSI CODE 61**

**O RING - NBR\*\***

**Used for hose type -**

SAE 100 R1, R2, R16, R17,  
R19, R7\*, R6\*, R4\*, Teflon\*



| DESCRIPTION       | ATTRIBUTES            | HOSE ID (DASH) | HOSE ID (inch) | Thread (T) | S   | L   | C   | d  | D   |
|-------------------|-----------------------|----------------|----------------|------------|-----|-----|-----|----|-----|
| HW-0808-FL3       | single pc - non skive | 8              | 1/2            | 30.2       | 7   | 70  | 41  | 9  | 30  |
| HW-1212-FL3       | single pc - non skive | 12             | 3/4            | 38.1       | 7   | 99  | 55  | 14 | 40  |
| HW-1216-FL3       | single pc - non skive | 12             | 3/4            | 44.5       | 8.3 | 92  | 48  | 14 | 40  |
| HW-1616-FL3       | single pc - non skive | 16             | 1              | 44.5       | 8.3 | 95  | 51  | 21 | 50  |
| HW-1620-FL3       | single pc - non skive | 16             | 1              | 50.8       | 8.3 | 101 | 58  | 21 | 50  |
| HW-1624-FL3       | single pc - non skive | 16             | 1              | 60.3       | 8.3 | 106 | 63  | 21 | 50  |
| HW-2020-FL3-SKIVE | two pc-skive          | 16             | 1              | 50.8       | 8.3 | 103 | 48  | 25 | 54  |
| HW-2024-FL3-SKIVE | two pc-skive          | 20             | 1 - 1/4        | 60.3       | 8.3 | 150 | 80  | 32 | 54  |
| HW-2420-FL3-SKIVE | two pc-skive          | 24             | 1 - 1/2        | 50.8       | 8.3 | 108 | 52  | 32 | 60  |
| HW-2424-FL3-SKIVE | two pc-skive          | 24             | 1 - 1/2        | 60.3       | 8.3 | 111 | 56  | 32 | 60  |
| HW-2432-FL3-SKIVE | two pc-skive          | 24             | 1 - 1/2        | 71.4       | 9.9 | 175 | 100 | 32 | 60  |
| HW-3232-FL3-SKIVE | two pc-skive          | 32             | 2              | 71.4       | 9.9 | 120 | 59  | 42 | 73  |
| HW-4040-FL3-SKIVE | two pc-skive          | 40             | 2 - 1/2        | 84.1       | 9.7 | 140 | 77  | 56 | 86  |
| HW-4848-FL3-SKIVE | two pc-skive          | 48             | 3              | 101.6      | 9.7 | 150 | 85  | 67 | 100 |
| HW-2016-FL3       | non skive             | 20             | 1 - 1/4        | 44.5       | 8   | 132 | 61  | 26 | 62  |
| HW-2020-FL3       | non skive             | 20             | 1 - 1/4        | 50.8       | 8   | 147 | 75  | 26 | 62  |
| HW-2024-FL3       | non skive             | 20             | 1 - 1/4        | 60.3       | 8   | 150 | 80  | 32 | 62  |
| HW-2424-FL3       | non skive             | 24             | 1 - 1/2        | 60.3       | 8   | 165 | 95  | 33 | 72  |
| HW-2432-FL3       | non skive             | 24             | 1 - 1/2        | 71.4       | 10  | 175 | 100 | 33 | 72  |
| HW-3224-FL3       | non skive             | 32             | 2              | 60.3       | 8   | 170 | 81  | 32 | 85  |
| HW-3232-FL3       | non skive             | 32             | 2              | 71.4       | 10  | 160 | 69  | 43 | 85  |
| HW-3232-FL3-LONG  | non skive             | 32             | 2              | 71.4       | 10  | 180 | 89  | 43 | 85  |
| HW-3240-FL3       | non skive             | 32             | 2              | 84.1       | 10  | 180 | 88  | 44 | 85  |

\* To order fittings for R6, R7, R4 and Teflon hose, mention the hose type with part number

\*\* O-Ring is not a part of the flange, it is ordered and invoiced separately

**Flange Code 61 bend 90 degree**

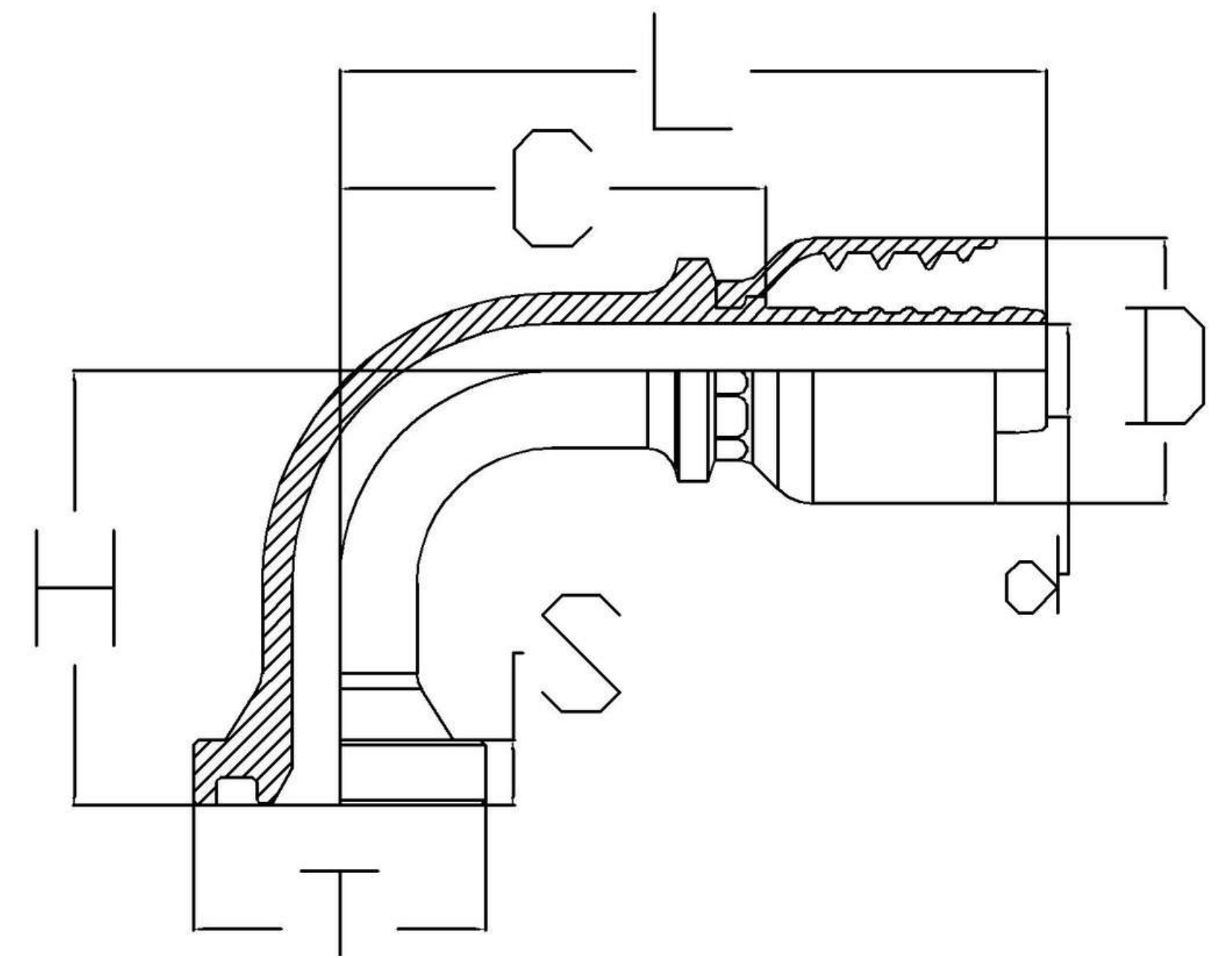
**Standard - SAE 6162-1**

3000 PSI CODE 61

**O RING - NBR\*\***

**Used for hose type -**

SAE 100 R1, R2, R16, R17,  
R19, R7\*, R6\*, R4\*, Teflon\*



| DESCRIPTION              | ATTRIBUTES            | HOSE ID (DASH) | HOSE ID (inch) | Thread (T) | S   | L   | C   | d  | D  | H   |
|--------------------------|-----------------------|----------------|----------------|------------|-----|-----|-----|----|----|-----|
| HW-0808-FL3-90-44        | single pc - non skive | 8              | 1/2            | 30.2       | 7   | 90  | 54  | 9  | 30 | 44  |
| HW-1212-FL3-90-57        | single pc - non skive | 12             | 3/4            | 38.1       | 7   | 108 | 66  | 15 | 40 | 57  |
| HW-1216-FL3-90-70        | single pc - non skive | 12             | 3/4            | 44.5       | 8.3 | 113 | 67  | 14 | 40 | 70  |
| HW-1616-FL3-90-74        | single pc - non skive | 16             | 1              | 44.5       | 8.3 | 118 | 77  | 20 | 50 | 74  |
| HW-1620-FL3-90-77        | single pc - non skive | 16             | 1              | 50.8       | 8.3 | 121 | 79  | 20 | 50 | 77  |
| HW-2020-FL3-90-90-SKIVE  | two pc-skive          | 20             | 1 - 1/4        | 50.8       | 8.3 | 165 | 100 | 25 | 54 | 90  |
| HW-2024-FL3-90-90-SKIVE  | two pc-skive          | 20             | 1 - 1/4        | 60.3       | 8.3 | 160 | 104 | 25 | 54 | 90  |
| HW-2420-FL3-90-70-SKIVE  | two pc-skive          | 24             | 1 - 1/2        | 50.8       | 8.3 | 150 | 95  | 32 | 60 | 70  |
| HW-2424-FL3-90-97-SKIVE  | two pc-skive          | 24             | 1 - 1/2        | 60.3       | 8.3 | 160 | 101 | 28 | 60 | 97  |
| HW-3232-FL3-90-133-SKIVE | two pc-skive          | 32             | 2              | 71.4       | 9.9 | 216 | 152 | 42 | 73 | 133 |
| HW-2016-FL3-90-80        | non skive             | 20             | 1 - 1/4        | 44.5       | 8   | 160 | 85  | 21 | 62 | 80  |
| HW-2020-FL3-90-90        | non skive             | 20             | 1 - 1/4        | 50.8       | 8   | 160 | 90  | 25 | 62 | 90  |
| HW-2020-FL3-90-95        | non skive             | 20             | 1 - 1/4        | 50.8       | 8   | 170 | 98  | 25 | 62 | 95  |
| HW-2024-FL3-90-100       | non skive             | 20             | 1 - 1/4        | 60.3       | 8   | 190 | 115 | 27 | 62 | 100 |
| HW-2424-FL3-90-110       | non skive             | 24             | 1 - 1/2        | 60.3       | 8   | 195 | 115 | 28 | 72 | 110 |
| HW-2432-FL3-90-100       | non skive             | 24             | 1 - 1/2        | 71.4       | 10  | 200 | 125 | 29 | 72 | 100 |
| HW-3224-FL3-90-110       | non skive             | 32             | 2              | 60.3       | 8   | 220 | 125 | 28 | 85 | 110 |
| HW-3232-FL3-90-130       | non skive             | 32             | 2              | 71.4       | 10  | 255 | 160 | 38 | 85 | 130 |

\* To order fittings for R6, R7, R4 and Teflon hose, mention the hose type with part number

\*\* O-Ring is not a part of the flange, it is ordered and invoiced separately

**Flange Code 61 bend 45 degree**

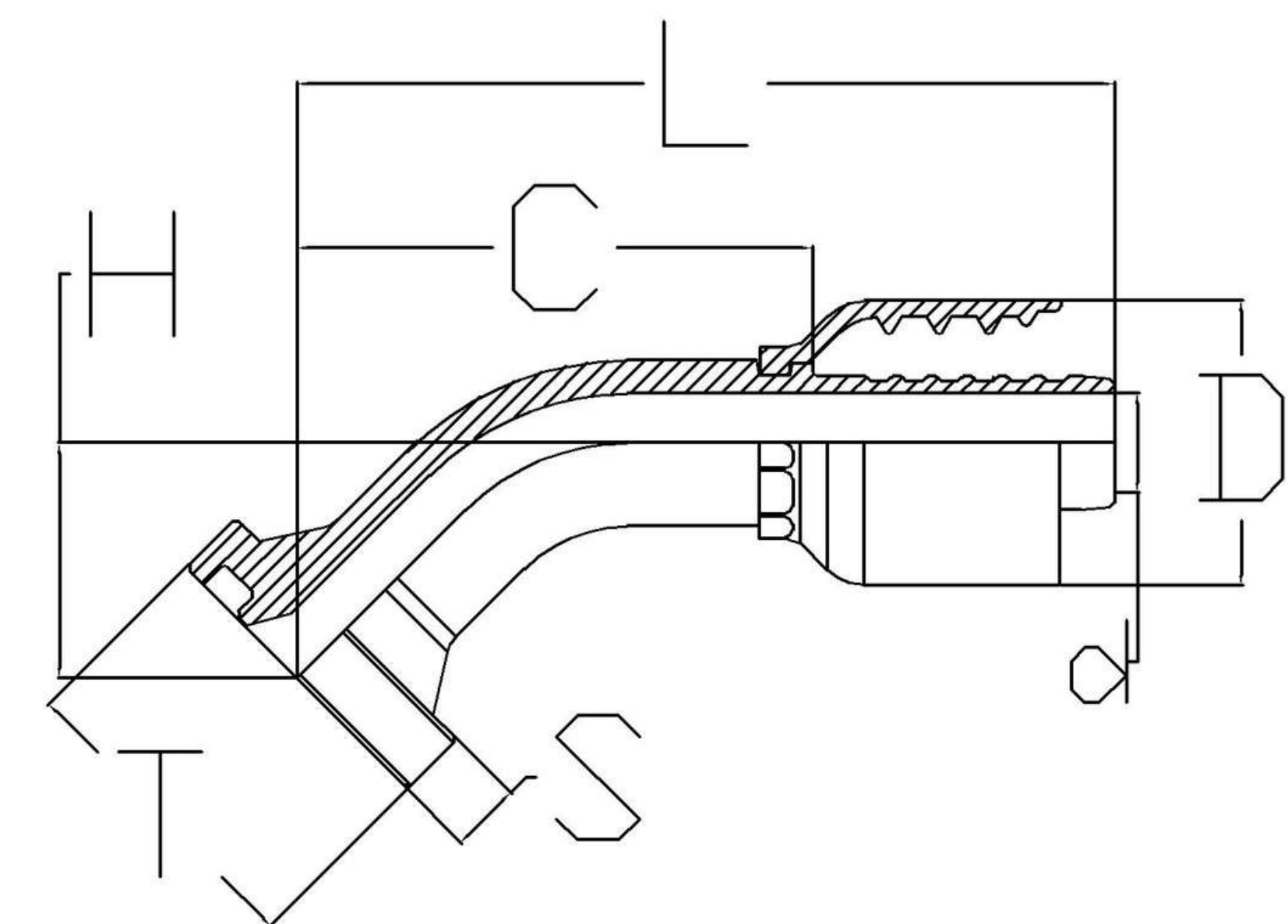
**Standard - SAE 6162-1**

3000 PSI CODE 61

**O RING - NBR\*\***

**Used for hose type -**

SAE 100 R1, R2, R16, R17,  
R19, R7\*, R6\*, R4\*, Teflon\*



| DESCRIPTION             | ATTRIBUTES            | HOSE ID (DASH) | HOSE ID (inch) | Thread (T) | S   | L   | C   | d  | D  | H  |
|-------------------------|-----------------------|----------------|----------------|------------|-----|-----|-----|----|----|----|
| HW-1212-FL3-45-39       | single pc - non skive | 12             | 3/4            | 38.1       | 7   | 100 | 61  | 14 | 40 | 39 |
| HW-1216-FL3-45-46       | single pc - non skive | 12             | 3/4            | 44.5       | 8.3 | 102 | 59  | 14 | 40 | 46 |
| HW-1616-FL3-45-56       | single pc - non skive | 16             | 1              | 44.5       | 8.3 | 139 | 108 | 21 | 50 | 56 |
| HW-1620-FL3-45-38       | single pc - non skive | 16             | 1              | 50.8       | 8.3 | 151 | 112 | 20 | 50 | 38 |
| HW-2020-FL3-45-36-SKIVE | two pc-skive          | 20             | 1 - 1/4        | 50.8       | 8.3 | 162 | 110 | 25 | 54 | 36 |
| HW-2424-FL3-45-50-SKIVE | two pc-skive          | 24             | 1 - 1/2        | 60.3       | 8.3 | 190 | 140 | 27 | 60 | 50 |
| HW-3232-FL3-45-43-SKIVE | two pc-skive          | 32             | 2              | 71.4       | 9.9 | 191 | 129 | 42 | 73 | 43 |
| HW-2020-FL3-45-38       | non skive             | 20             | 1 - 1/4        | 50.8       | 8   | 190 | 105 | 27 | 62 | 38 |
| HW-2424-FL3-45-42       | non skive             | 24             | 1 - 1/2        | 60.3       | 8   | 190 | 116 | 28 | 72 | 42 |
| HW-2432-FL3-45-50       | non skive             | 24             | 1 - 1/2        | 71.4       | 10  | 230 | 160 | 32 | 72 | 50 |
| HW-3232-FL3-30-30       | non skive             | 32             | 2              | 71.4       | 10  | 215 | 123 | 42 | 85 | 30 |

\* To order fittings for R6, R7, R4 and Teflon hose, mention the hose type with part number

\*\* O-Ring is not a part of the flange, it is ordered and invoiced separately

## Flange Code 62 Straight

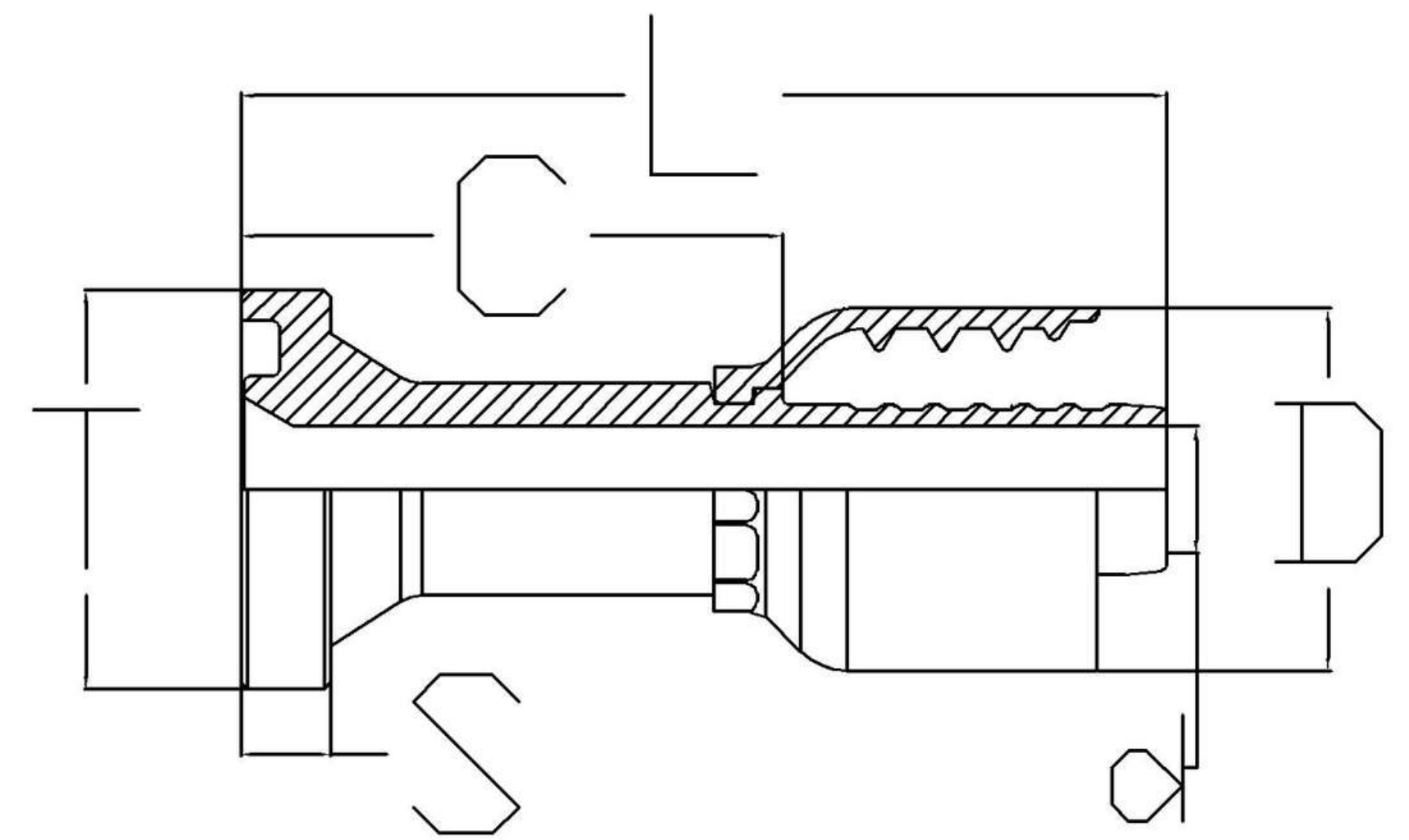
**Standard - SAE-6162-1**

CODE 62 6000 PSI

**O RING - NBR\*\***

**Used for hose type -**

SAE 100 R1, R2, R16, R17,  
R19, R7\*, R6\*, R4\*, Teflon\*



| DESCRIPTION | ATTRIBUTES            | HOSE ID (DASH) | HOSE ID (inch) | Thread (T) | S   | L  | C  | d  | D  |
|-------------|-----------------------|----------------|----------------|------------|-----|----|----|----|----|
| HW-0808-FL6 | single pc - non skive | 8              | 1/2            | 31.8       | 8   | 70 | 41 | 9  | 30 |
| HW-1212-FL6 | single pc - non skive | 12             | 3/4            | 41.3       | 9   | 91 | 47 | 14 | 40 |
| HW-1216-FL6 | single pc - non skive | 12             | 3/4            | 47.6       | 9.6 | 93 | 50 | 14 | 40 |

\* To order fittings for R6, R7, R4 and Teflon hose, mention the hose type with part number

\*\* O-Ring is not a part of the flange, it is ordered and invoiced separately

## Flange Code 62 bend 90 degree

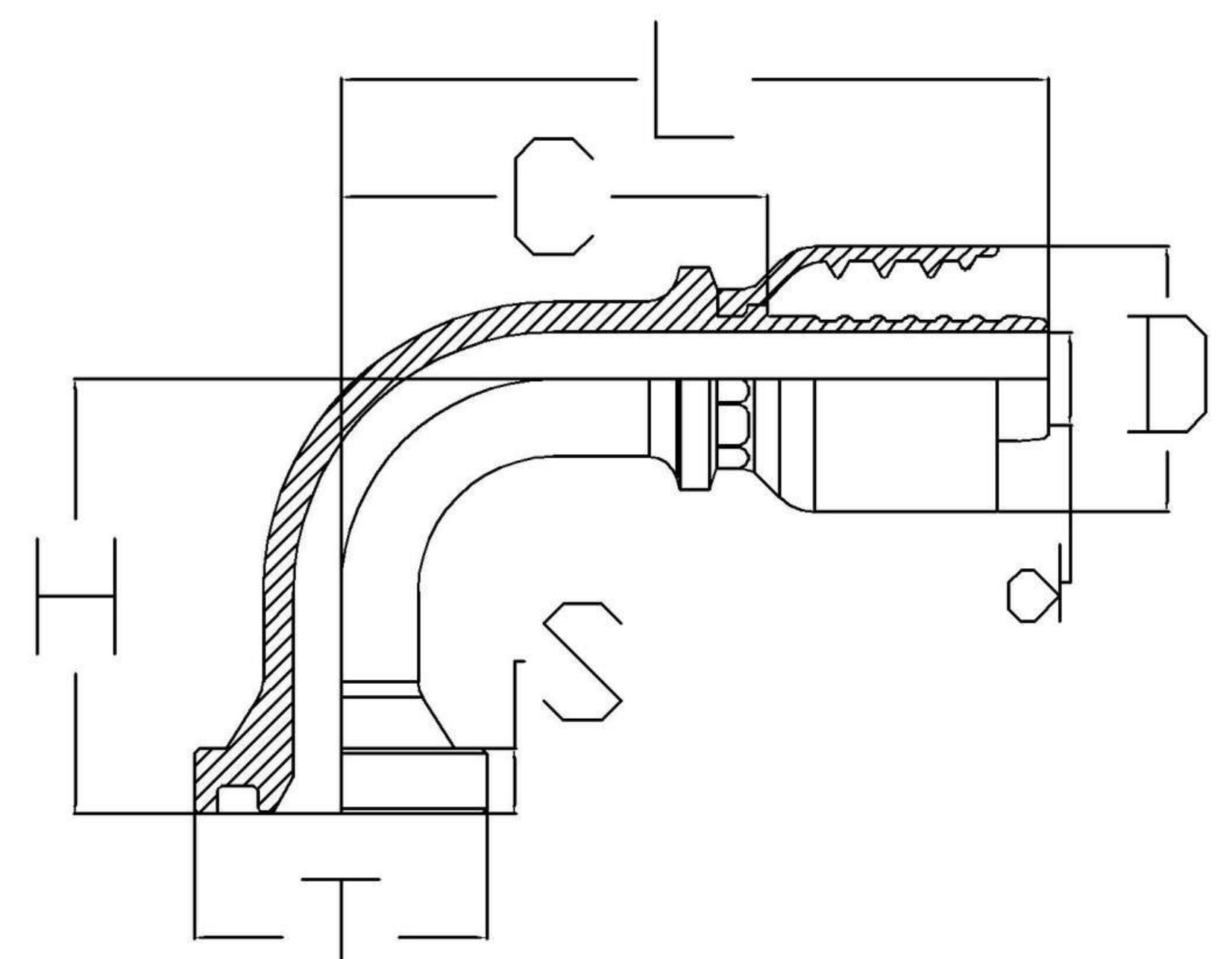
**Standard - SAE-6162-1**

CODE 62 6000 PSI

**O RING - NBR\*\***

**Used for hose type -**

SAE 100 R1, R2, R16, R17,  
R19, R7\*, R6\*, R4\*, Teflon\*



| DESCRIPTION       | ATTRIBUTES            | HOSE ID (DASH) | HOSE ID (inch) | Thread (T) | S    | L   | C  | d  | D  | H  |
|-------------------|-----------------------|----------------|----------------|------------|------|-----|----|----|----|----|
| HW-1212-FL6-90-40 | single pc - non skive | 12             | 3/4            | 41.3       | 9    | 108 | 66 | 14 | 40 | 65 |
| HW-1216-FL6-90-40 | single pc - non skive | 12             | 3/4            | 47.6       | 9.6  | 107 | 64 | 14 | 40 | 67 |
| HW-1620-FL6-90-50 | single pc - non skive | 16             | 1              | 54         | 10.5 | 127 | 83 | 20 | 50 | 83 |
| HW-1212-FL6-45-40 | single pc - non skive | 12             | 3/4            | 41.3       | 9    | 108 | 64 | 14 | 40 | 24 |
| HW-1216-FL6-45-40 | single pc - non skive | 12             | 3/4            | 47.6       | 9.6  | 104 | 60 | 14 | 40 | 46 |

\* To order fittings for R6, R7, R4 and Teflon hose, mention the hose type with part number

\*\* O-Ring is not a part of the flange, it is ordered and invoiced separately

## Flange Code 62 bend 45 degree

## Wire Braid Fittings

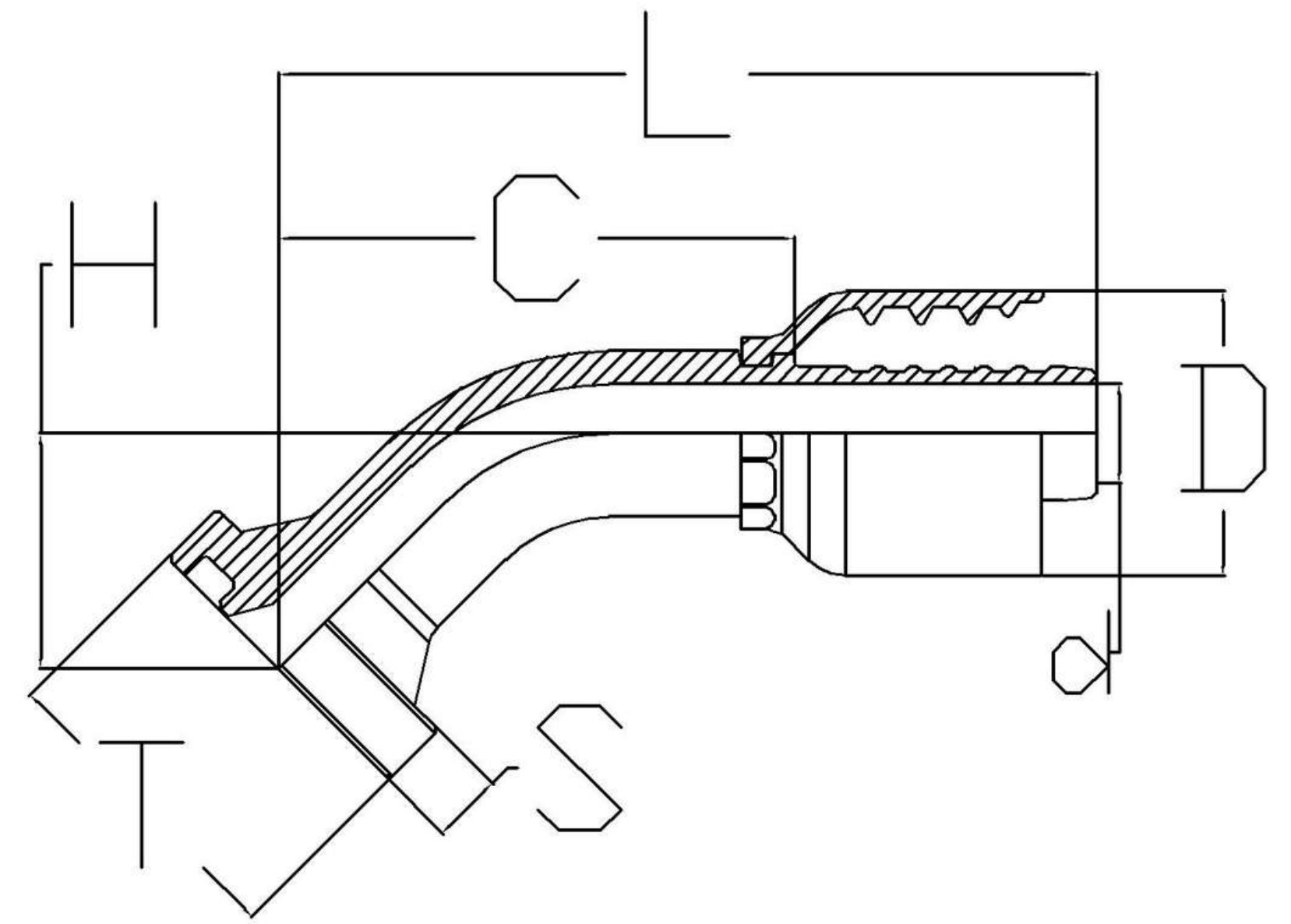
**Standard - SAE-6162-1**

CODE 62 6000 PSI

**O RING - NBR\*\***

**Used for hose type -**

SAE 100 R1, R2, R16, R17,  
R19, R7\*, R6\*, R4\*, Teflon\*



| DESCRIPTION       | ATTRIBUTES            | HOSE ID (DASH) | HOSE ID (inch) | Thread (T) | S    | L   | C  | d  | D  | H  |
|-------------------|-----------------------|----------------|----------------|------------|------|-----|----|----|----|----|
| HW-1212-FL6-90-40 | single pc - non skive | 12             | 3/4            | 41.3       | 9    | 108 | 66 | 14 | 40 | 65 |
| HW-1216-FL6-90-40 | single pc - non skive | 12             | 3/4            | 47.6       | 9.6  | 107 | 64 | 14 | 40 | 67 |
| HW-1620-FL6-90-50 | single pc - non skive | 16             | 1              | 54         | 10.5 | 127 | 83 | 20 | 50 | 83 |
| HW-1212-FL6-45-40 | single pc - non skive | 12             | 3/4            | 41.3       | 9    | 108 | 64 | 14 | 40 | 24 |
| HW-1216-FL6-45-40 | single pc - non skive | 12             | 3/4            | 47.6       | 9.6  | 104 | 60 | 14 | 40 | 46 |

\* To order fittings for R6, R7, R4 and Teflon hose, mention the hose type with part number

\*\* O-Ring is not a part of the flange, it is ordered and invoiced separately

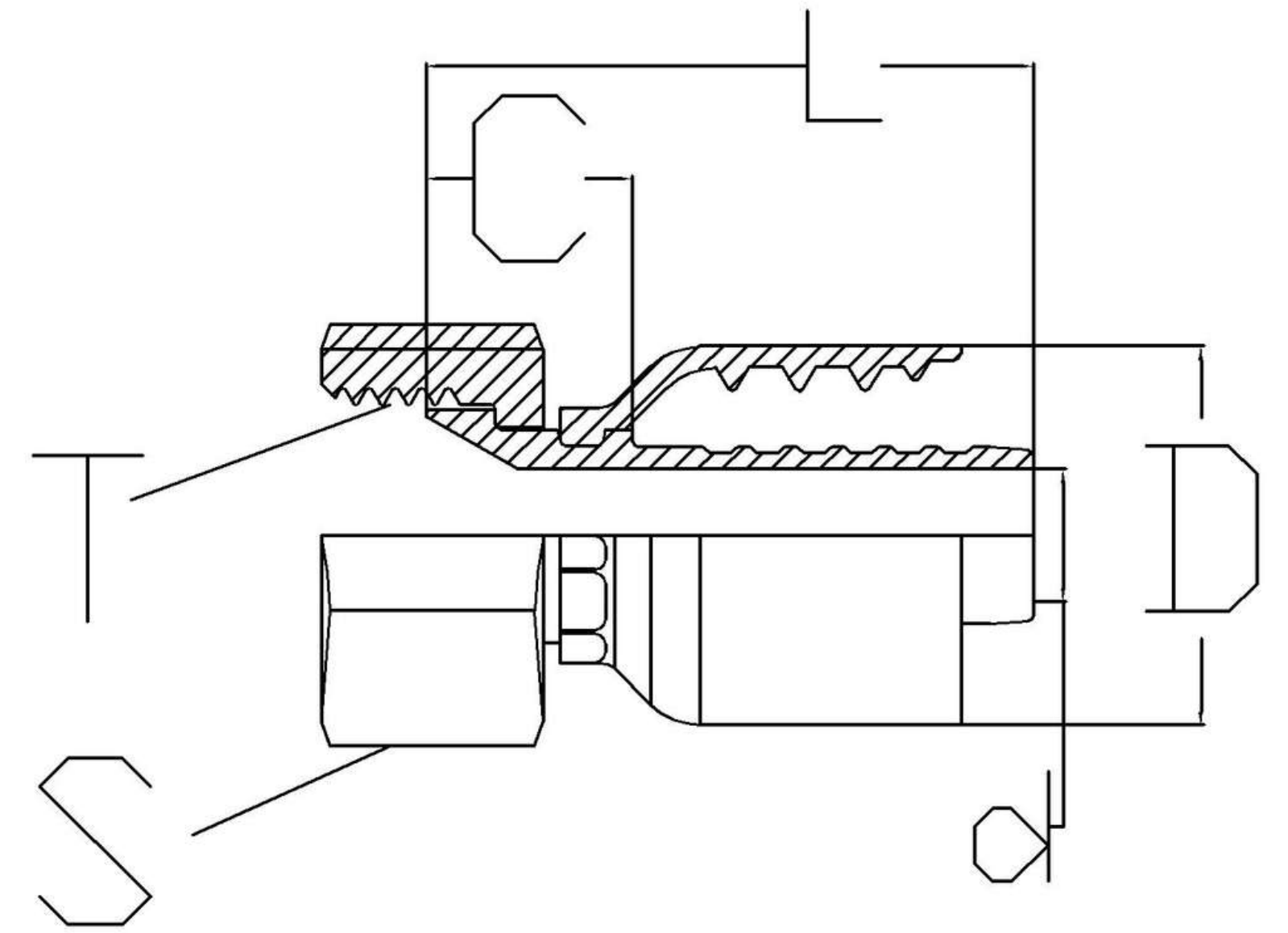
## JIS Female straight

**Standard - BSP Inverted C-Type**

**Cone - 60°**

**Used for hose type -**

SAE- 100 R1, R2, R16, R17,  
R19, R4\*, R7\*, R6\*, Teflon\*



| DESCRIPTION | HOSE ID (DASH) | HOSE ID (inch) | Thread (T)  | S  | L   | C  | d  | D  |
|-------------|----------------|----------------|-------------|----|-----|----|----|----|
| HW-0404-FBJ | 4              | 1/4            | 1/4-19BSP   | 19 | 45  | 16 | 4  | 23 |
| HW-0606-FBJ | 6              | 3/8            | 3/8-19BSP   | 22 | 46  | 17 | 7  | 27 |
| HW-0808-FBJ | 8              | 1/2            | 1/2-14BSP   | 27 | 45  | 16 | 9  | 30 |
| HW-1212-FBJ | 12             | 3/4            | 3/4-14BSP   | 32 | 63  | 19 | 14 | 40 |
| HW-1616-FBJ | 16             | 1              | 1-11BSP     | 41 | 64  | 20 | 20 | 50 |
| HW-1620-FBJ | 16             | 1              | 1.1/4-11BSP | 50 | 69  | 25 | 20 | 50 |
| HW-2432-FBJ | 24             | 1 - 1/2        | 2-11BSP     | 70 | 100 | 33 | 31 | 60 |

\* To order fittings for R6, R7, R4 and Teflon hose, mention the hose type with part number

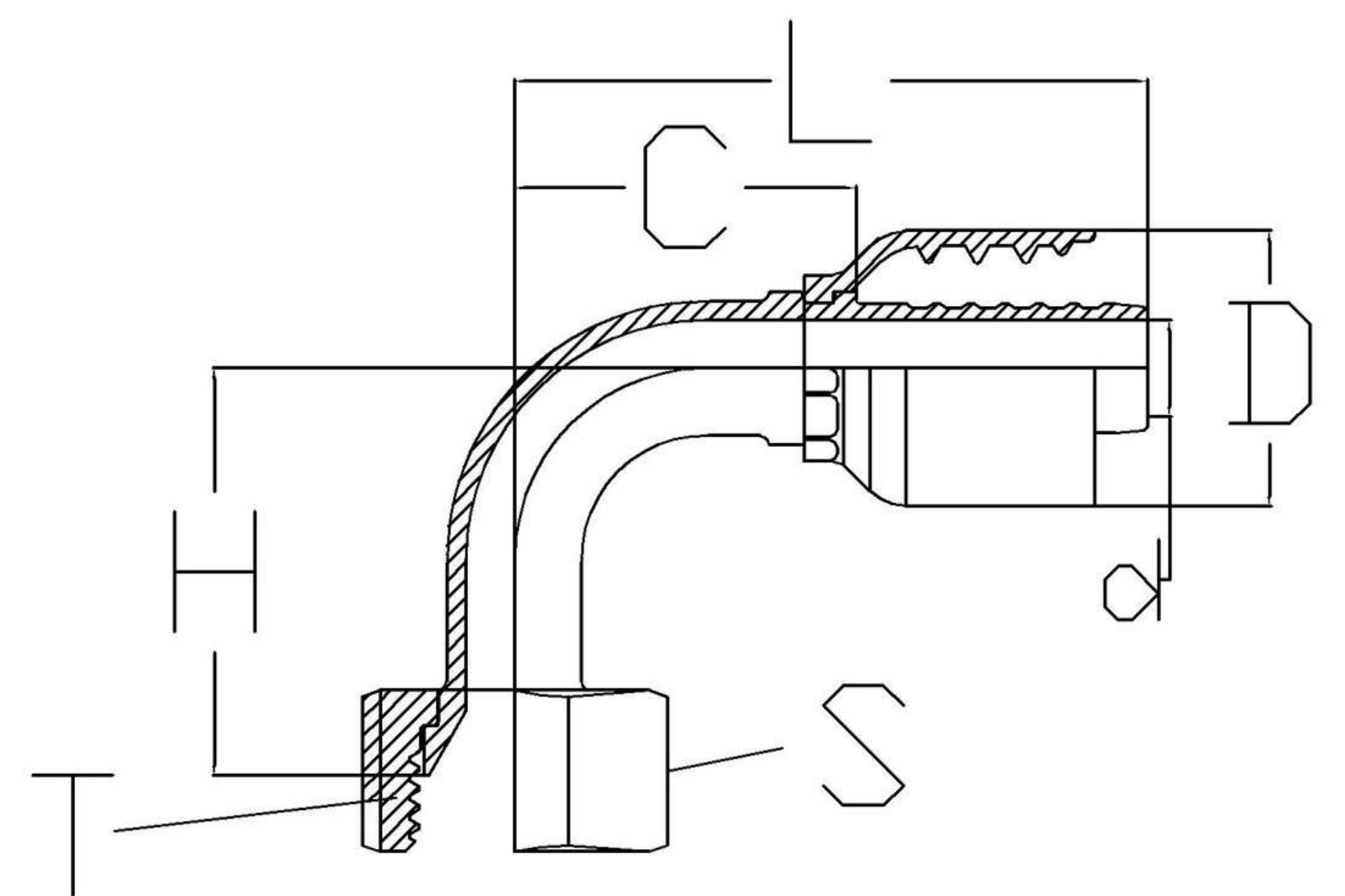
## JIS Female 90 degree bend

**Standard - BSP Inverted C-Type**

**Cone - 60°**

**Used for hose type -**

SAE- 100 R1, R2, R16, R17,  
R19, R4\*, R7\*, R6\*, Teflon\*



| DESCRIPTION       | HOSE ID (DASH) | HOSE ID (inch) | Thread (T)  | S  | L   | C  | d  | D  | H  |
|-------------------|----------------|----------------|-------------|----|-----|----|----|----|----|
| HW-0404-FBJ-90-25 | 4              | 1/4            | 1/4-19BSP   | 19 | 57  | 29 | 4  | 23 | 25 |
| HW-0606-FBJ-90-30 | 6              | 3/8            | 3/8-19BSP   | 22 | 60  | 30 | 6  | 27 | 30 |
| HW-0808-FBJ-90-37 | 8              | 1/2            | 1/2-14BSP   | 24 | 72  | 43 | 9  | 30 | 37 |
| HW-1212-FBJ-90-54 | 12             | 3/4            | 3/4-14BSP   | 32 | 102 | 59 | 14 | 40 | 54 |
| HW-1616-FBJ-90-63 | 16             | 1              | 1-11BSP     | 41 | 114 | 71 | 19 | 50 | 63 |
| HW-1620-FBJ-90-75 | 16             | 1              | 1.1/4-11BSP | 50 | 114 | 73 | 19 | 50 | 75 |

\* To order fittings for R6, R7, R4 and Teflon hose, mention the hose type with part number

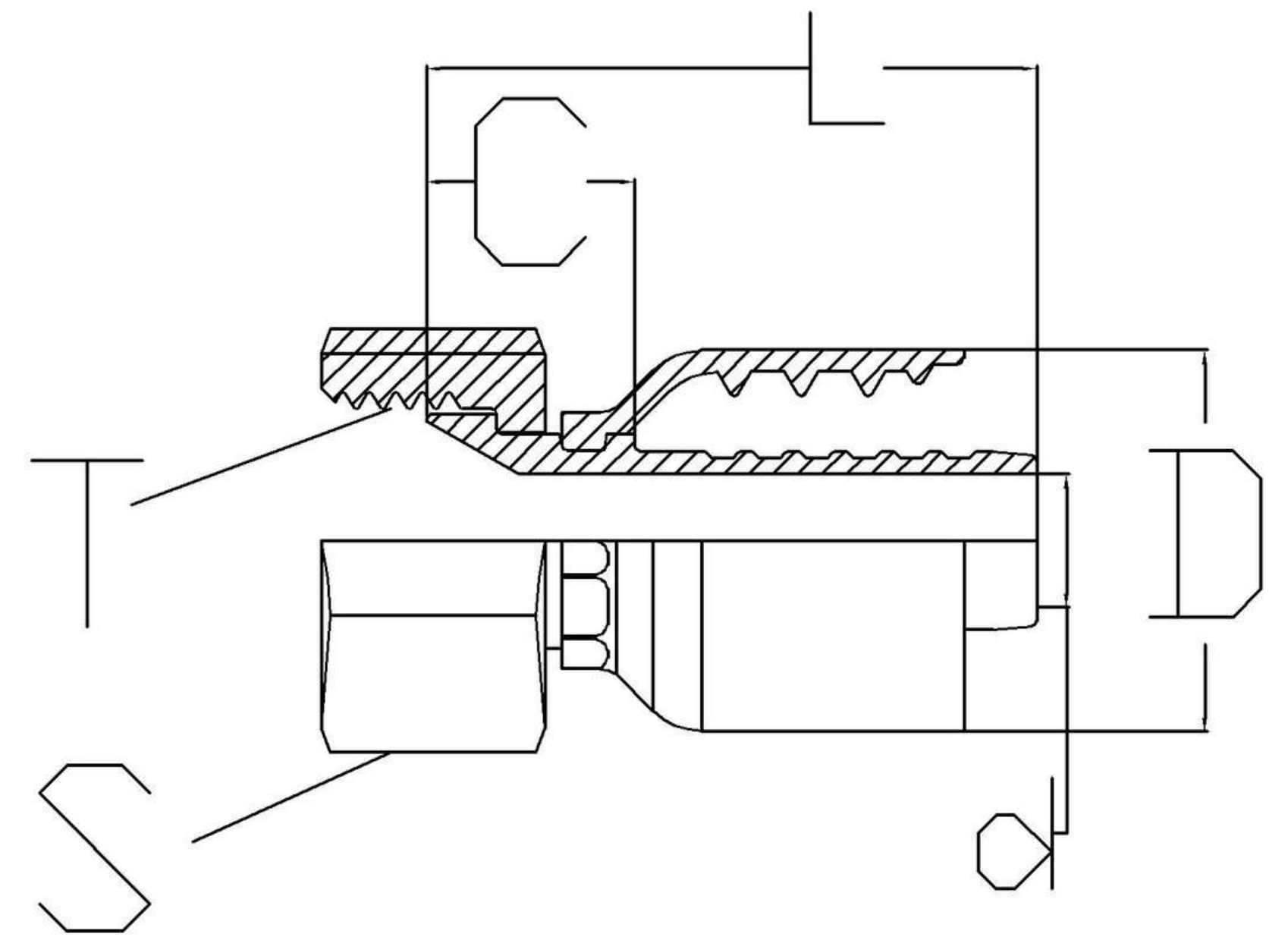
## KOMATSU Female straight

**Standard - Komatsu**

**Cone - 60°**

**Used for hose type -**

SAE- 100 R1, R2, R16, R17,  
R19, R4\*, R7\*, R6\*, Teflon\*



| DESCRIPTION | HOSE ID (DASH) | HOSE ID (inch) | Thread (T) | S  | L  | C  | d  | D  |
|-------------|----------------|----------------|------------|----|----|----|----|----|
| HW-0404-FK  | 4              | 1/4            | 14X1.5     | 19 | 43 | 14 | 4  | 23 |
| HW-0606-FK  | 6              | 3/8            | 18X1.5     | 24 | 46 | 17 | 7  | 27 |
| HW-0808-FK  | 8              | 1/2            | 22X1.5     | 27 | 46 | 17 | 9  | 30 |
| HW-1010-FK  | 10             | 5/8            | 24X1.5     | 32 | 51 | 18 | 13 | 32 |
| HW-1212-FK  | 12             | 3/4            | 30X1.5     | 36 | 63 | 20 | 14 | 40 |
| HW-1616-FK  | 16             | 1              | 33X1.5     | 41 | 62 | 19 | 20 | 50 |
| HW-2424-FK  | 24             | 1 - 1/2        | 42X1.5     | 50 | 93 | 26 | 31 | 68 |

\* To order fittings for R6, R7, R4 and Teflon hose, mention the hose type with part number

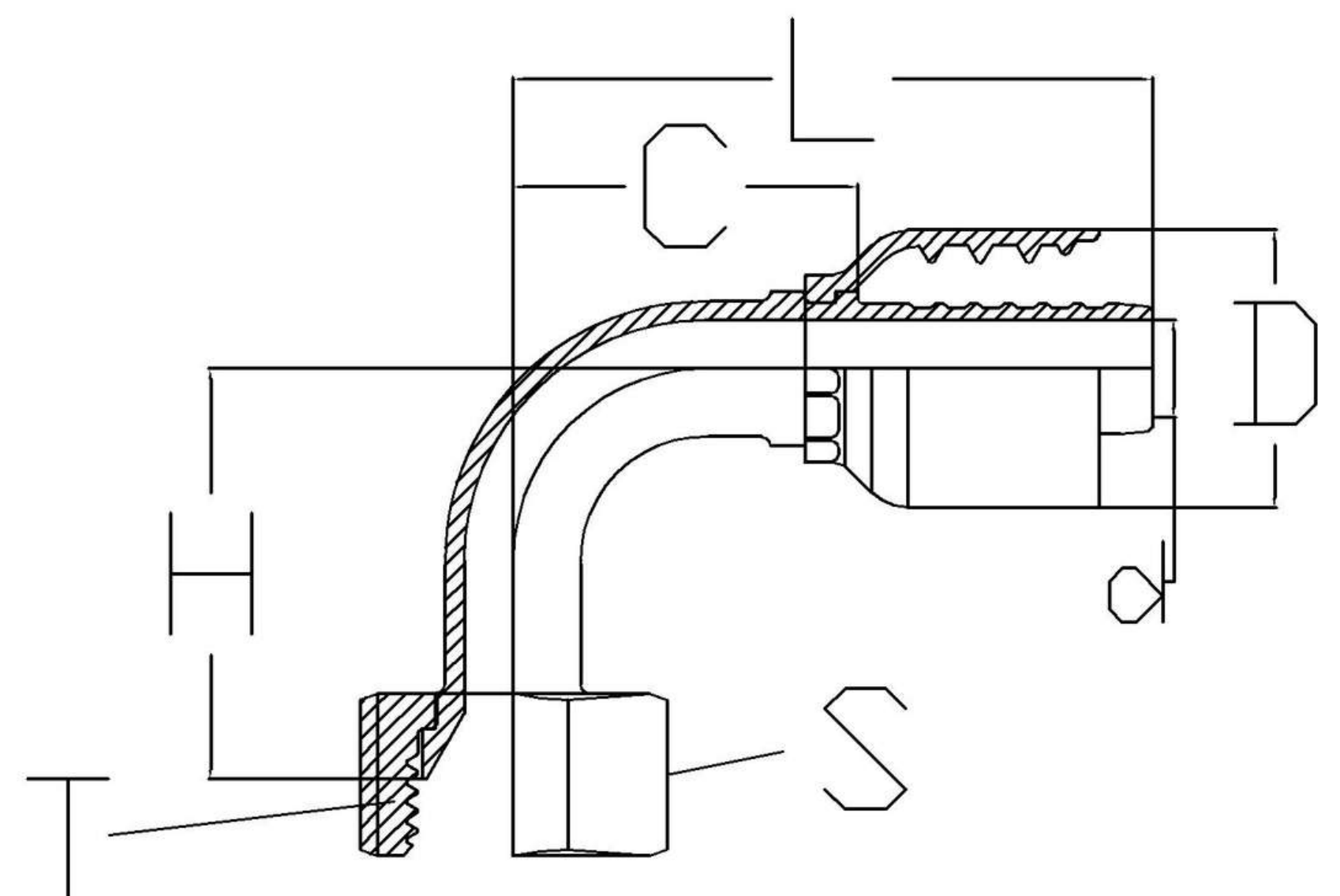
## KOMATSU Female 90 degree bend

**Standard - Komatsu**

**Cone - 60°**

**Used for hose type -**

SAE- 100 R1, R2, R16, R17,  
R19, R4\*, R7\*, R6\*, Teflon\*



| DESCRIPTION      | HOSE ID (DASH) | HOSE ID (inch) | Thread (T) | S  | L   | C  | d  | D  | H  |
|------------------|----------------|----------------|------------|----|-----|----|----|----|----|
| HW-0404-FK-90-32 | 4              | 1/4            | 14X1.5     | 19 | 63  | 34 | 4  | 23 | 32 |
| HW-0606-FK-90-30 | 6              | 3/8            | 18X1.5     | 24 | 60  | 31 | 7  | 27 | 30 |
| HW-0808-FK-90-39 | 8              | 1/2            | 22X1.5     | 27 | 72  | 42 | 9  | 30 | 39 |
| HW-1010-FK-90-52 | 10             | 5/8            | 24X1.5     | 32 | 84  | 52 | 13 | 32 | 52 |
| HW-1212-FK-90-57 | 12             | 3/4            | 30X1.5     | 36 | 109 | 65 | 15 | 40 | 57 |
| HW-1616-FK-90-63 | 16             | 1              | 33X1.5     | 21 | 111 | 69 | 20 | 50 | 63 |

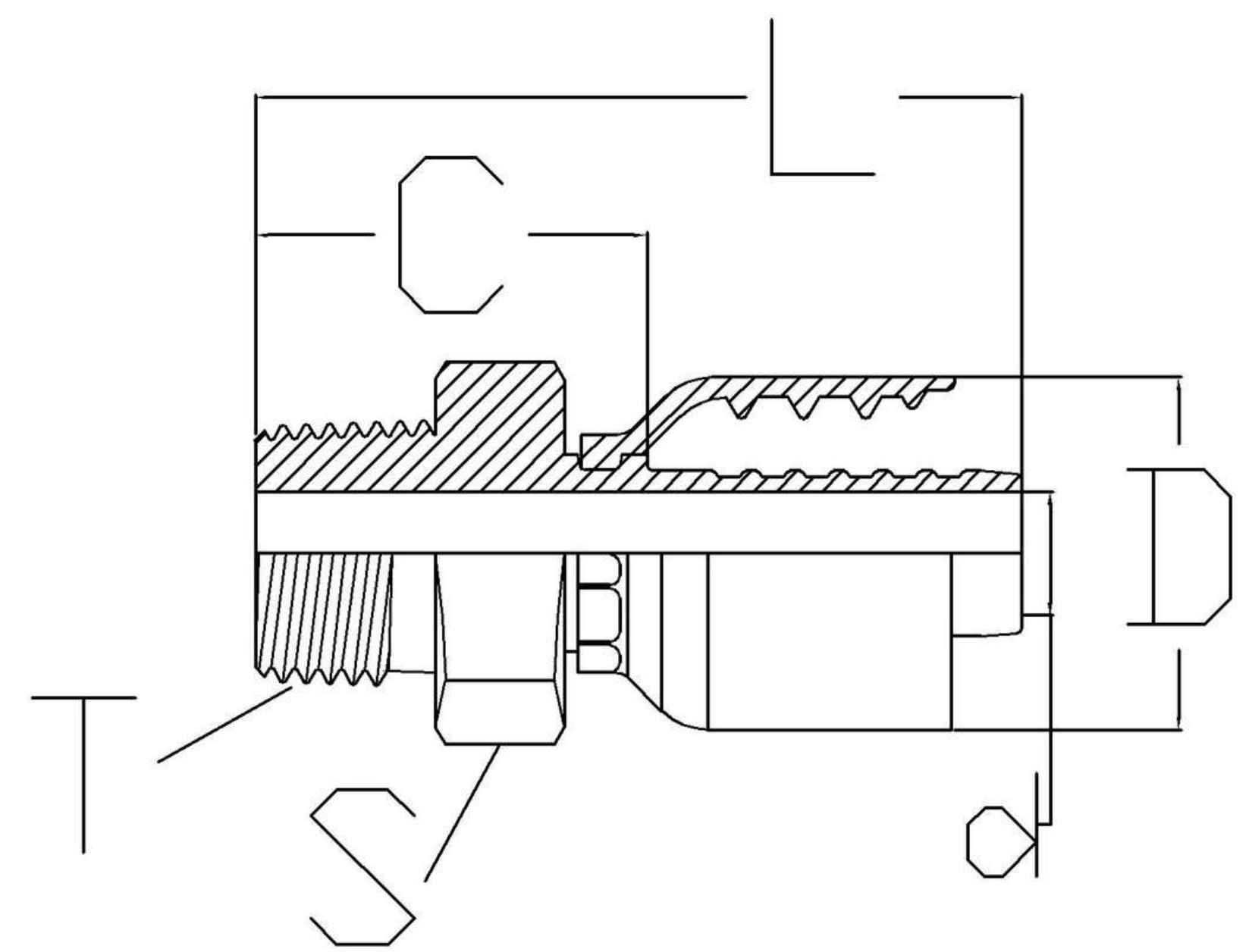
\* To order fittings for R6, R7, R4 and Teflon hose, mention the hose type with part number

**Standard - ANSI/ASME B1.20.1**

**Cone - 60°**

**Used for hose type -**

SAE- 100 R1, R2, R16, R17,  
R19, R4\*, R7\*, R6\*, Teflon\*



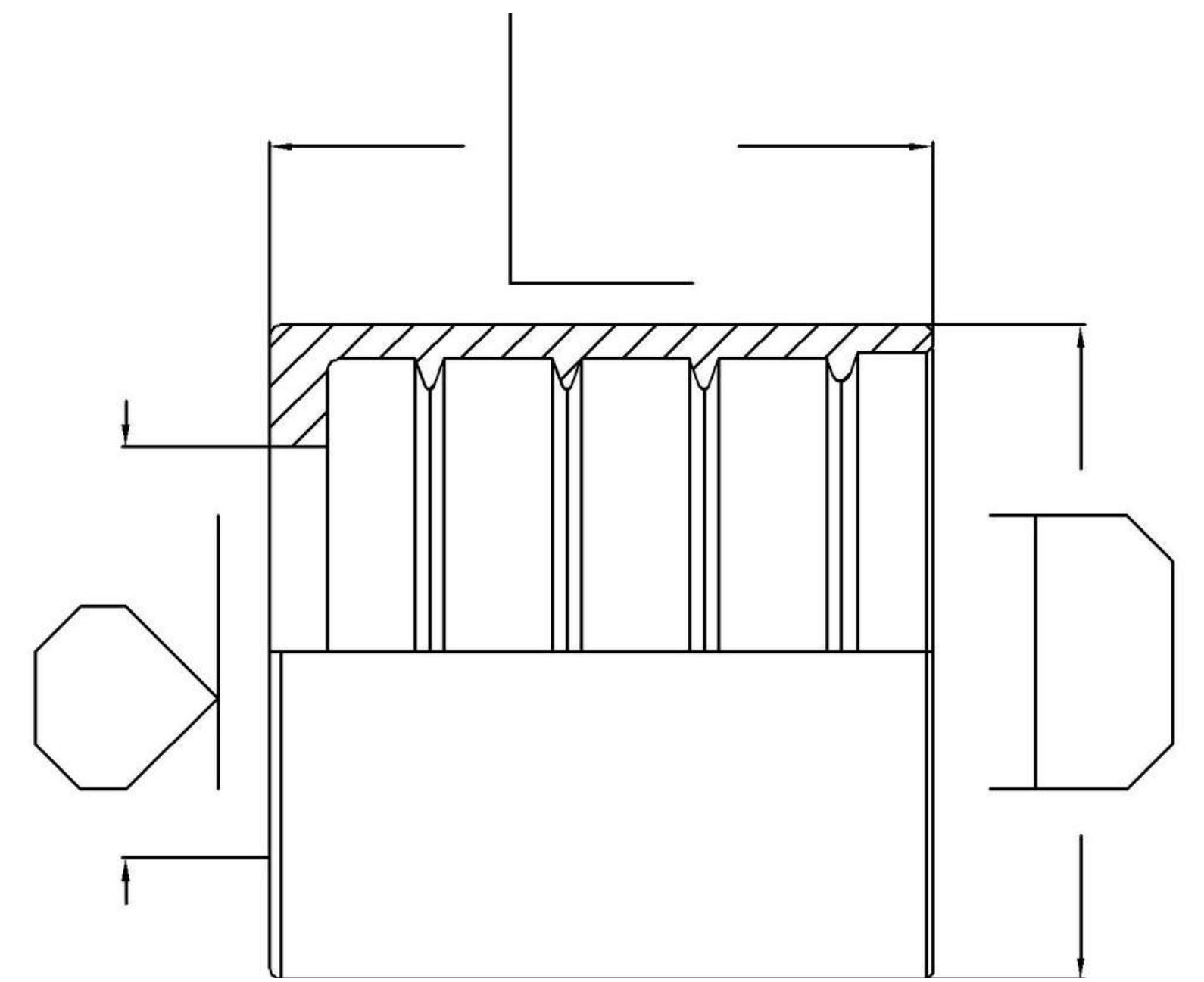
| DESCRIPTION  | HOSE ID (DASH) | HOSE ID (inch) | Thread (T)     | S  | L   | C  | d  | D  |
|--------------|----------------|----------------|----------------|----|-----|----|----|----|
| HW-0404-FNPT | 4              | 1/4            | 1/4 - 18       | 17 | 56  | 27 | 4  | 23 |
| HW-0402-MNPT | 4              | 1/4            | 1/8 - 27       | 17 | 55  | 26 | 4  | 23 |
| HW-0404-MNPT | 4              | 1/4            | 1/4 - 18       | 17 | 55  | 26 | 4  | 23 |
| HW-0406-MNPT | 4              | 1/4            | 3/8-18         | 19 | 60  | 31 | 4  | 23 |
| HW-0604-MNPT | 6              | 3/8            | 1/4 - 18       | 17 | 55  | 26 | 7  | 27 |
| HW-0606-MNPT | 6              | 3/8            | 3/8-18         | 19 | 59  | 30 | 7  | 27 |
| HW-0608-MNPT | 6              | 3/8            | 1/2 - 14       | 22 | 63  | 34 | 7  | 27 |
| HW-0808-MNPT | 8              | 1/2            | 1/2 - 14       | 24 | 65  | 36 | 9  | 30 |
| HW-1212-MNPT | 12             | 3/4            | 3/4 - 14       | 27 | 78  | 35 | 15 | 40 |
| HW-1616-MNPT | 16             | 1              | 1 - 11.1/2     | 36 | 84  | 40 | 20 | 50 |
| HW-2020-MNPT | 20             | 1 - 1/4        | 1.1/4 - 11.1/2 | 50 | 105 | 50 | 25 | 60 |
| HW-3232-MNPT | 32             | 2              | 2 - 11.1/2     | 65 | 112 | 52 | 43 | 73 |

\* To order fittings for R6, R7, R4 and Teflon hose, mention the hose type with part number

## FERRULE L1 - Non Skive

### Wire Braid Fittings

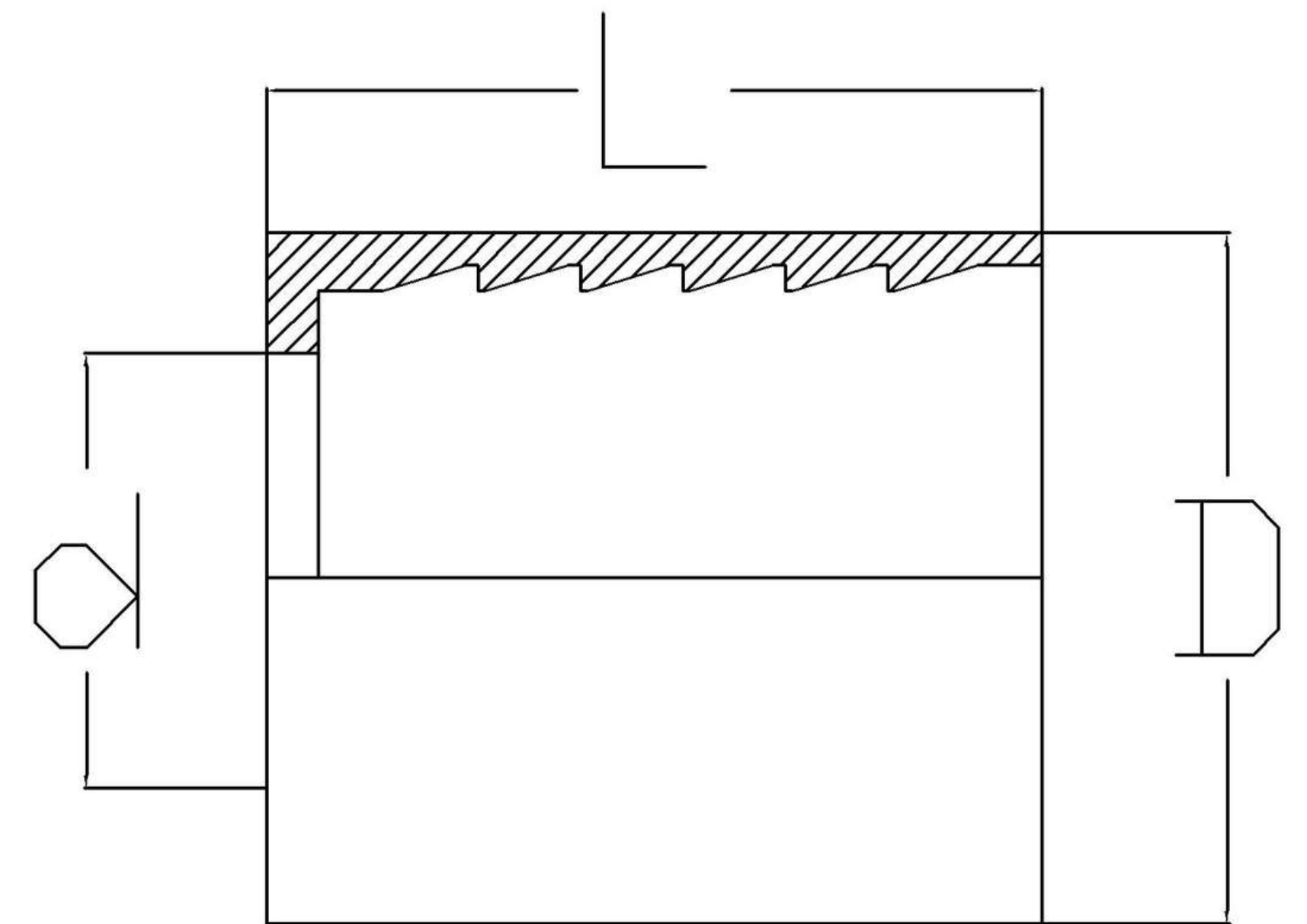
**Ferrule - Cap - Socket**  
**Used for hose type -**  
 R1, R2, R16, R17, R19



| DESCRIPTION | HOSE ID (DASH) | HOSE ID (inch) | L  | d  | D  |
|-------------|----------------|----------------|----|----|----|
| 04SPM01     | 4              | 1/4            | 29 | 11 | 21 |
| 06SPM01     | 6              | 3/8            | 29 | 14 | 25 |
| 08SPM01     | 8              | 1/2            | 29 | 18 | 29 |
| 12SPM01     | 12             | 3/4            | 38 | 21 | 33 |
| 16SPM01     | 16             | 1              | 43 | 23 | 39 |
| 20FST01     | 20             | 1 - 1/4        | 61 | 49 | 61 |
| 24FST01     | 24             | 1 - 1/2        | 68 | 52 | 68 |
| 32FST       | 32             | 2              | 66 | 56 | 83 |

## FERRULE L2 Skive

**Ferrule - Cap - Socket**  
**Used for hose type-**  
 R4, R6, TEFLON



| DESCRIPTION   | HOSE ID (DASH) | HOSE ID (inch) | L  | d   | D   |
|---------------|----------------|----------------|----|-----|-----|
| 20FST-SKIVE   | 20             | 1 - 1/4        | 61 | 35  | 54  |
| 24FST-SKIVE   | 24             | 1 - 1/2        | 61 | 43  | 60  |
| 32FST-SKIVE   | 32             | 2              | 66 | 54  | 73  |
| 40FST01-SKIVE | 40             | 2 - 1/2        | 71 | 69  | 86  |
| 48FST01-SKIVE | 48             | 3              | 77 | 80  | 100 |
| 64FST01-SKIVE | 64             | 4              | 98 | 102 | 128 |





# ***4 Spiral Fittings***



[www.hpspl.com](http://www.hpspl.com)  
[www.hpsindia.co.in](http://www.hpsindia.co.in)

## BSP Female Straight

## 4 Spiral Fittings

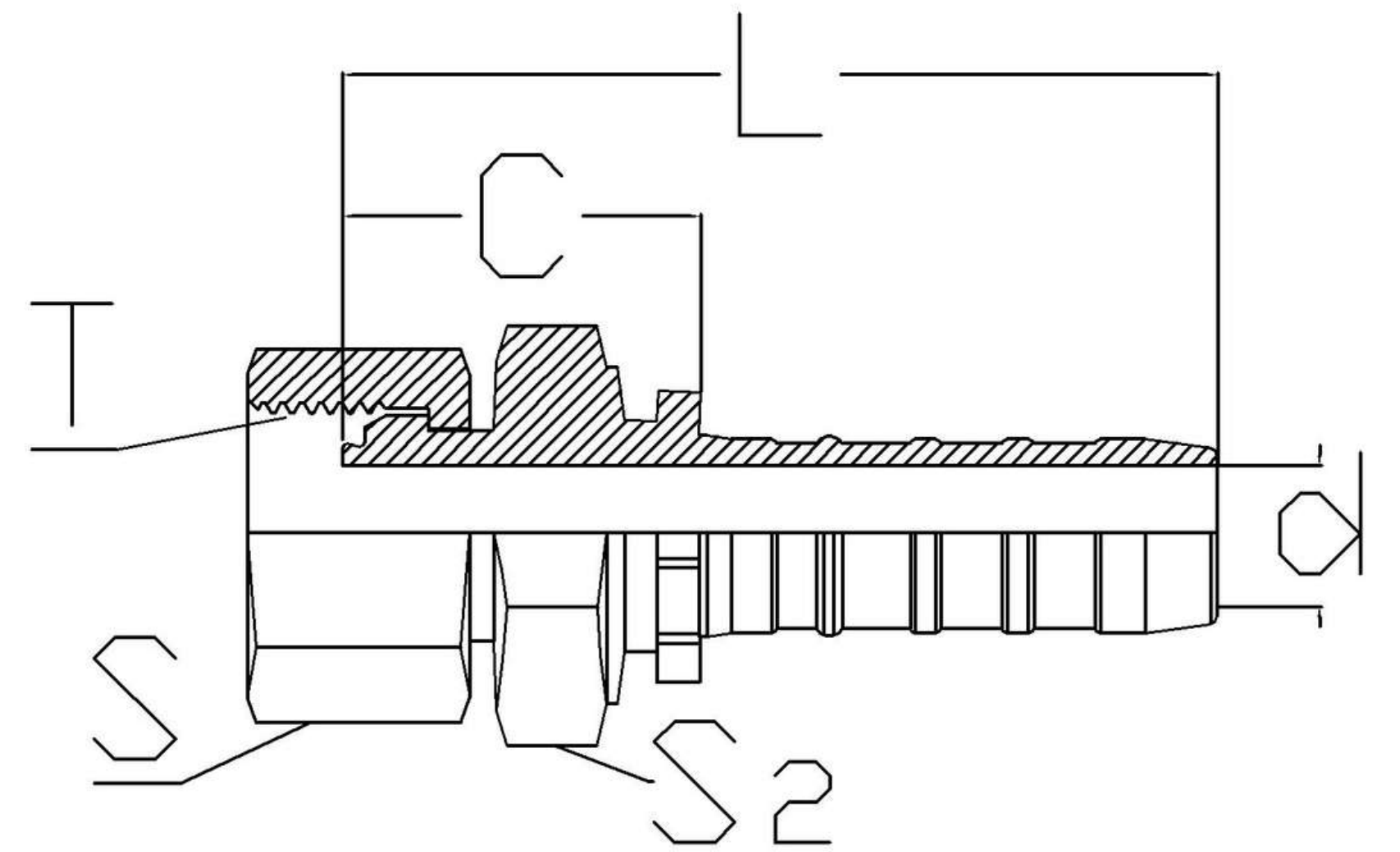
**Standard - ISO 8434-6**

**Cone - 60°**

**O- Ring - NBR\*\***

**Used for hose Type -**

4SP, 4SH, R12, R13\*, R15\*



| DESCRIPTION | HOSE ID (DASH) | HOSE ID (inch) | Thread (T)  | S  | L   | C  | d  | D  | S2 |
|-------------|----------------|----------------|-------------|----|-----|----|----|----|----|
| HS-0606-FB  | 6              | 3/8            | 3/8-19BSP   | 22 | 60  | 24 | 7  | 32 | 19 |
| HS-0808-FBO | 8              | 1/2            | 1/2-14BSP   | 27 | 62  | 25 | 9  | 34 | 27 |
| HS-1010-FBO | 10             | 5/8            | 5/8-14BSP   | 30 | 80  | 29 | 12 | 42 | 30 |
| HS-1012-FB  | 10             | 5/8            | 3/4-14BSP   | 32 | 85  | 33 | 14 | 42 | 30 |
| HS-1012-FBO | 10             | 5/8            | 3/4-14BSP   | 32 | 85  | 33 | 14 | 42 | 30 |
| HS-1212-FBO | 12             | 3/4            | 3/4-14BSP   | 32 | 87  | 36 | 14 | 46 | 32 |
| HS-1216-FB  | 12             | 3/4            | 1-11BSP     | 41 | 86  | 35 | 14 | 46 | 32 |
| HS-1616-FBO | 16             | 1              | 1-11BSP     | 41 | 103 | 43 | 18 | 52 | 41 |
| HS-2020-FB  | 20             | 1 - 1/4        | 1.1/4-11BSP | 50 | 119 | 47 | 26 | 62 | 50 |
| HS-2024-FB  | 20             | 1 - 1/4        | 1.1/2-11BSP | 55 | 119 | 46 | 26 | 62 | 50 |
| HS-2424-FB  | 24             | 1 - 1/2        | 1.1/2-11BSP | 55 | 119 | 45 | 32 | 72 | 55 |
| HS-3232-FB  | 32             | 2              | 2-11BSP     | 70 | 151 | 59 | 43 | 85 | 70 |

\*\* If part number contains FBO, the fitting is with O-Ring and if it contains FB, it is without O-Ring

\* R13, R15 are only upto 1" size (for higher sizes go to section 6 spiral fittings)

## BSP Female 90 degree bend

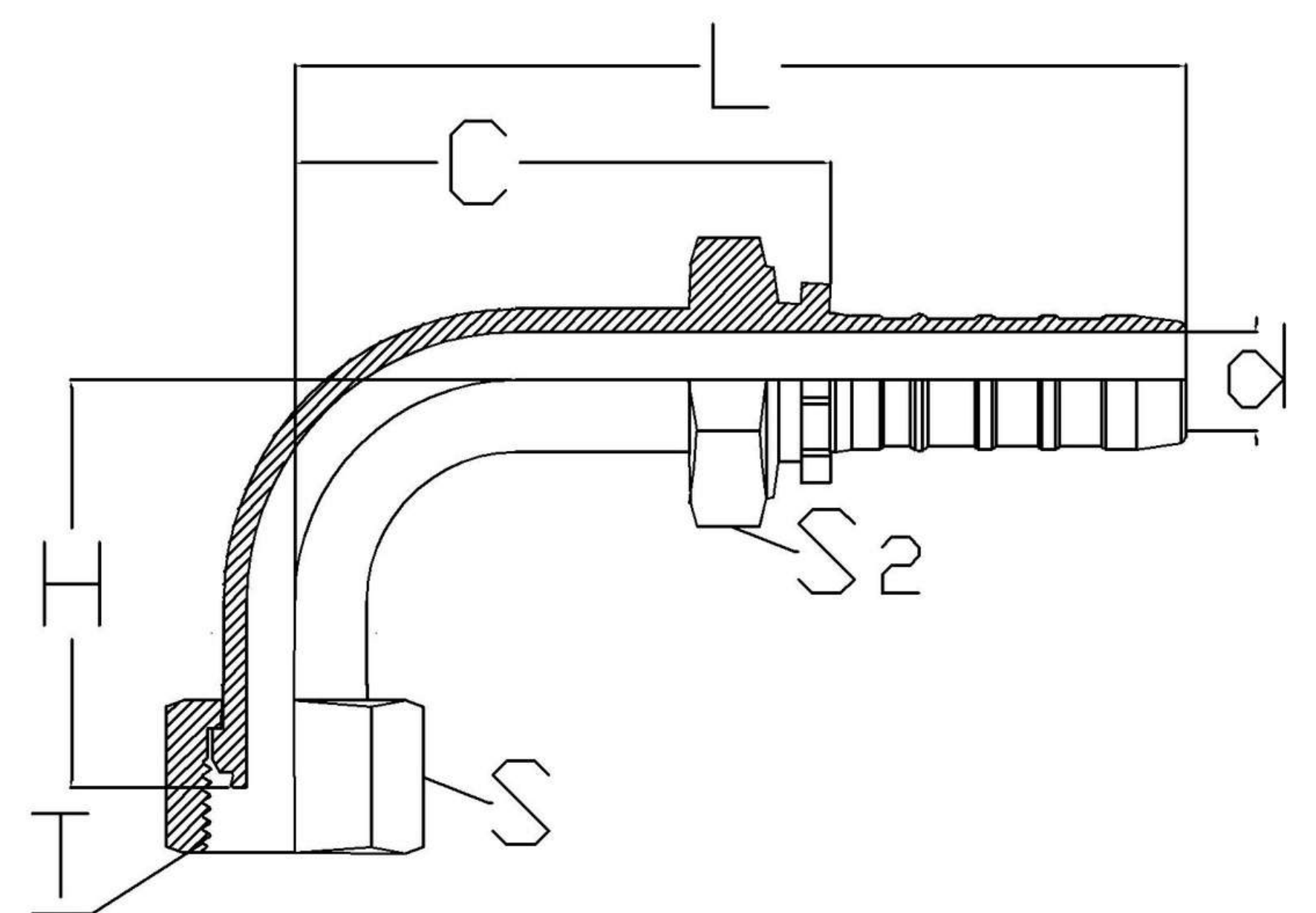
**Standard - ISO 8434-6**

**Cone - 60°**

**O- Ring - NBR\*\***

**Used for hose Type -**

4SP, 4SH, R12, R13\*, R15\*



| DESCRIPTION       | HOSE ID (DASH) | HOSE ID (inch) | Thread (T)  | S  | L   | C   | d  | D  | H   | S2 |
|-------------------|----------------|----------------|-------------|----|-----|-----|----|----|-----|----|
| HS-0606-FB-90-35  | 6              | 3/8            | 3/8-19BSP   | 22 | 79  | 43  | 7  | 32 | 35  | 19 |
| HS-0808-FBO-90-42 | 8              | 1/2            | 1/2-14BSP   | 27 | 87  | 48  | 9  | 34 | 42  | 27 |
| HS-1008-FB-90-52  | 10             | 5/8            | 1/2-14BSP   | 27 | 107 | 56  | 11 | 42 | 52  | 30 |
| HS-1010-FBO-90-55 | 10             | 5/8            | 5/8-14BSP   | 30 | 122 | 70  | 12 | 42 | 55  | 30 |
| HS-1012-FBO-90-60 | 10             | 5/8            | 3/4-14BSP   | 32 | 117 | 64  | 12 | 42 | 60  | 30 |
| HS-1212-FBO-90-55 | 12             | 3/4            | 3/4-14BSP   | 32 | 139 | 80  | 15 | 46 | 55  | 32 |
| HS-1216-FB-90-70  | 12             | 3/4            | 1-11BSP     | 41 | 120 | 40  | 15 | 46 | 70  | 32 |
| HS-1616-FBO-90-75 | 16             | 1              | 1-11BSP     | 41 | 145 | 86  | 19 | 52 | 75  | 41 |
| HS-2020-FB-90-95  | 20             | 1 - 1/4        | 1.1/4-11BSP | 50 | 140 | 108 | 24 | 62 | 95  | 50 |
| HS-2024-FB-90-90  | 20             | 1 - 1/4        | 1.1/2-11BSP | 55 | 182 | 110 | 23 | 62 | 90  | 50 |
| HS-2424-FB-90-115 | 24             | 1 - 1/2        | 1.1/2-11BSP | 55 | 190 | 115 | 28 | 72 | 115 | 55 |
| HS-3232-FB-90-130 | 32             | 2              | 2-11BSP     | 70 | 260 | 170 | 38 | 85 | 130 | 70 |

\*\* If part number contains FBO, the fitting is with O-Ring and if it contains FB, it is without O-Ring

\* R13, R15 are only upto 1" size (for higher sizes go to section 6 spiral fittings)

## BSP Female 45 degree bend

## 4 Spiral Fittings

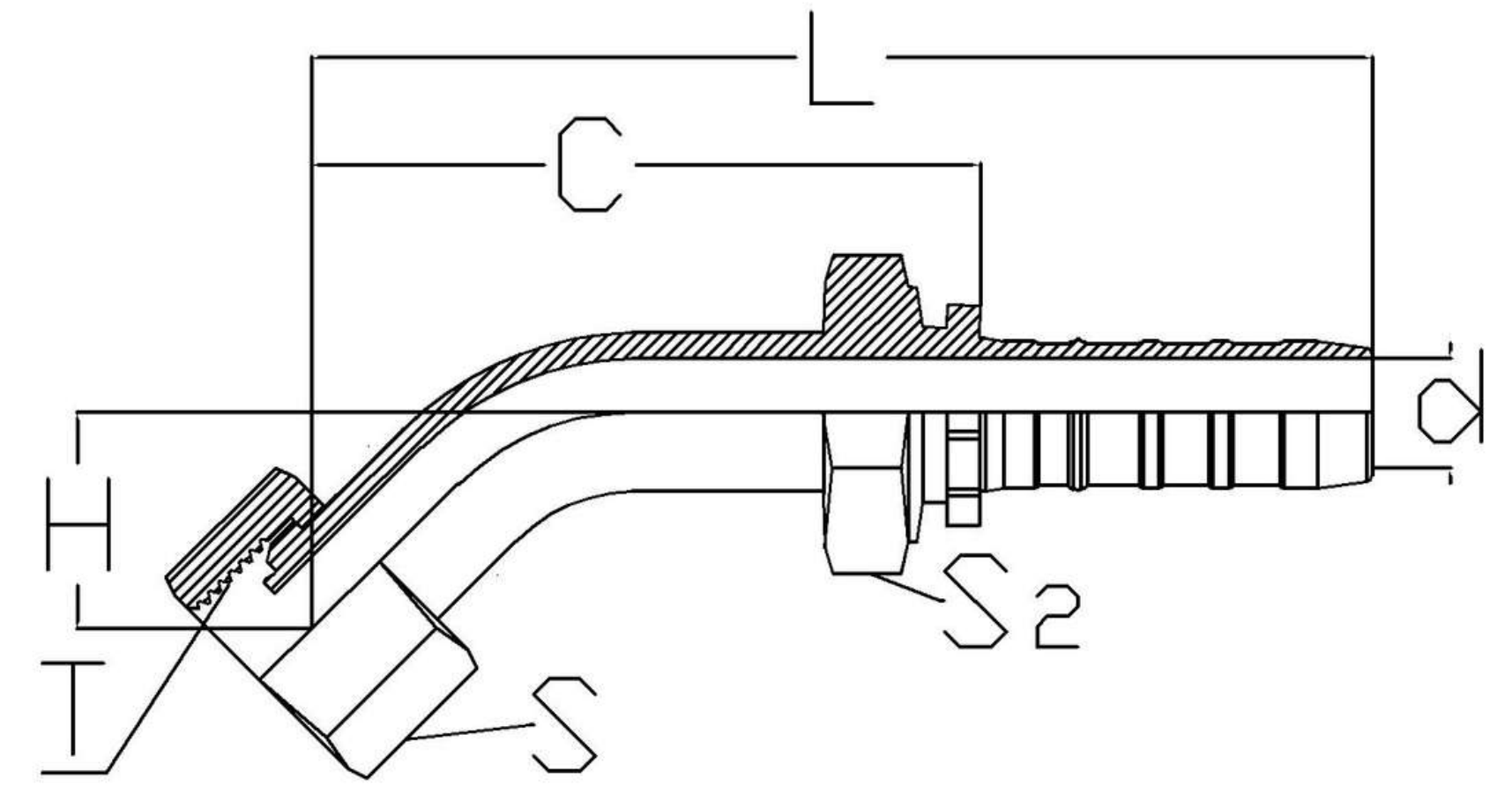
**Standard - ISO 8434-6**

**Cone - 60°**

**O- Ring - NBR\*\***

**Used for hose Type -**

**4SP, 4SH, R12, R13\*, R15\***



| DESCRIPTION       | HOSE ID (DASH) | HOSE ID (inch) | Thread (T)  | S  | L   | C   | d  | D  | H  | S2 |
|-------------------|----------------|----------------|-------------|----|-----|-----|----|----|----|----|
| HS-0606-FB-45-16  | 6              | 3/8            | 3/8-19BSP   | 22 | 83  | 47  | 7  | 32 | 16 | 19 |
| HS-0808-FBO-45-18 | 8              | 1/2            | 1/2-14BSP   | 27 | 91  | 54  | 9  | 34 | 18 | 27 |
| HS-1010-FBO-45-24 | 10             | 5/8            | 5/8-14BSP   | 30 | 121 | 71  | 12 | 42 | 24 | 30 |
| HS-1212-FBO-45-22 | 12             | 3/4            | 3/4-14BSP   | 32 | 141 | 82  | 15 | 46 | 22 | 32 |
| HS-1216-FB-45-30  | 12             | 3/4            | 1-11BSP     | 41 | 138 | 87  | 14 | 46 | 30 | 32 |
| HS-1616-FBO-45-34 | 16             | 1              | 1-11BSP     | 41 | 158 | 102 | 20 | 52 | 34 | 41 |
| HS-2020-FB-45-36  | 20             | 1 - 1/4        | 1.1/4-11BSP | 50 | 200 | 130 | 22 | 62 | 36 | 50 |
| HS-2424-FB-45-57  | 24             | 1 - 1/2        | 1.1/2-11BSP | 55 | 221 | 147 | 32 | 72 | 57 | 55 |
| HS-3232-FB-45-66  | 32             | 2              | 2-11BSP     | 70 | 273 | 181 | 42 | 85 | 66 | 70 |

\*\* If part number contains FBO, the fitting is with O-Ring and if it contains FB, it is without O-Ring

\* R13, R15 are only upto 1" size (for higher sizes go to section 6 spiral fittings)

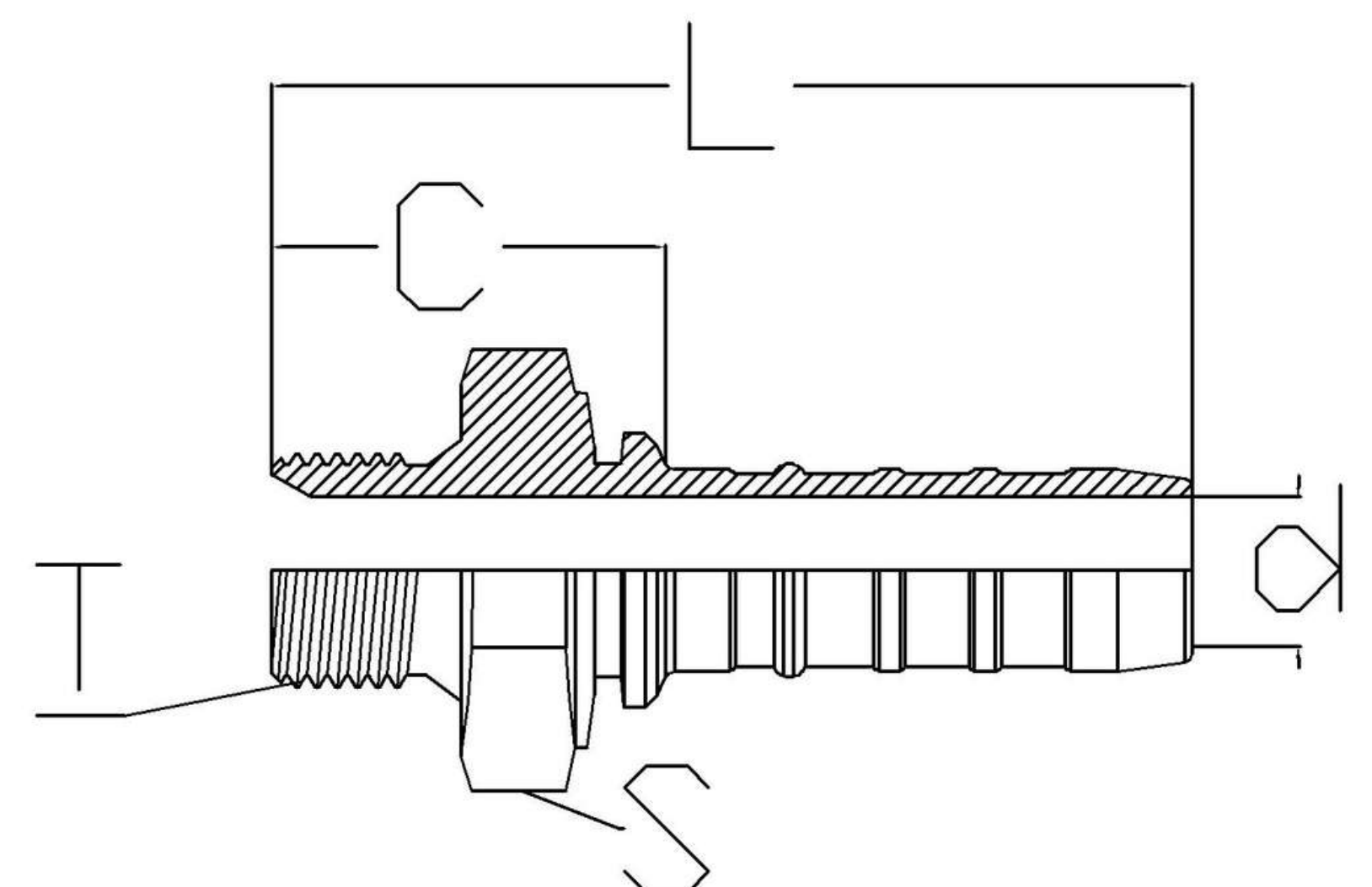
## BSP Male Straight

**Standard - ISO 8434-6**

**Cone - 60°**

**Used for hose Type -**

**4SP, 4SH, R12, R13\*, R15\***



| DESCRIPTION | HOSE ID (DASH) | HOSE ID (inch) | Thread (T)  | S  | L   | C  | d  | D  |
|-------------|----------------|----------------|-------------|----|-----|----|----|----|
| HS-0808-MB  | 8              | 1/2            | 1/2-14BSP   | 27 | 71  | 34 | 9  | 34 |
| HS-1212-MB  | 12             | 3/4            | 3/4-14BSP   | 36 | 85  | 35 | 14 | 46 |
| HS-1216-MB  | 12             | 3/4            | 1-11BSP     | 41 | 92  | 42 | 14 | 46 |
| HS-1616-MB  | 12             | 3/4            | 1-11BSP     | 41 | 99  | 42 | 21 | 52 |
| HS-1620-MB  | 16             | 1              | 1.1/4-11BSP | 50 | 106 | 48 | 29 | 52 |
| HS-2020-MB  | 20             | 1 - 1/4        | 1.1/4-11BSP | 50 | 120 | 49 | 29 | 62 |
| HS-2424-MB  | 24             | 1 - 1/2        | 1.1/2-11BSP | 55 | 130 | 57 | 33 | 72 |
| HS-3232-MB  | 32             | 2              | 2-11BSP     | 70 | 146 | 55 | 42 | 85 |

\*\* If part number contains FBO, the fitting is with O-Ring and if it contains FB, it is without O-Ring

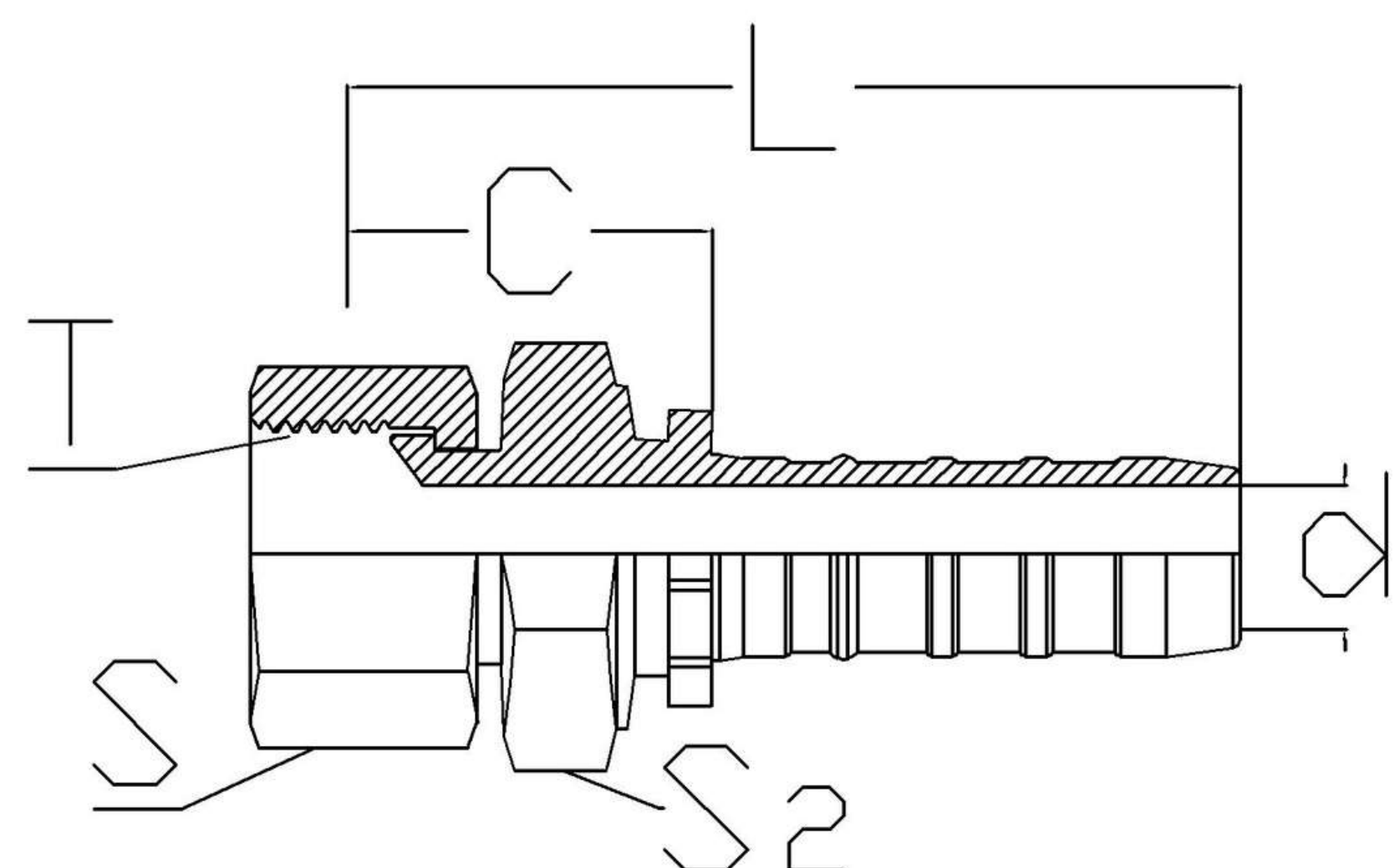
\* R13, R15 are only upto 1" size (for higher sizes go to section 6 spiral fittings)

**Standard - ISO -8434-2**

**Cone - 37°**

**Used for hose type -**

**4SP, 4SH, R12, R13\*, R15\***



| DESCRIPTION | HOSE ID (DASH) | HOSE ID (inch) | Thread (T)  | S  | L   | C  | d  | D  | S2 |
|-------------|----------------|----------------|-------------|----|-----|----|----|----|----|
| HS-0606-FJ  | 6              | 3/8            | 9/16-18UN   | 19 | 62  | 25 | 7  | 32 | 19 |
| HS-0608-FJ  | 8              | 1/2            | 3/4-16UN    | 24 | 62  | 29 | 7  | 32 | 27 |
| HS-0808-FJ  | 8              | 1/2            | 3/4-16UN    | 24 | 63  | 26 | 9  | 34 | 27 |
| HS-0810-FJ  | 8              | 1/2            | 7/8-14UN    | 27 | 63  | 26 | 9  | 34 | 27 |
| HS-1010-FJ  | 10             | 5/8            | 7/8-14UN    | 27 | 80  | 31 | 12 | 42 | 30 |
| HS-1012-FJ  | 10             | 5/8            | 1.1/16-12UN | 32 | 84  | 33 | 12 | 42 | 30 |
| HS-1212-FJ  | 12             | 3/4            | 1.1/16-12UN | 32 | 83  | 35 | 15 | 46 | 32 |
| HS-1216-FJ  | 12             | 3/4            | 1.5/16-12UN | 41 | 86  | 39 | 14 | 46 | 32 |
| HS-1616-FJ  | 16             | 1              | 1.5/16-12UN | 41 | 94  | 40 | 18 | 52 | 41 |
| HS-1620-FJ  | 20             | 1 - 1/4        | 1.5/8-12UN  | 50 | 98  | 41 | 18 | 52 | 50 |
| HS-2020-FJ  | 20             | 1 - 1/4        | 1.5/8-12UN  | 50 | 118 | 46 | 26 | 62 | 50 |
| HS-2424-FJ  | 24             | 1 - 1/2        | 1.7/8-12UN  | 60 | 119 | 47 | 31 | 72 | 55 |
| HS-3232-FJ  | 32             | 2              | 2.1/2-12UN  | 75 | 151 | 57 | 43 | 85 | 70 |
| HS-1212-MJ  | 12             | 3/4            | 1.1/16-12UN | 32 | 91  | 42 | 15 | 46 |    |
| HS-1616-MJ  | 12             | 3/4            | 1.5/16-12UN | 41 | 101 | 44 | 21 | 52 |    |

\*\* If part number contains FBO, the fitting is with O-Ring and if it contains FB, it is without O-Ring

\* R13, R15 are only upto 1" size (for higher sizes go to section 6 spiral fittings)

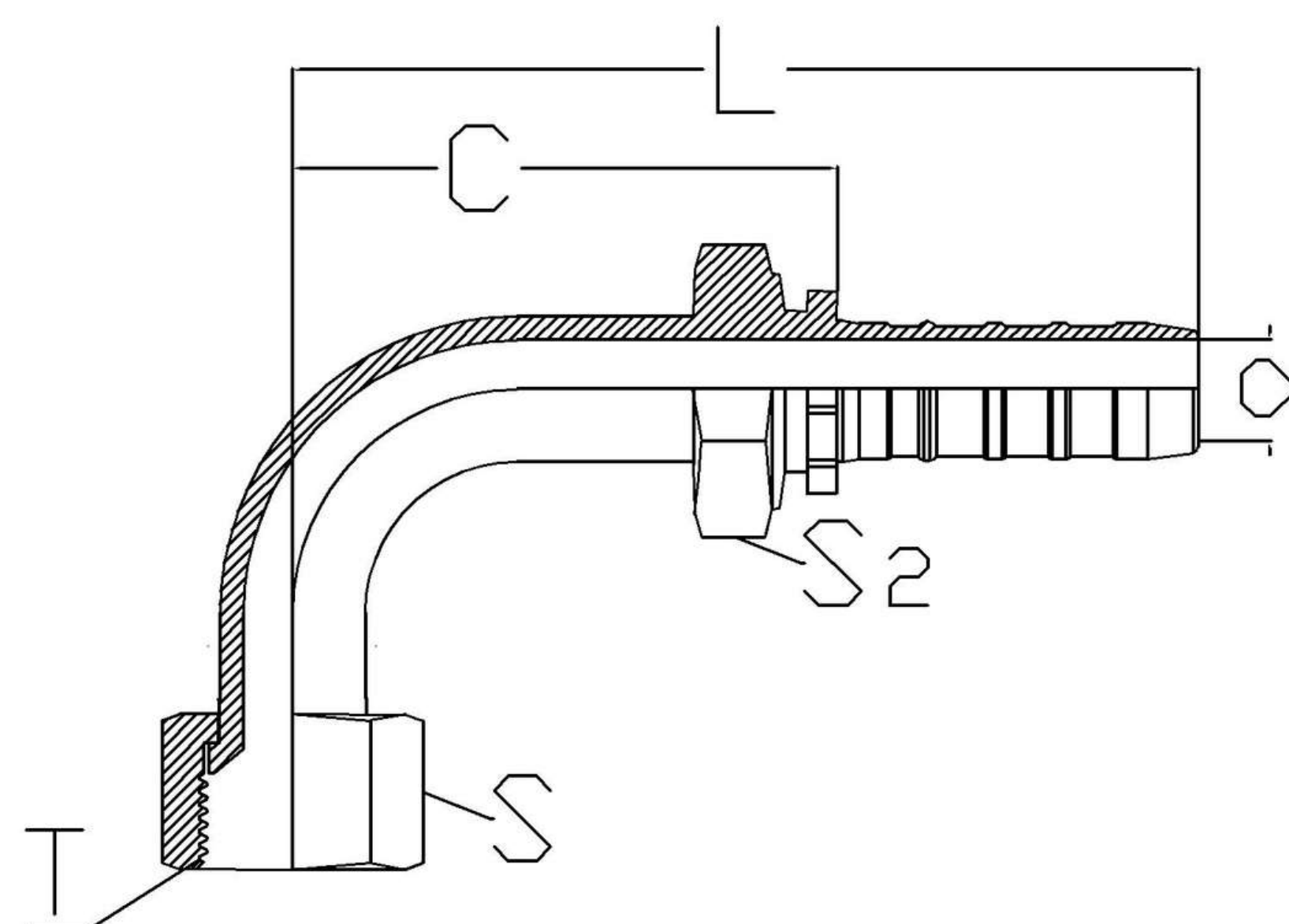
## JIC Female 90 degree bend

**Standard - ISO -8434-2**

**Cone - 37°**

**Used for hose type -**

**4SP, 4SH, R12, R13\*, R15\***



| DESCRIPTION       | HOSE ID (DASH) | HOSE ID (inch) | Thread (T)  | S  | L   | C   | d  | D  | H   | S2 |
|-------------------|----------------|----------------|-------------|----|-----|-----|----|----|-----|----|
| HS-0606-FJ-90-35  | 6              | 3/8            | 9/16-18UN   | 19 | 78  | 41  | 7  | 32 | 35  | 19 |
| HS-0808-FJ-90-40  | 8              | 1/2            | 3/4-16UN    | 24 | 83  | 46  | 7  | 34 | 40  | 27 |
| HS-0810-FJ-90-40  | 8              | 1/2            | 7/8-14UN    | 27 | 82  | 45  | 8  | 34 | 40  | 27 |
| HS-1010-FJ-90-45  | 10             | 5/8            | 7/8-14UN    | 27 | 105 | 54  | 9  | 42 | 45  | 30 |
| HS-1212-FJ-90-60  | 12             | 3/4            | 1.1/16-12UN | 32 | 123 | 75  | 15 | 46 | 60  | 32 |
| HS-1216-FJ-90-85  | 12             | 3/4            | 1.5/16-12UN | 41 | 124 | 73  | 14 | 46 | 85  | 32 |
| HS-1616-FJ-90-70  | 16             | 1              | 1.5/16-12UN | 41 | 150 | 92  | 18 | 52 | 70  | 41 |
| HS-1620-FJ-90-75  | 20             | 1 - 1/4        | 1.5/8-12UN  | 50 | 150 | 90  | 18 | 52 | 75  | 50 |
| HS-2020-FJ-90-90  | 20             | 1 - 1/4        | 1.5/8-12UN  | 50 | 180 | 112 | 25 | 62 | 90  | 50 |
| HS-2424-FJ-90-100 | 24             | 1 - 1/2        | 1.7/8-12UN  | 60 | 195 | 115 | 29 | 72 | 100 | 55 |
| HS-3232-FJ-90-130 | 32             | 2              | 2.1/2-12UN  | 75 | 265 | 165 | 40 | 85 | 130 | 70 |

\*\* If part number contains FBO, the fitting is with O-Ring and if it contains FB, it is without O-Ring

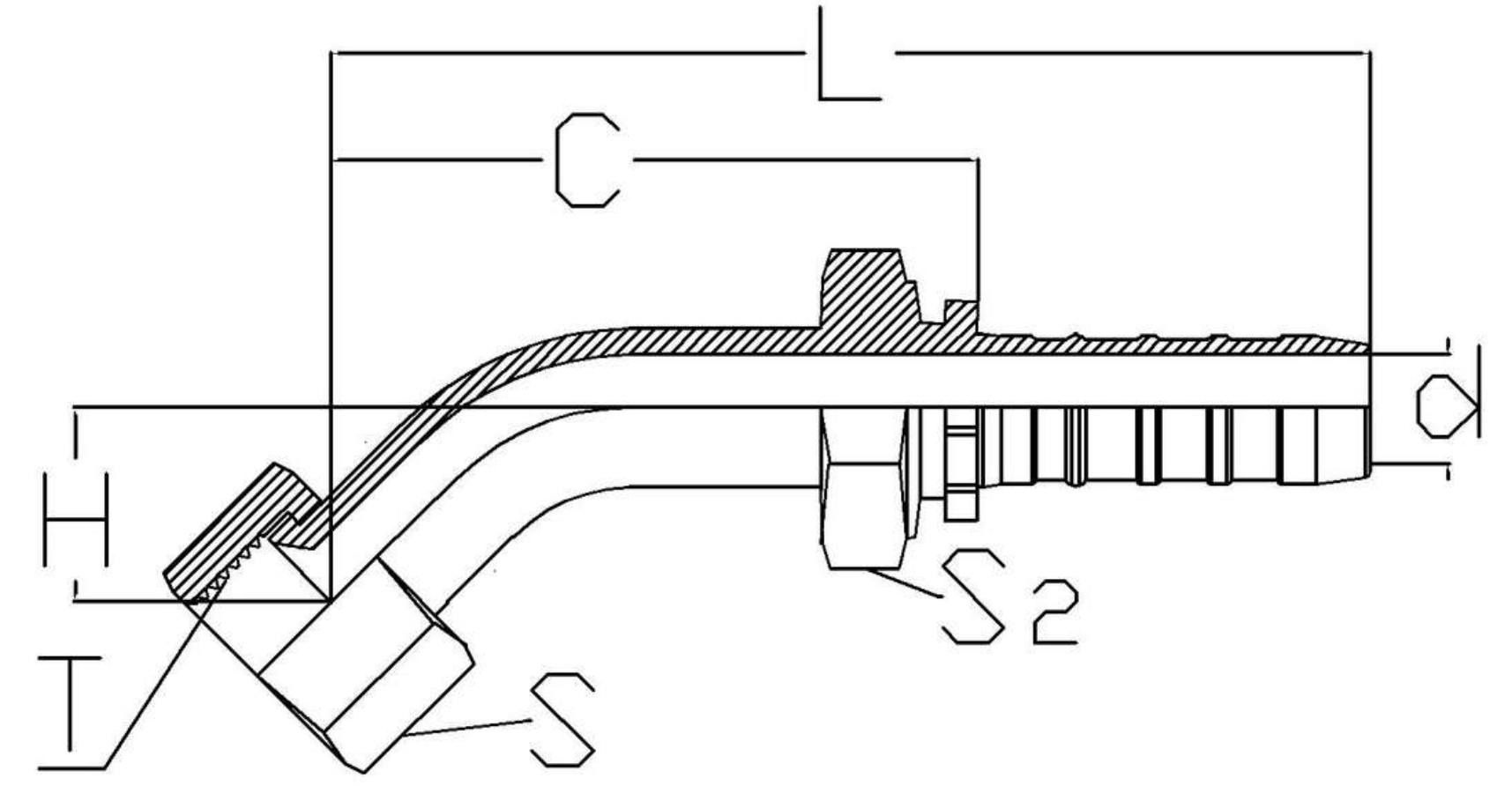
\* R13, R15 are only upto 1" size (for higher sizes go to section 6 spiral fittings)

Standard - ISO -8434-2

Cone - 37°

Used for hose type -

4SP, 4SH, R12, R13\*, R15\*



| DESCRIPTION      | HOSE ID (DASH) | HOSE ID (inch) | Thread (T)  | S  | L   | C   | d  | D  | H  | S2 |
|------------------|----------------|----------------|-------------|----|-----|-----|----|----|----|----|
| HS-0606-FJ-45-15 | 6              | 3/8            | 9/16-18UN   | 19 | 80  | 43  | 7  | 32 | 15 | 19 |
| HS-0608-FJ-45-17 | 6              | 3/8            | 3/4-16UN    | 24 | 84  | 47  | 7  | 32 | 17 | 19 |
| HS-0808-FJ-45-17 | 8              | 1/2            | 3/4-16UN    | 24 | 93  | 55  | 9  | 34 | 17 | 27 |
| HS-0810-FJ-45-18 | 8              | 1/2            | 7/8-14UN    | 27 | 94  | 57  | 9  | 34 | 18 | 27 |
| HS-1010-FJ-45-22 | 10             | 5/8            | 7/8-14UN    | 27 | 120 | 70  | 12 | 42 | 22 | 30 |
| HS-1012-FJ-45-22 | 10             | 5/8            | 1.1/16-12UN | 32 | 120 | 70  | 12 | 42 | 22 | 30 |
| HS-1212-FJ-45-27 | 12             | 3/4            | 1.1/16-12UN | 32 | 133 | 82  | 14 | 46 | 27 | 32 |
| HS-1216-FJ-45-31 | 12             | 3/4            | 1.5/16-12UN | 41 | 138 | 87  | 14 | 46 | 31 | 32 |
| HS-1616-FJ-45-30 | 16             | 1              | 1.5/16-12UN | 41 | 152 | 96  | 20 | 52 | 30 | 41 |
| HS-1620-FJ-45-72 | 16             | 1              | 1.5/8-12UN  | 50 | 144 | 88  | 20 | 52 | 72 | 41 |
| HS-2020-FJ-45-44 | 20             | 1 - 1/4        | 1.5/8-12UN  | 50 | 198 | 126 | 25 | 62 | 44 | 50 |
| HS-2424-FJ-45-53 | 24             | 1 - 1/2        | 1.7/8-12UN  | 60 | 220 | 147 | 32 | 72 | 53 | 55 |
| HS-3232-FJ-45-66 | 32             | 2              | 2.1/2-12UN  | 75 | 281 | 186 | 42 | 85 | 66 | 70 |

\*\* If part number contains FBO, the fitting is with O-Ring and if it contains FB, it is without O-Ring

\* R13, R15 are only upto 1" size (for higher sizes go to section 6 spiral fittings)

## ORFS Female Straight

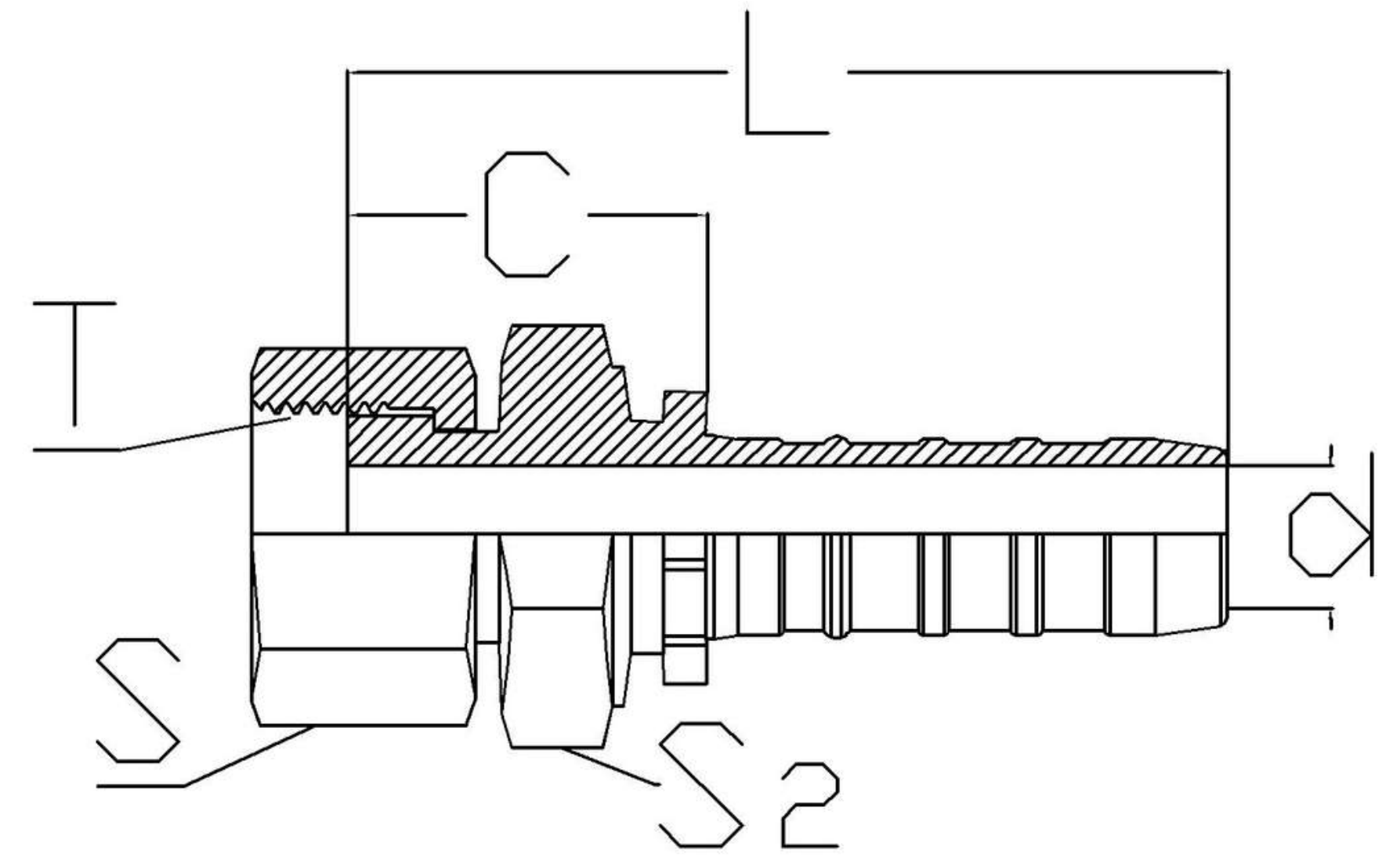
## 4 Spiral Fittings

**Standard - ISO 8434-3**

**Cone - Flat face**

**Used for hose type -**

4SP, 4SH, R12, R13\*, R15\*



| DESCRIPTION | HOSE ID (DASH) | HOSE ID (inch) | Thread (T)   | S  | L   | C  | d  | D  | S2 |
|-------------|----------------|----------------|--------------|----|-----|----|----|----|----|
| HS-0606-FO  | 6              | 3/8            | 11/16-16UN   | 22 | 68  | 32 | 7  | 32 | 19 |
| HS-0808-FO  | 8              | 1/2            | 13/16-16UN   | 24 | 72  | 34 | 10 | 34 | 27 |
| HS-0810-FO  | 8              | 1/2            | 1-14UN       | 27 | 75  | 40 | 10 | 34 | 27 |
| HS-1010-FO  | 10             | 5/8            | 1-14UN       | 27 | 93  | 43 | 12 | 42 | 30 |
| HS-1012-FO  | 10             | 5/8            | 1.3/16 12UN  | 36 | 95  | 44 | 12 | 42 | 30 |
| HS-1212-FO  | 12             | 3/4            | 1.3/16 12UN  | 36 | 100 | 50 | 15 | 46 | 32 |
| HS-1216-FO  | 12             | 3/4            | 1.7/16 12UN  | 41 | 102 | 50 | 15 | 46 | 32 |
| HS-1616-FO  | 16             | 1              | 1.7/16 12UN  | 41 | 112 | 54 | 18 | 52 | 41 |
| HS-1620-FO  | 16             | 1              | 1.11/16 12UN | 50 | 109 | 52 | 21 | 52 | 41 |
| HS-2020-FO  | 20             | 1 - 1/4        | 1.11/16 12UN | 50 | 128 | 57 | 26 | 62 | 50 |
| HS-2424-FO  | 24             | 1 - 1/2        | 2-12UN       | 60 | 115 | 45 | 31 | 72 | 55 |

\*\* If part number contains FBO, the fitting is with O-Ring and if it contains FB, it is without O-Ring

\* R13, R15 are only upto 1" size (for higher sizes go to section 6 spiral fittings)

## ORFS Female 90 degree bend

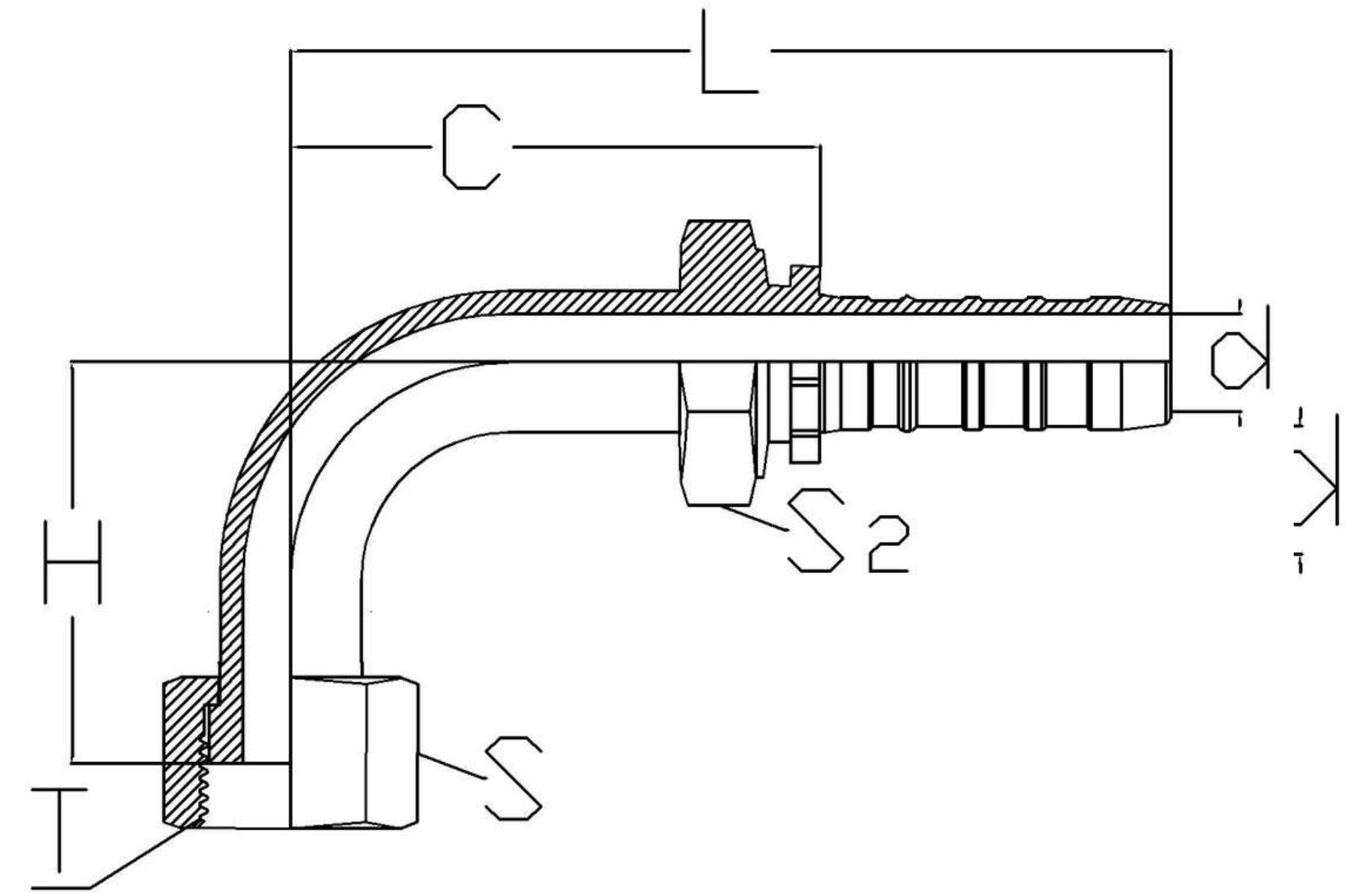
## 4 Spiral Fittings

**Standard - ISO 8434-3**

**Cone - Flat face**

**Used for hose type -**

4SP, 4SH, R12, R13\*, R15\*



| DESCRIPTION       | HOSE ID (DASH) | HOSE ID (inch) | Thread (T)   | S  | L   | C   | d  | D  | H   | S2 |
|-------------------|----------------|----------------|--------------|----|-----|-----|----|----|-----|----|
| HS-0606-FO-90-30  | 6              | 3/8            | 11/16-16UN   | 22 | 80  | 42  | 7  | 32 | 30  | 19 |
| HS-0808-FO-90-40  | 8              | 1/2            | 13/16-16UN   | 24 | 79  | 44  | 8  | 34 | 40  | 27 |
| HS-0810-FO-90-40  | 8              | 1/2            | 1-14UN       | 27 | 91  | 53  | 8  | 34 | 40  | 27 |
| HS-1008-FO-90-45  | 10             | 5/8            | 13/16-16UN   | 24 | 112 | 61  | 9  | 42 | 45  | 30 |
| HS-1008-FO-90-100 | 10             | 5/8            | 13/16-16UN   | 24 | 112 | 61  | 9  | 42 | 100 | 30 |
| HS-1010-FO-90-40  | 10             | 5/8            | 1-14UN       | 27 | 105 | 54  | 10 | 42 | 40  | 30 |
| HS-1010-FO-90-70  | 10             | 5/8            | 1-14UN       | 27 | 105 | 54  | 10 | 42 | 70  | 30 |
| HS-1012-FO-90-40  | 10             | 5/8            | 1.3/16 12UN  | 36 | 129 | 78  | 11 | 42 | 40  | 30 |
| HS-1012-FO-90-95  | 10             | 5/8            | 1.3/16 12UN  | 36 | 129 | 78  | 11 | 42 | 95  | 30 |
| HS-1212-FO-90-55  | 12             | 3/4            | 1.3/16 12UN  | 36 | 125 | 75  | 15 | 46 | 55  | 32 |
| HS-1212-FO-90-105 | 12             | 3/4            | 1.3/16 12UN  | 36 | 125 | 75  | 15 | 46 | 105 | 32 |
| HS-1212-FO-90-140 | 12             | 3/4            | 1.3/16 12UN  | 36 | 125 | 75  | 15 | 46 | 140 | 32 |
| HS-1216-FO-90-60  | 12             | 3/4            | 1.7/16 12UN  | 41 | 127 | 75  | 15 | 46 | 60  | 32 |
| HS-1216-FO-90-70  | 12             | 3/4            | 1.7/16 12UN  | 41 | 127 | 75  | 15 | 46 | 70  | 32 |
| HS-1216-FO-90-115 | 12             | 3/4            | 1.7/16 12UN  | 41 | 127 | 75  | 15 | 46 | 115 | 32 |
| HS-1616-FO-90-65  | 16             | 1              | 1.7/16 12UN  | 41 | 144 | 84  | 20 | 52 | 65  | 41 |
| HS-1616-FO-90-120 | 16             | 1              | 1.7/16 12UN  | 41 | 144 | 84  | 20 | 52 | 120 | 41 |
| HS-1620-FO-90-70  | 16             | 1              | 1.11/16 12UN | 50 | 145 | 91  | 21 | 52 | 70  | 41 |
| HS-2020-FO-90-90  | 20             | 1 - 1/4        | 1.11/16 12UN | 50 | 175 | 115 | 23 | 62 | 90  | 50 |
| HS-2424-FO-90-100 | 24             | 1 - 1/2        | 2-12UN       | 60 | 200 | 130 | 28 | 72 | 100 | 55 |

\*\* If part number contains FBO, the fitting is with O-Ring and if it contains FB, it is without O-Ring

\* R13, R15 are only upto 1" size (for higher sizes go to section 6 spiral fittings)

## ORFS Female 45 degree bend

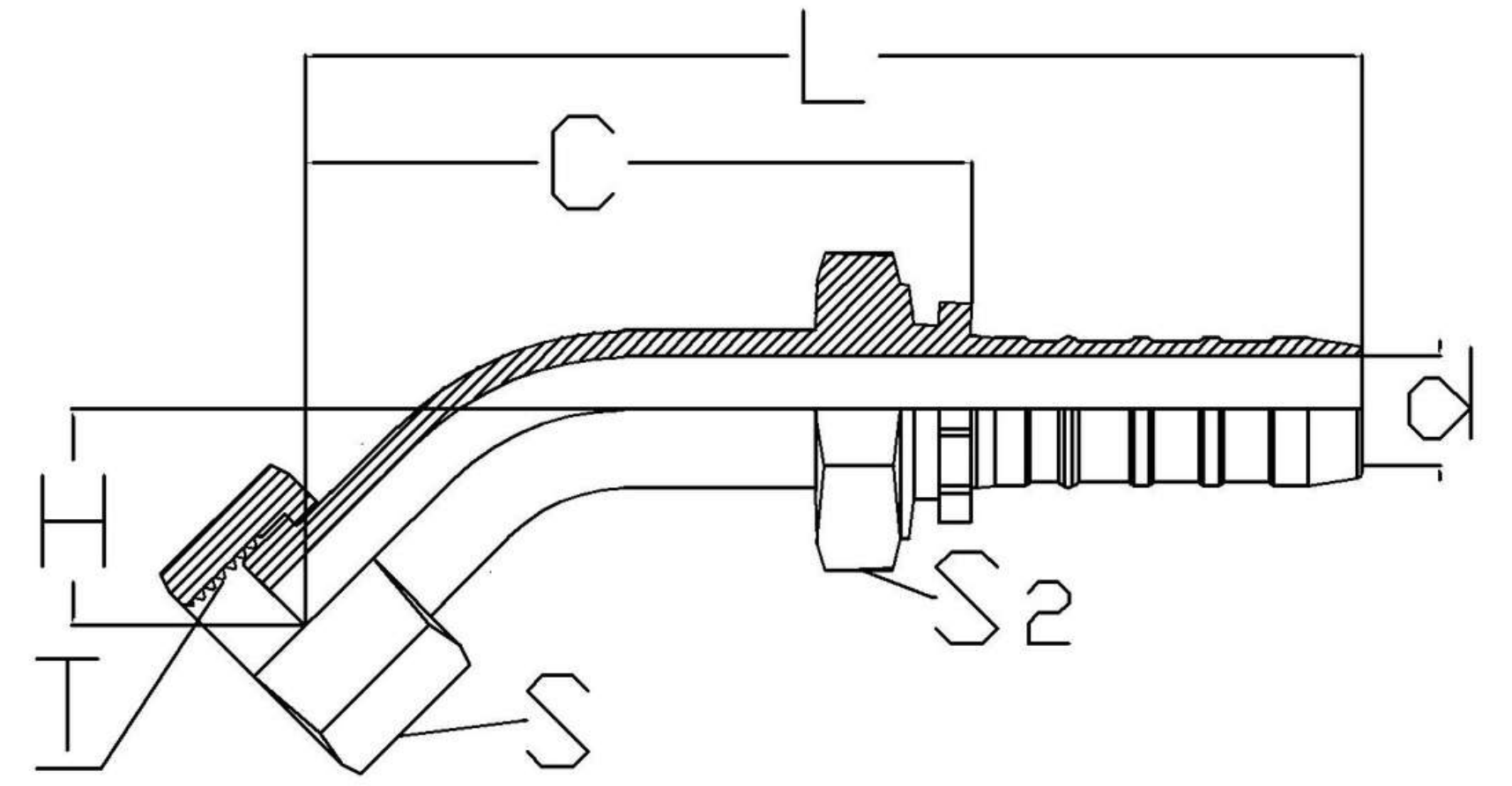
## 4 Spiral Fittings

**Standard - ISO 8434-3**

**Cone - Flat face**

**Used for hose type -**

4SP, 4SH, R12, R13\*, R15\*



| DESCRIPTION      | HOSE ID (DASH) | HOSE ID (inch) | Thread (T)   | S  | L   | C   | d  | D  | H  | S2 |
|------------------|----------------|----------------|--------------|----|-----|-----|----|----|----|----|
| HS-0606-FO-45-15 | 6              | 3/8            | 11/16-16UN   | 19 | 83  | 47  | 7  | 32 | 15 | 19 |
| HS-0808-FO-45-18 | 8              | 1/2            | 13/16-16UN   | 24 | 91  | 54  | 9  | 34 | 18 | 27 |
| HS-0810-FO-45-20 | 8              | 1/2            | 13/16-16UN   | 27 | 93  | 56  | 9  | 34 | 20 | 27 |
| HS-1010-FO-45-21 | 10             | 5/8            | 1-14UN       | 27 | 119 | 69  | 12 | 42 | 21 | 30 |
| HS-1012-FO-45-22 | 10             | 5/8            | 1-14UN       | 32 | 120 | 70  | 12 | 42 | 22 | 30 |
| HS-1212-FO-45-21 | 12             | 3/4            | 1.3/16 12UN  | 36 | 123 | 70  | 15 | 46 | 21 | 32 |
| HS-1616-FO-45-30 | 16             | 1              | 1.7/16 12UN  | 41 | 154 | 97  | 21 | 52 | 30 | 41 |
| HS-1620-FO-45-32 | 16             | 1              | 1.11/16 12UN | 50 | 154 | 97  | 20 | 52 | 32 | 41 |
| HS-2020-FO-45-43 | 20             | 1 - 1/4        | 1.11/16 12UN | 50 | 197 | 126 | 25 | 62 | 43 | 50 |
| HS-2424-FO-45-47 | 24             | 1 - 1/2        | 2-12UN       | 60 | 216 | 143 | 32 | 72 | 47 | 55 |

\*\* If part number contains FBO, the fitting is with O-Ring and if it contains FB, it is without O-Ring

\* R13, R15 are only upto 1" size (for higher sizes go to section 6 spiral fittings)

## ORFS Male Straight

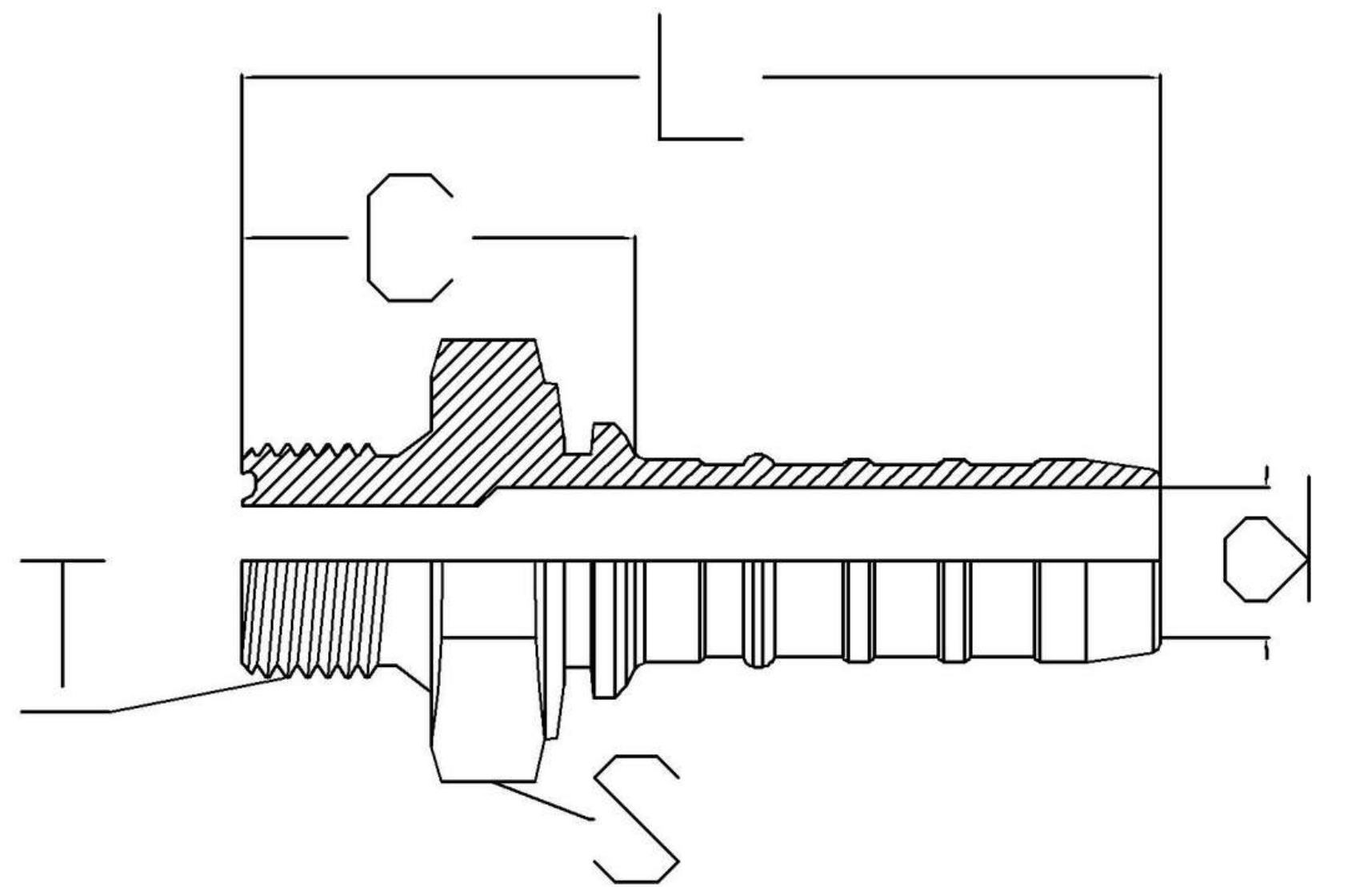
**Standard - ISO 8434-3**

**Cone - Flat face**

**O-Ring - NBR**

**Used for hose type -**

4SP, 4SH, R12, R13\*, R15\*



| DESCRIPTION | HOSE ID (DASH) | HOSE ID (inch) | Thread (T)  | S  | L   | C  | d  | D  |
|-------------|----------------|----------------|-------------|----|-----|----|----|----|
| HS-0808-MO  | 8              | 1/2            | 13/16-16UN  | 22 | 68  | 30 | 10 | 34 |
| HS-0810-MO  | 8              | 1/2            | 1-14UN      | 27 | 72  | 35 | 10 | 34 |
| HS-1010-MO  | 10             | 5/8            | 1-14UN      | 27 | 84  | 34 | 12 | 42 |
| HS-1012-MO  | 10             | 5/8            | 1.3/16 12UN | 32 | 89  | 38 | 12 | 42 |
| HS-1212-MO  | 12             | 3/4            | 1.3/16 12UN | 32 | 85  | 35 | 15 | 46 |
| HS-1616-MO  | 16             | 1              | 1.7/16 12UN | 41 | 103 | 46 | 21 | 52 |

\*\* If part number contains FBO, the fitting is with O-Ring and if it contains FB, it is without O-Ring

\* R13, R15 are only upto 1" size (for higher sizes go to section 6 spiral fittings)



## METRIC Female Straight with O-Ring

## 4 Spiral Fittings

**Din Metric 24° Cone Female Straight**

**Standard - Din EN ISO 8434-1**

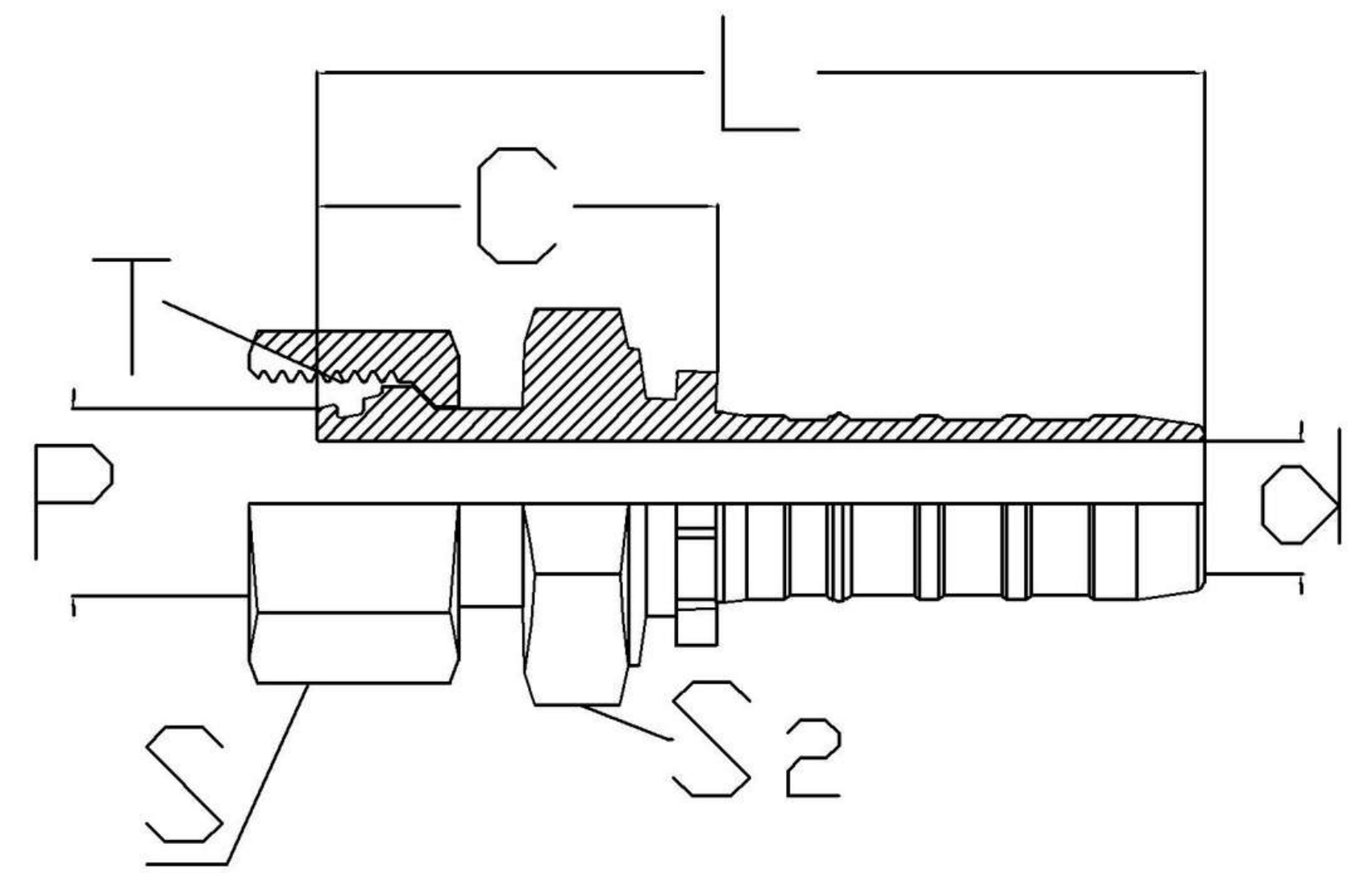
**O-ring - NBR**

**Light series - FDLO**

**Heavy series - FDHO**

**Used for hose type -**

**4SP, 4SH, R12, R13\*, R15\***



| DESCRIPTION  | HOSE ID (DASH) | HOSE ID (inch) | Thread (T) | S      | L  | C   | d  | D  | H  | S2 |
|--------------|----------------|----------------|------------|--------|----|-----|----|----|----|----|
| HS-0612-FDHO | 6              | 3/8            | 12H        | 20X1.5 | 24 | 73  | 31 | 7  | 32 | 19 |
| HS-0612-FDLO | 6              | 3/8            | 12L        | 18X1.5 | 22 | 67  | 32 | 7  | 32 | 19 |
| HS-0815-FDLO | 8              | 1/2            | 15L        | 22X1.5 | 27 | 75  | 32 | 9  | 34 | 27 |
| HS-0816-FDHO | 8              | 1/2            | 16H        | 24X1.5 | 30 | 75  | 32 | 10 | 34 | 27 |
| HS-0818-FDLO | 8              | 1/2            | 18L        | 26X1.5 | 32 | 67  | 29 | 10 | 34 | 27 |
| HS-1016-FDHO | 10             | 5/8            | 16H        | 24X1.5 | 30 | 92  | 41 | 11 | 42 | 30 |
| HS-1018-FDLO | 10             | 5/8            | 18L        | 26X1.5 | 32 | 91  | 34 | 13 | 42 | 30 |
| HS-1020-FDHO | 10             | 5/8            | 20H        | 30X2.0 | 36 | 100 | 42 | 13 | 42 | 30 |
| HS-1218-FDLO | 12             | 3/4            | 18L        | 26X1.5 | 32 | 89  | 38 | 12 | 46 | 32 |
| HS-1220-FDHO | 12             | 3/4            | 20H        | 30X2.0 | 36 | 103 | 45 | 13 | 46 | 32 |
| HS-1222-FDLO | 12             | 3/4            | 22L        | 30X2.0 | 36 | 95  | 43 | 15 | 46 | 32 |
| HS-1225-FDHO | 12             | 3/4            | 25H        | 36X2.0 | 41 | 107 | 48 | 16 | 46 | 32 |
| HS-1228-FDLO | 12             | 3/4            | 28L        | 36X2.0 | 41 | 100 | 55 | 15 | 46 | 32 |
| HS-1625-FDHO | 16             | 1              | 25H        | 36X2.0 | 41 | 116 | 53 | 19 | 52 | 41 |
| HS-1628-FDLO | 16             | 1              | 28L        | 36X2.0 | 41 | 42  | 43 | 21 | 52 | 41 |
| HS-1630-FDHO | 16             | 1              | 30H        | 42X2.0 | 50 | 118 | 62 | 18 | 52 | 41 |
| HS-2030-FDHO | 20             | 1 - 1/4        | 30H        | 42X2.0 | 50 | 135 | 53 | 21 | 62 | 50 |
| HS-2035-FDLO | 20             | 1 - 1/4        | 35L        | 45X2.0 | 50 | 134 | 51 | 27 | 62 | 50 |
| HS-2038-FDHO | 20             | 1 - 1/4        | 38H        | 52X2.0 | 60 | 142 | 61 | 26 | 62 | 50 |
| HS-2042-FDLO | 24             | 1 - 1/2        | 42L        | 52X2.0 | 60 | 133 | 58 | 26 | 62 | 55 |
| HS-2438-FDHO | 24             | 1 - 1/2        | 38H        | 52X2.0 | 60 | 146 | 63 | 26 | 72 | 55 |
| HS-2442-FDLO | 24             | 1 - 1/2        | 42L        | 52X2.0 | 60 | 141 | 58 | 43 | 72 | 55 |

\*\* If part number contains FBO, the fitting is with O-Ring and if it contains FB, it is without O-Ring

\* R13, R15 are only upto 1" size (for higher sizes go to section 6 spiral fittings)

## METRIC Female 90 degree bend with O-Ring

**Din Metric 24° Cone Female bend 90°**

**Standard - Din EN ISO 8434-1**

**O-ring - NBR**

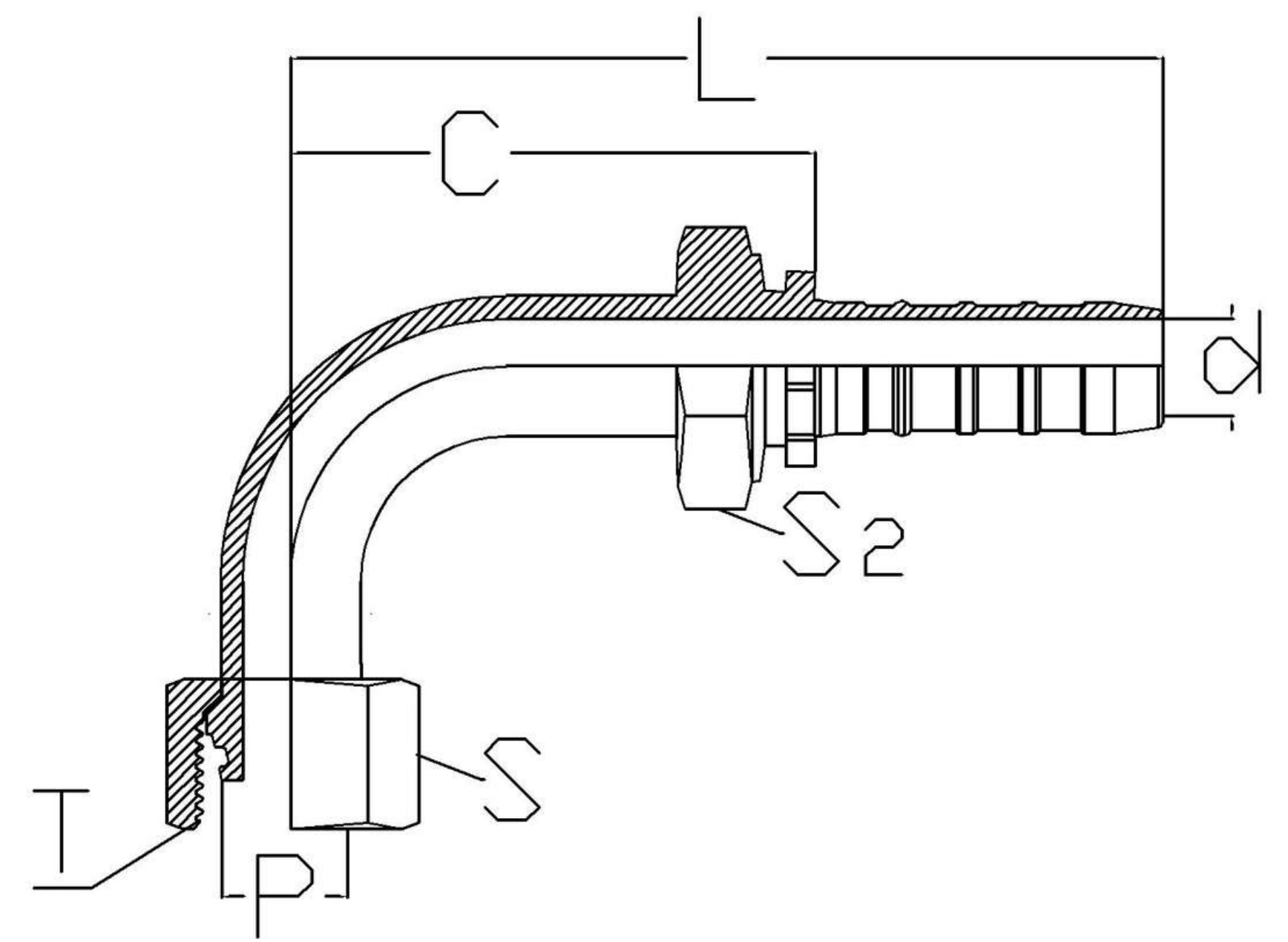
**Light series - FDLO**

**Heavy series - FDHO**

**Used for hose type -**

**4SP, 4SH, R12, R13\*, R15\***

## 4 Spiral Fittings



| DESCRIPTION         | HOSE ID (DASH) | HOSE ID (inch) | Pipe OD (P) | Thread (T) | S  | L   | C   | d  | D  | H   | S2 |
|---------------------|----------------|----------------|-------------|------------|----|-----|-----|----|----|-----|----|
| HS-0612-FDHO-90-35  | 6              | 3/8            | 12H         | 20X1.5     | 24 | 76  | 40  | 7  | 32 | 35  | 19 |
| HS-0612-FDLO-90-35  | 6              | 3/8            | 12L         | 18X1.5     | 22 | 76  | 40  | 7  | 32 | 35  | 19 |
| HS-0815-FDLO-90-45  | 8              | 1/2            | 15L         | 22X1.5     | 27 | 87  | 48  | 8  | 34 | 45  | 27 |
| HS-0816-FDHO-90-45  | 8              | 1/2            | 16H         | 24X1.5     | 30 | 89  | 51  | 9  | 34 | 45  | 27 |
| HS-0818-FDLO-90-45  | 8              | 1/2            | 18L         | 26X1.5     | 32 | 88  | 50  | 9  | 34 | 45  | 27 |
| HS-1016-FDHO-90-55  | 10             | 5/8            | 16H         | 24X1.5     | 30 | 111 | 61  | 10 | 42 | 55  | 30 |
| HS-1018-FDLO-90-60  | 10             | 5/8            | 18L         | 26X1.5     | 32 | 113 | 62  | 10 | 42 | 60  | 30 |
| HS-1020-FDHO-90-65  | 10             | 5/8            | 20H         | 30X2.0     | 36 | 108 | 58  | 10 | 42 | 65  | 30 |
| HS-1218-FDLO-90-65  | 12             | 3/4            | 18L         | 26X1.5     | 32 | 118 | 70  | 13 | 46 | 65  | 32 |
| HS-1220-FDHO-90-60  | 12             | 3/4            | 20H         | 30X2.0     | 36 | 126 | 76  | 15 | 46 | 60  | 32 |
| HS-1222-FDLO-90-60  | 12             | 3/4            | 22L         | 30X2.0     | 36 | 131 | 82  | 15 | 46 | 60  | 32 |
| HS-1225-FDHO-90-70  | 12             | 3/4            | 25H         | 36X2.0     | 41 | 123 | 73  | 15 | 46 | 70  | 32 |
| HS-1225-FDHO-90-130 | 12             | 3/4            | 25H         | 36X2.0     | 41 | 123 | 73  | 15 | 46 | 130 | 32 |
| HS-1228-FDLO-90-65  | 12             | 3/4            | 28L         | 36X2.0     | 41 | 130 | 75  | 14 | 46 | 65  | 32 |
| HS-1625-FDHO-90-80  | 16             | 1              | 25H         | 36X2.0     | 41 | 147 | 95  | 18 | 52 | 80  | 41 |
| HS-1628-FDLO-90-75  | 16             | 1              | 28L         | 36X2.0     | 41 | 149 | 93  | 21 | 52 | 75  | 41 |
| HS-1630-FDHO-90-85  | 16             | 1              | 30H         | 42X2.0     | 50 | 145 | 90  | 18 | 52 | 85  | 41 |
| HS-2030-FDHO-90-100 | 20             | 1 - 1/4        | 30H         | 42X2.0     | 50 | 175 | 98  | 21 | 62 | 100 | 50 |
| HS-2035-FDLO-90-85  | 20             | 1 - 1/4        | 35L         | 45X2.0     | 50 | 185 | 112 | 26 | 62 | 85  | 50 |
| HS-2038-FDHO-90-90  | 20             | 1 - 1/4        | 38H         | 52X2.0     | 60 | 180 | 104 | 23 | 62 | 90  | 50 |
| HS-2438-FDHO-90-130 | 24             | 1 - 1/2        | 38H         | 52X2.0     | 60 | 190 | 125 | 39 | 72 | 130 | 55 |
| HS-2442-FDHO-90-120 | 24             | 1 - 1/2        | 42H         | 52X2.0     | 60 | 200 | 115 | 31 | 72 | 120 | 55 |

\*\* If part number contains FBO, the fitting is with O-Ring and if it contains FB, it is without O-Ring

\* R13, R15 are only upto 1" size (for higher sizes go to section 6 spiral fittings)

## METRIC Female 45 degree bend with O-Ring

## 4 Spiral Fittings

**Din Metric 24° Cone Female bend 45°**

**Standard - Din EN ISO 8434-1**

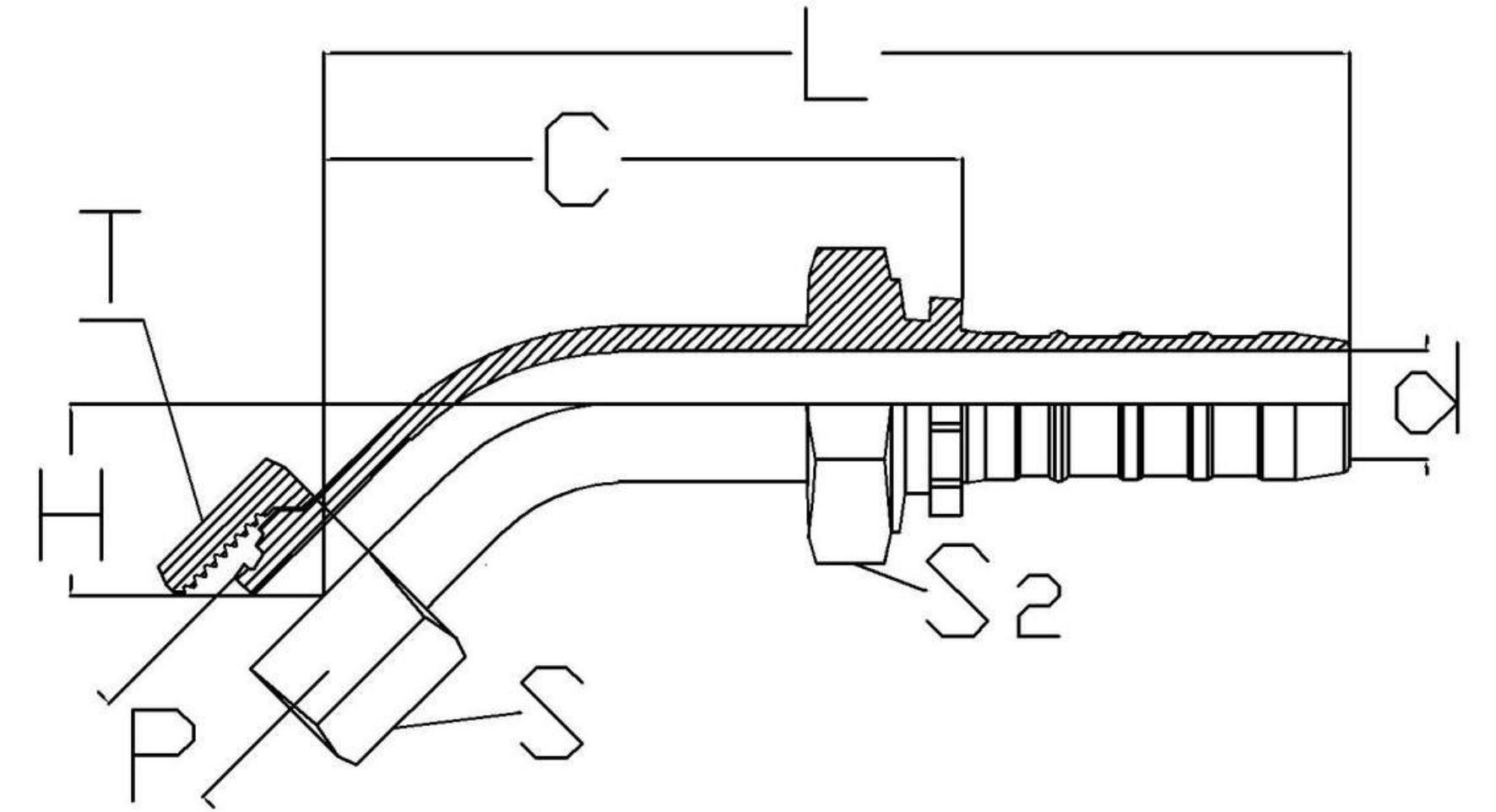
**O-ring - NBR**

**Light series - FDLO**

**Heavy series - FDHO**

**Used for hose type -**

**4SP, 4SH, R12, R13\*, R15\***



| DESCRIPTION        | HOSE ID (DASH) | HOSE ID (inch) | Pipe OD (P) | Thread (T) | S  | L   | C   | d  | D  | H  | S2 |
|--------------------|----------------|----------------|-------------|------------|----|-----|-----|----|----|----|----|
| HS-0612-FDHO-45-20 | 6              | 3/8            | 12H         | 20X1.5     | 24 | 86  | 51  | 7  | 32 | 20 | 19 |
| HS-0612-FDLO-45-20 | 6              | 3/8            | 12L         | 18X1.5     | 22 | 86  | 51  | 7  | 32 | 20 | 19 |
| HS-0815-FDLO-45-22 | 8              | 1/2            | 15L         | 22X1.5     | 27 | 95  | 57  | 9  | 34 | 22 | 27 |
| HS-0816-FDHO-45-15 | 8              | 1/2            | 16H         | 24X1.5     | 30 | 91  | 53  | 9  | 34 | 15 | 27 |
| HS-0818-FDLO-45-24 | 8              | 1/2            | 18L         | 26X1.5     | 32 | 97  | 59  | 53 | 34 | 24 | 27 |
| HS-1016-FDHO-45-26 | 10             | 5/8            | 16H         | 24X1.5     | 30 | 124 | 74  | 12 | 42 | 26 | 30 |
| HS-1018-FDLO-45-26 | 10             | 5/8            | 18L         | 26X1.5     | 32 | 122 | 72  | 12 | 42 | 26 | 30 |
| HS-1020-FDHO-45-26 | 10             | 5/8            | 20H         | 30X2.0     | 36 | 124 | 74  | 12 | 42 | 26 | 30 |
| HS-1218-FDLO-45-30 | 12             | 3/4            | 18L         | 26X1.5     | 32 | 138 | 87  | 14 | 46 | 30 | 32 |
| HS-1220-FDHO-45-32 | 12             | 3/4            | 20H         | 30X2.0     | 36 | 140 | 89  | 14 | 46 | 32 | 32 |
| HS-1222-FDLO-45-30 | 12             | 3/4            | 22L         | 30X2.0     | 36 | 138 | 87  | 14 | 46 | 30 | 32 |
| HS-1225-FDHO-45-22 | 12             | 3/4            | 25H         | 36X2.0     | 41 | 131 | 31  | 15 | 46 | 22 | 32 |
| HS-1228-FDLO-45-30 | 12             | 3/4            | 28L         | 36X2.0     | 41 | 138 | 87  | 14 | 46 | 30 | 32 |
| HS-1625-FDHO-45-37 | 16             | 1              | 25H         | 36X2.0     | 41 | 152 | 101 | 18 | 52 | 37 | 41 |
| HS-1628-FDLO-45-34 | 16             | 1              | 28L         | 36X2.0     | 41 | 157 | 100 | 20 | 52 | 34 | 41 |
| HS-1630-FDHO-45-37 | 16             | 1              | 30H         | 42X2.0     | 50 | 161 | 104 | 20 | 52 | 37 | 41 |
| HS-2030-FDHO-45-48 | 20             | 1 - 1/4        | 30H         | 42X2.0     | 50 | 202 | 131 | 25 | 62 | 48 | 50 |
| HS-2035-FDLO-45-50 | 20             | 1 - 1/4        | 35L         | 45X2.0     | 50 | 204 | 132 | 25 | 62 | 50 | 50 |
| HS-2038-FDHO-45-50 | 20             | 1 - 1/4        | 38H         | 52X2.0     | 60 | 204 | 133 | 25 | 62 | 50 | 50 |
| HS-2042-FDLO-45-51 | 20             | 1 - 1/4        | 42L         | 52X2.0     | 60 | 204 | 133 | 25 | 62 | 51 | 50 |
| HS-2438-FDHO-45-53 | 24             | 1 - 1/2        | 38H         | 52X2.0     | 60 | 216 | 143 | 32 | 72 | 53 | 55 |
| HS-2442-FDLO-45-54 | 24             | 1 - 1/2        | 42L         | 52X2.0     | 60 | 218 | 144 | 32 | 72 | 54 | 55 |

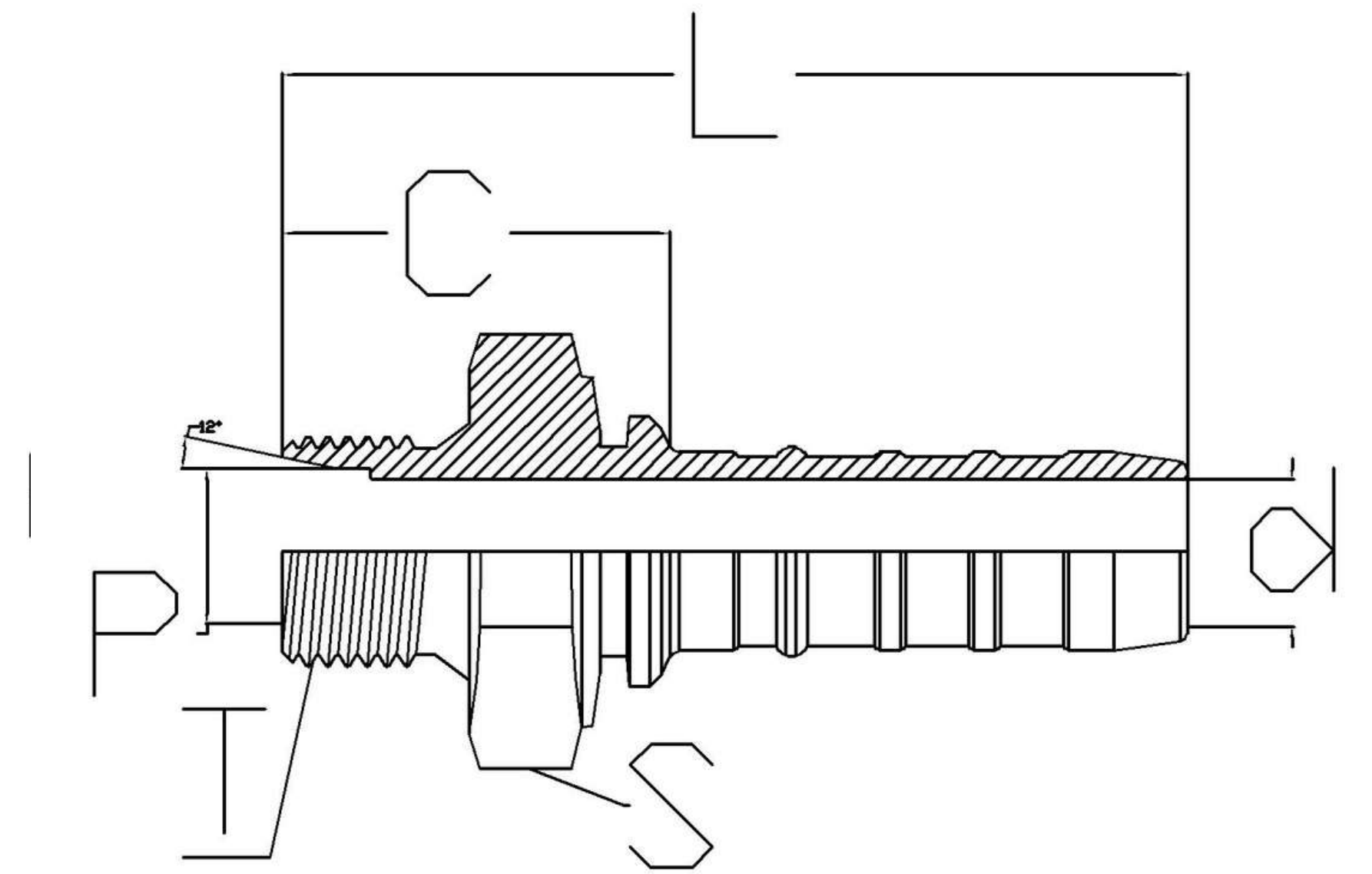
\*\* If part number contains FBO, the fitting is with O-Ring and if it contains FB, it is without O-Ring

\* R13, R15 are only upto 1" size (for higher sizes go to section 6 spiral fittings)

## METRIC Male Straight

## 4 Spiral Fittings

**Din Metric 24° Cone Straight**  
**Standard - Din EN ISO 8434-1**  
**O-ring - NBR**  
**Light series - FDLO**  
**Heavy series - FDHO**  
**Used for hose type -**  
**4SP, 4SH, R12, R13\*, R15\***



| DESCRIPTION | HOSE ID (DASH) | HOSE ID (inch) | Thread (T) | S  | L   | C  | d  | D  |
|-------------|----------------|----------------|------------|----|-----|----|----|----|
| HS-0812-MDH | 8              | 1/2            | 20X1.5     | 36 | 68  | 31 | 10 | 34 |
| HS-0816-MDH | 8              | 1/2            | 24X1.5     | 36 | 71  | 34 | 9  | 34 |
| HS-1016-MDH | 10             | 5/8            | 24X1.5     | 36 | 82  | 32 | 12 | 42 |
| HS-1020-MDH | 10             | 5/8            | 30X2.0     | 32 | 87  | 36 | 12 | 42 |
| HS-1220-MDH | 12             | 3/4            | 30X2.0     | 32 | 88  | 38 | 14 | 46 |
| HS-1222-MDL | 12             | 3/4            | 30X2.0     | 32 | 86  | 36 | 14 | 46 |
| HS-1225-MDH | 12             | 3/4            | 36X2.0     | 41 | 92  | 42 | 14 | 46 |
| HS-1628-MDL | 16             | 1              | 36X2.0     | 41 | 100 | 43 | 20 | 52 |
| HS-1630-MDH | 16             | 1              | 42X2.0     | 46 | 105 | 47 | 20 | 52 |
| HS-2035-MDL | 20             | 1 - 1/4        | 45X2.0     | 46 | 115 | 44 | 25 | 62 |
| HS-2442-MDL | 24             | 1 - 1/2        | 52X2.0     | 55 | 121 | 48 | 32 | 72 |

\*\* If part number contains FBO, the fitting is with O-Ring and if it contains FB, it is without O-Ring

\* R13, R15 are only upto 1" size (for higher sizes go to section 6 spiral fittings)

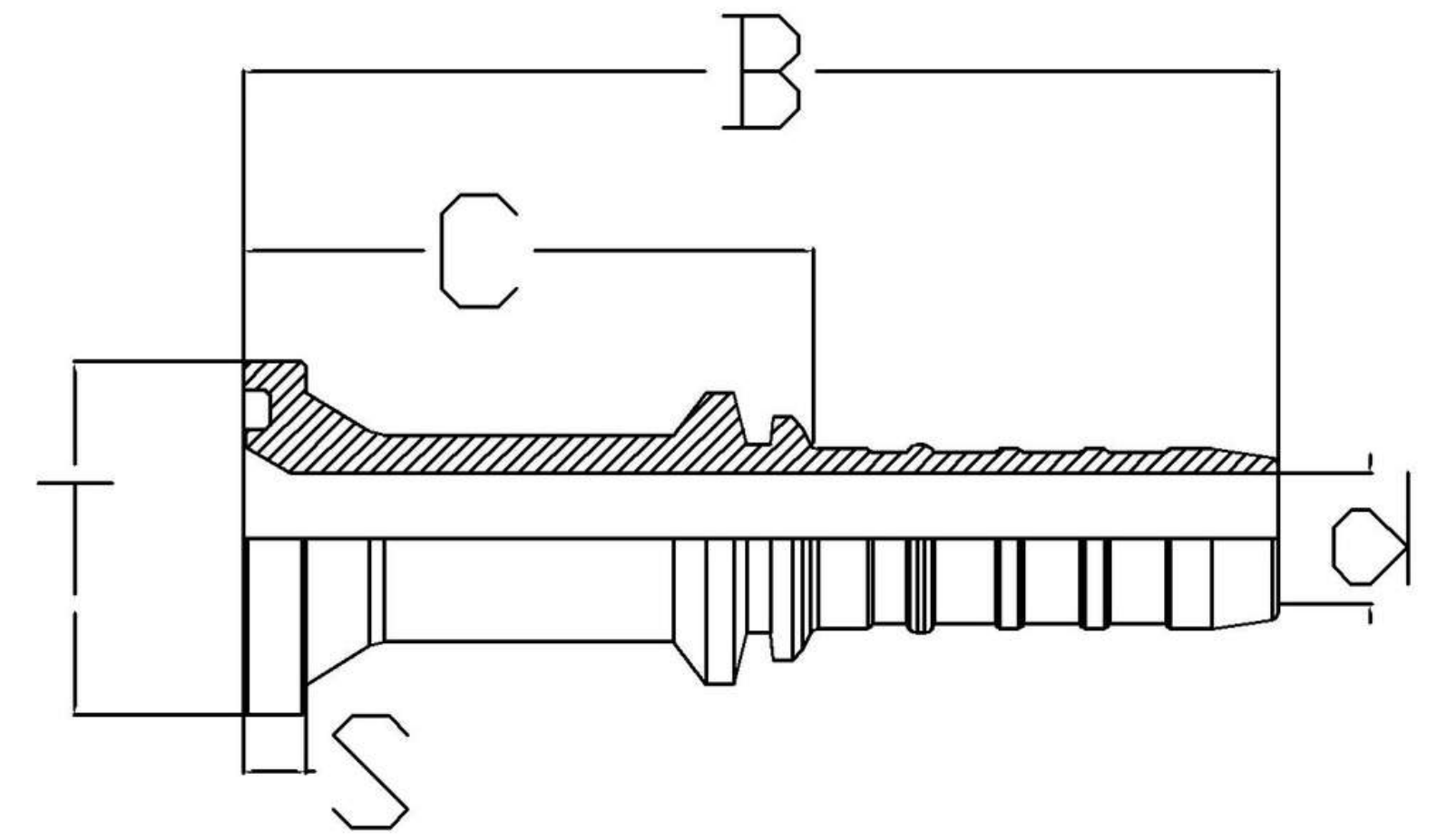
**Standard - SAE 6162-1**

3000 PSI CODE 61

**O RING - NBR\*\***

**Used for hose type -**

4SP, 4SH, R12, R13\*, R15\*



| DESCRIPTION      | HOSE ID (DASH) | HOSE ID (inch) | Thread (T) | S  | L   | C   | d  | D  |
|------------------|----------------|----------------|------------|----|-----|-----|----|----|
| HS-0808-FL3      | 8              | 1/2            | 30.2       | 7  | 93  | 55  | 9  | 34 |
| HS-0812-FL3      | 8              | 1/2            | 38.1       | 7  | 87  | 49  | 10 | 34 |
| HS-1008-FL3      | 10             | 5/8            | 30.2       | 7  | 102 | 52  | 12 | 42 |
| HS-1012-FL3      | 10             | 5/8            | 38.1       | 7  | 110 | 60  | 12 | 42 |
| HS-1212-FL3      | 12             | 3/4            | 38.1       | 7  | 111 | 61  | 15 | 46 |
| HS-1216-FL3      | 12             | 3/4            | 44.5       | 8  | 112 | 62  | 15 | 46 |
| HS-1612-FL3      | 16             | 1              | 38.1       | 7  | 126 | 68  | 15 | 52 |
| HS-1616-FL3      | 16             | 1              | 44.5       | 8  | 126 | 69  | 20 | 52 |
| HS-1620-FL3      | 16             | 1              | 50.8       | 8  | 127 | 69  | 21 | 52 |
| HS-2016-FL3      | 20             | 1 - 1/4        | 44.5       | 8  | 132 | 61  | 26 | 62 |
| HS-2020-FL3      | 20             | 1 - 1/4        | 50.8       | 8  | 147 | 75  | 26 | 62 |
| HS-2024-FL3      | 20             | 1 - 1/4        | 60.3       | 8  | 150 | 80  | 32 | 62 |
| HS-2424-FL3      | 24             | 1 - 1/2        | 60.3       | 8  | 165 | 95  | 33 | 72 |
| HS-2432-FL3      | 24             | 1 - 1/2        | 71.4       | 10 | 175 | 100 | 33 | 72 |
| HS-3224-FL3      | 32             | 2              | 60.3       | 8  | 170 | 81  | 32 | 85 |
| HS-3232-FL3      | 32             | 2              | 71.4       | 10 | 160 | 69  | 43 | 85 |
| HS-3232-FL3-LONG | 32             | 2              | 71.4       | 10 | 180 | 89  | 43 | 85 |
| HS-3240-FL3      | 32             | 2              | 84.1       | 10 | 180 | 88  | 44 | 85 |

\*\* O-Ring is not a part of the flange, it is ordered and invoiced separately.

\* R13, R15 are only upto 1" size (for higher sizes go to section 6 spiral fittings)

## Flange Code 61 bend 90 degree

## 4 Spiral Fittings

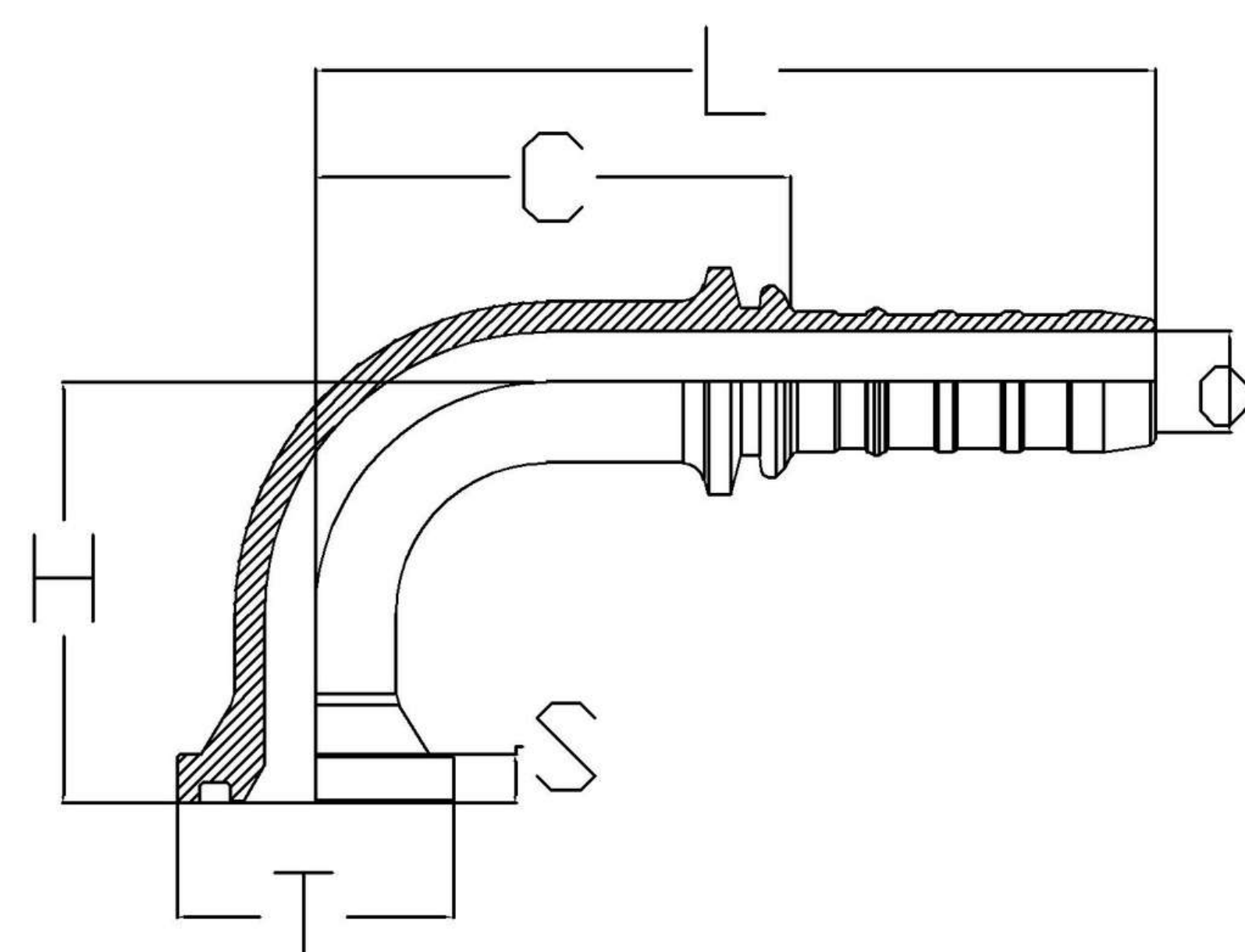
**Standard - SAE 6162-1**

**3000 PSI CODE 61**

**O RING - NBR\*\***

**Used for hose type -**

**4SP,4SH, R12, R13\*, R15\***



| DESCRIPTION        | HOSE ID (DASH) | HOSE ID (inch) | Thread (T) | S  | L   | C   | d  | D  | H   |
|--------------------|----------------|----------------|------------|----|-----|-----|----|----|-----|
| HS-0808-FL3-90-100 | 8              | 1/2            | 30.2       | 7  | 88  | 52  | 9  | 34 | 100 |
| HS-0808-FL3-90-140 | 8              | 1/2            | 30.2       | 7  | 88  | 52  | 9  | 34 | 140 |
| HS-0808-FL3-90-45  | 8              | 1/2            | 30.2       | 7  | 85  | 49  | 9  | 34 | 45  |
| HS-0812-FL3-90-50  | 8              | 1/2            | 38.1       | 7  | 90  | 54  | 10 | 34 | 50  |
| HS-1008-FL3-90-45  | 10             | 5/8            | 30.2       | 7  | 111 | 60  | 10 | 42 | 45  |
| HS-1008-FL3-90-65  | 10             | 5/8            | 30.2       | 7  | 111 | 60  | 10 | 42 | 65  |
| HS-1008-FL3-90-120 | 10             | 5/8            | 30.2       | 7  | 111 | 60  | 10 | 42 | 120 |
| HS-1008-FL3-90-150 | 10             | 5/8            | 30.2       | 7  | 111 | 60  | 10 | 42 | 150 |
| HS-1012-FL3-90-60  | 10             | 5/8            | 38.1       | 7  | 130 | 79  | 12 | 42 | 60  |
| HS-1208-FL3-90-120 | 12             | 3/4            | 30.2       | 7  | 120 | 70  | 12 | 46 | 120 |
| HS-1212-FL3-90-65  | 12             | 3/4            | 38.1       | 7  | 120 | 70  | 15 | 46 | 65  |
| HS-1212-FL3-90-100 | 12             | 3/4            | 38.1       | 7  | 120 | 70  | 15 | 46 | 100 |
| HS-1212-FL3-90-130 | 12             | 3/4            | 38.1       | 7  | 120 | 70  | 15 | 46 | 130 |
| HS-1212-FL3-90-143 | 12             | 3/4            | 38.1       | 7  | 120 | 70  | 15 | 46 | 143 |
| HS-1216-FL3-90-70  | 12             | 3/4            | 44.5       | 8  | 126 | 76  | 15 | 46 | 70  |
| HS-1216-FL3-90-110 | 12             | 3/4            | 44.5       | 8  | 126 | 76  | 15 | 46 | 110 |
| HS-1216-FL3-90-130 | 12             | 3/4            | 44.5       | 8  | 126 | 76  | 15 | 46 | 130 |
| HS-1216-FL3-90-150 | 12             | 3/4            | 44.5       | 8  | 126 | 76  | 15 | 46 | 150 |
| HS-1612-FL3-90-65  | 16             | 1              | 38.1       | 7  | 128 | 72  | 15 | 52 | 65  |
| HS-1612-FL3-90-110 | 16             | 1              | 38.1       | 7  | 128 | 72  | 15 | 52 | 110 |
| HS-1616-FL3-90-80  | 16             | 1              | 44.5       | 8  | 147 | 93  | 21 | 52 | 80  |
| HS-1616-FL3-90-115 | 16             | 1              | 44.5       | 8  | 147 | 93  | 21 | 52 | 115 |
| HS-1616-FL3-90-130 | 16             | 1              | 44.5       | 8  | 147 | 93  | 21 | 52 | 130 |
| HS-1616-FL3-90-160 | 16             | 1              | 44.5       | 8  | 147 | 93  | 21 | 52 | 160 |
| HS-1620-FL3-90-85  | 16             | 1              | 50.8       | 8  | 130 | 75  | 22 | 52 | 85  |
| HS-2016-FL3-90-80  | 20             | 1 - 1/4        | 44.5       | 8  | 160 | 85  | 21 | 62 | 80  |
| HS-2020-FL3-90-90  | 20             | 1 - 1/4        | 50.8       | 8  | 160 | 90  | 25 | 62 | 90  |
| HS-2020-FL3-90-95  | 20             | 1 - 1/4        | 50.8       | 8  | 170 | 98  | 25 | 62 | 95  |
| HS-2024-FL3-90-100 | 20             | 1 - 1/4        | 60.3       | 8  | 190 | 115 | 27 | 62 | 100 |
| HS-2424-FL3-90-110 | 24             | 1 - 1/2        | 60.3       | 8  | 195 | 115 | 28 | 72 | 110 |
| HS-2432-FL3-90-100 | 24             | 1 - 1/2        | 71.4       | 10 | 200 | 125 | 29 | 72 | 100 |
| HS-3224-FL3-90-110 | 32             | 2              | 60.3       | 8  | 220 | 125 | 28 | 85 | 110 |
| HS-3232-FL3-90-130 | 32             | 2              | 71.4       | 10 | 255 | 160 | 38 | 85 | 130 |

\*\* O-Ring is not a part of the flange, it is ordered and invoiced separately.

\* R13, R15 are only upto 1" size (for higher sizes go to section 6 spiral fittings)

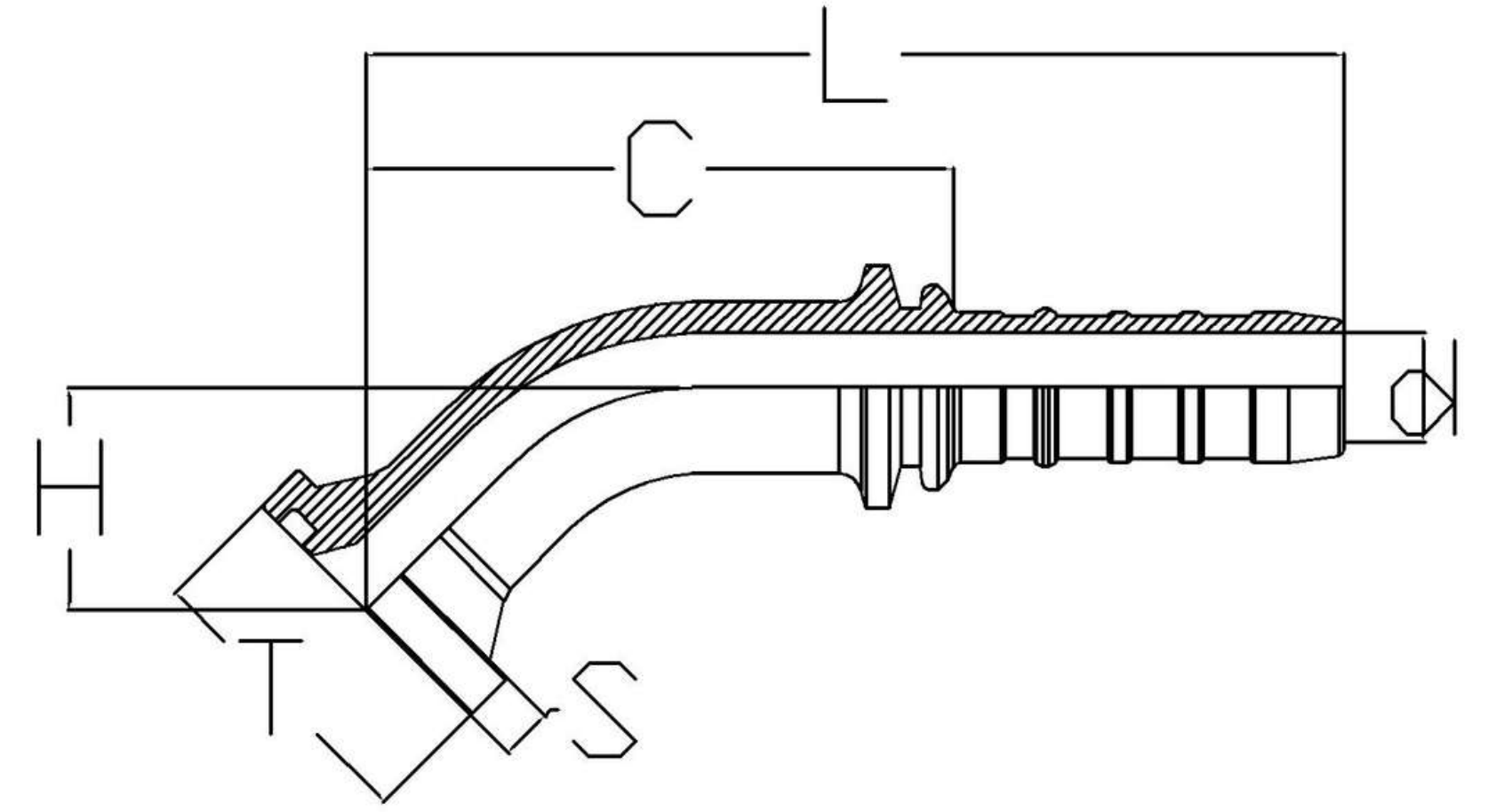
**Standard - SAE 6162-1**

3000 PSI CODE 61

**O RING - NBR\*\***

**Used for hose type -**

4SP,4SH, R12, R13\*, R15\*



| DESCRIPTION       | HOSE ID (DASH) | HOSE ID (inch) | Thread (T) | S  | L   | C   | d  | D  | H  |
|-------------------|----------------|----------------|------------|----|-----|-----|----|----|----|
| HS-0808-FL3-45-24 | 8              | 1/2            | 30.2       | 7  | 91  | 54  | 9  | 34 | 24 |
| HS-0812-FL3-45-26 | 8              | 1/2            | 38.1       | 7  | 99  | 62  | 9  | 34 | 26 |
| HS-1008-FL3-45-23 | 10             | 5/8            | 30.2       | 7  | 120 | 69  | 12 | 42 | 23 |
| HS-1012-FL3-45-35 | 10             | 5/8            | 38.1       | 7  | 155 | 106 | 12 | 42 | 35 |
| HS-1212-FL3-45-27 | 12             | 3/4            | 38.1       | 7  | 126 | 76  | 14 | 46 | 27 |
| HS-1216-FL3-45-31 | 12             | 3/4            | 44.5       | 8  | 131 | 81  | 14 | 46 | 31 |
| HS-1612-FL3-45-31 | 16             | 1              | 38.1       | 7  | 137 | 81  | 20 | 52 | 31 |
| HS-1616-FL3-45-33 | 16             | 1              | 44.5       | 8  | 142 | 85  | 21 | 52 | 33 |
| HS-1620-FL3-45-36 | 16             | 1              | 50.8       | 8  | 149 | 92  | 20 | 52 | 36 |
| HS-2016-FL3-45-39 | 20             | 1 - 1/4        | 44.5       | 8  | 170 | 99  | 32 | 62 | 39 |
| HS-2020-FL3-45-38 | 20             | 1 - 1/4        | 50.8       | 8  | 190 | 105 | 27 | 62 | 38 |
| HS-2024-FL3-45-47 | 20             | 1 - 1/4        | 60.3       | 8  | 197 | 126 | 32 | 62 | 47 |
| HS-2424-FL3-45-42 | 24             | 1 - 1/2        | 60.3       | 8  | 190 | 116 | 28 | 72 | 42 |
| HS-2432-FL3-45-50 | 24             | 1 - 1/2        | 71.4       | 10 | 230 | 160 | 32 | 72 | 50 |
| HS-3224-FL3-45-47 | 32             | 2              | 60.3       | 8  | 222 | 131 | 44 | 85 | 47 |
| HS-3232-FL3-45-68 | 32             | 2              | 71.4       | 10 | 265 | 173 | 44 | 85 | 68 |
| HS-3232-FL3-30-30 | 32             | 2              | 71.4       | 10 | 215 | 123 | 42 | 85 | 30 |

\*\* O-Ring is not a part of the flange, it is ordered and invoiced separately.

\* R13, R15 are only upto 1" size (for higher sizes go to section 6 spiral fittings)

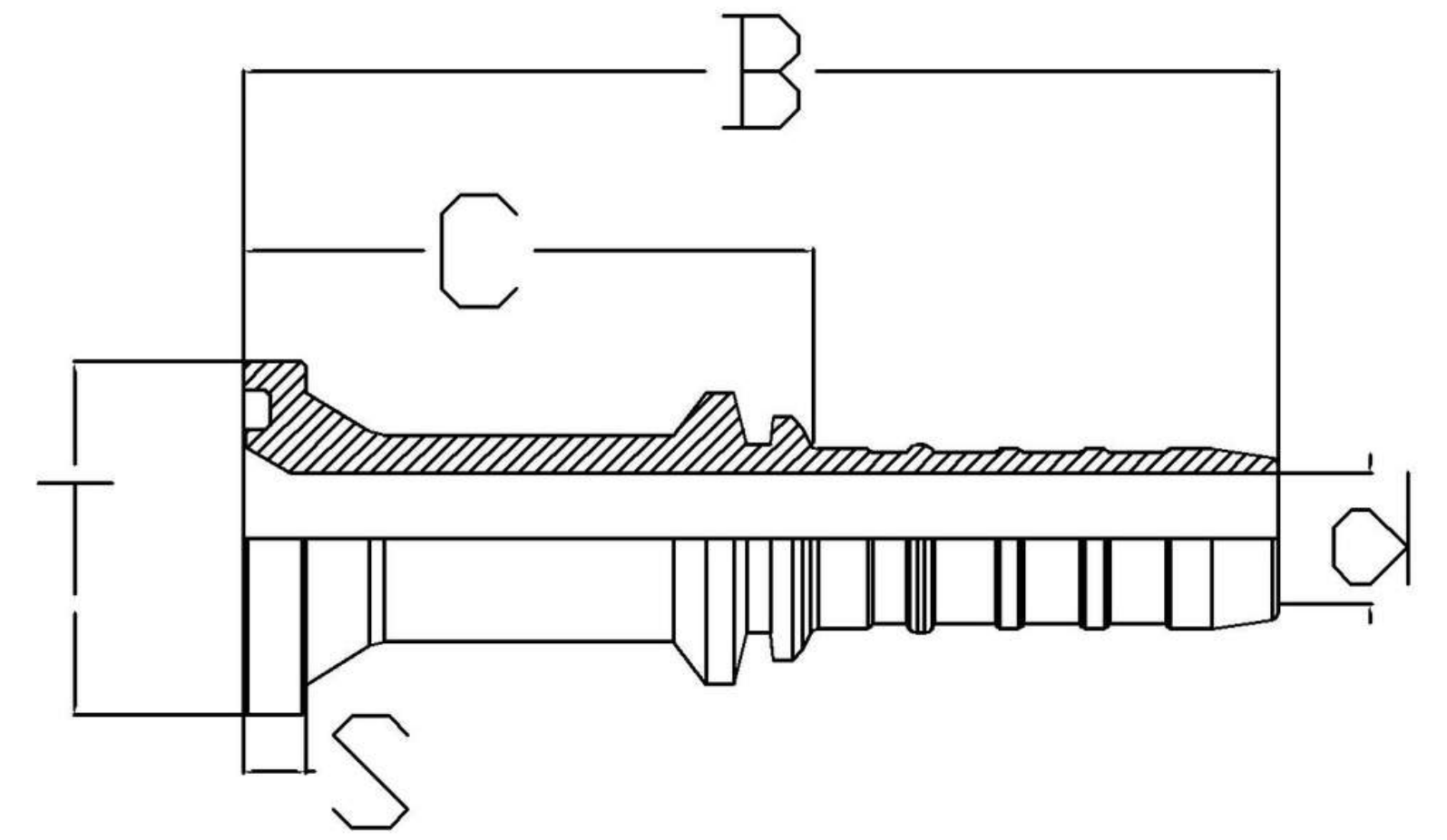
**Standard - SAE 6162-1**

6000 PSI CODE 62

**O RING - NBR\*\***

**Used for hose type -**

4SP, 4SH, R12, R13\*, R15\*



| DESCRIPTION | HOSE ID (DASH) | HOSE ID (inch) | Thread (T) | S  | L   | C  | d  | D  |
|-------------|----------------|----------------|------------|----|-----|----|----|----|
| HS-0808-FL6 | 8              | 1/2            | 31.8       | 8  | 95  | 57 | 11 | 34 |
| HS-1008-FL6 | 10             | 5/8            | 31.8       | 8  | 103 | 53 | 12 | 42 |
| HS-1012-FL6 | 10             | 5/8            | 41.3       | 9  | 111 | 61 | 12 | 42 |
| HS-1212-FL6 | 12             | 3/4            | 41.3       | 9  | 112 | 62 | 15 | 46 |
| HS-1216-FL6 | 12             | 3/4            | 47.6       | 10 | 115 | 65 | 15 | 46 |
| HS-1612-FL6 | 16             | 1              | 41.3       | 9  | 126 | 68 | 15 | 52 |
| HS-1616-FL6 | 16             | 1              | 47.6       | 10 | 126 | 69 | 21 | 52 |
| HS-1620-FL6 | 16             | 1              | 54         | 11 | 127 | 69 | 21 | 52 |
| HS-2016-FL6 | 20             | 1 - 1/4        | 47.6       | 10 | 134 | 62 | 26 | 62 |
| HS-2020-FL6 | 20             | 1 - 1/4        | 54         | 11 | 147 | 76 | 26 | 62 |
| HS-2024-FL6 | 20             | 1 - 1/4        | 63.5       | 13 | 152 | 81 | 32 | 62 |
| HS-2420-FL6 | 24             | 1 - 1/2        | 54         | 11 | 150 | 75 | 32 | 72 |
| HS-2424-FL6 | 24             | 1 - 1/2        | 63.5       | 13 | 170 | 95 | 34 | 72 |
| HS-2432-FL6 | 24             | 1 - 1/2        | 79.4       | 13 | 155 | 82 | 33 | 72 |
| HS-3232-FL6 | 32             | 2              | 79.4       | 13 | 182 | 89 | 43 | 85 |

\*\* O-Ring is not a part of the flange, it is ordered and invoiced separately.

\* R13, R15 are only upto 1" size (for higher sizes go to section 6 spiral fittings)



## Flange Code 62 bend 90 degree

## 4 Spiral Fittings

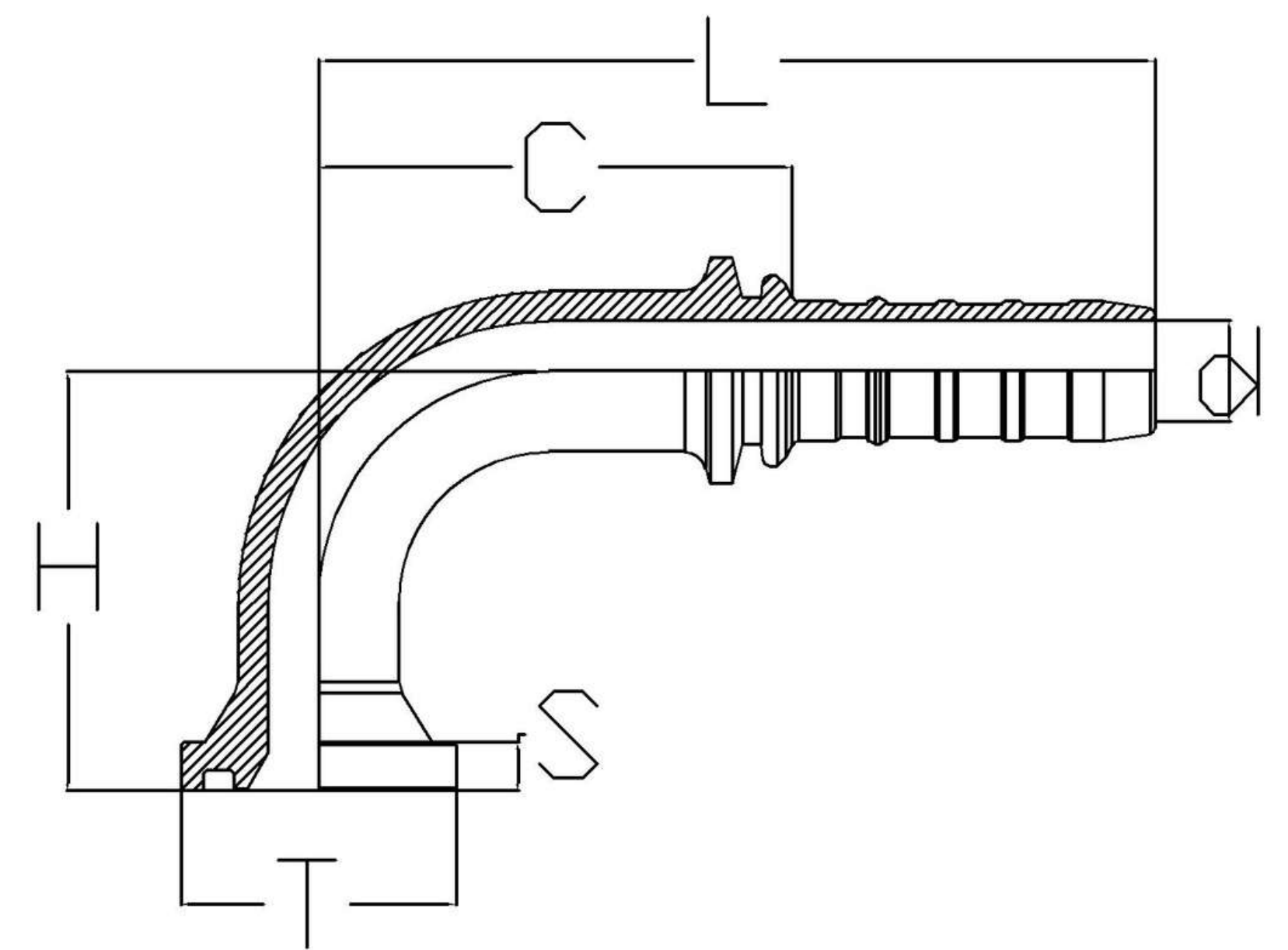
**Standard - SAE 6162-1**

6000 PSI CODE 62

**O RING - NBR\*\***

**Used for hose type -**

4SP, 4SH, R12, R13\*, R15\*



| DESCRIPTION        | HOSE ID (DASH) | HOSE ID (inch) | Thread (T) | S  | L   | C   | d  | D  | H   |
|--------------------|----------------|----------------|------------|----|-----|-----|----|----|-----|
| HS-0808-FL6-90-45  | 8              | 1/2            | 31.8       | 8  | 86  | 48  | 10 | 34 | 45  |
| HS-0808-FL6-90-100 | 8              | 1/2            | 31.8       | 8  | 86  | 48  | 10 | 34 | 100 |
| HS-1012-FL6-90-70  | 10             | 5/8            | 41.3       | 9  | 130 | 80  | 13 | 42 | 70  |
| HS-1012-FL6-90-100 | 10             | 5/8            | 41.3       | 9  | 130 | 80  | 13 | 42 | 100 |
| HS-1212-FL6-90-65  | 12             | 3/4            | 41.3       | 9  | 119 | 68  | 15 | 46 | 65  |
| HS-1212-FL6-90-100 | 12             | 3/4            | 41.3       | 9  | 119 | 68  | 15 | 46 | 100 |
| HS-1212-FL6-90-125 | 12             | 3/4            | 41.3       | 9  | 119 | 68  | 15 | 46 | 125 |
| HS-1216-FL6-90-85  | 12             | 3/4            | 47.6       | 10 | 124 | 75  | 15 | 46 | 85  |
| HS-1216-FL6-90-110 | 12             | 3/4            | 47.6       | 10 | 124 | 75  | 15 | 46 | 110 |
| HS-1612-FL6-90-75  | 16             | 1              | 41.3       | 9  | 125 | 70  | 15 | 52 | 75  |
| HS-1612-FL6-90-110 | 16             | 1              | 41.3       | 9  | 125 | 70  | 15 | 52 | 110 |
| HS-1612-FL6-90-125 | 16             | 1              | 41.3       | 9  | 125 | 70  | 15 | 52 | 125 |
| HS-1616-FL6-90-75  | 16             | 1              | 47.6       | 10 | 140 | 85  | 20 | 52 | 75  |
| HS-1616-FL6-90-120 | 16             | 1              | 47.6       | 10 | 140 | 85  | 20 | 52 | 120 |
| HS-1616-FL6-90-140 | 16             | 1              | 47.6       | 10 | 140 | 85  | 20 | 52 | 140 |
| HS-1616-FL6-90-180 | 16             | 1              | 47.6       | 10 | 140 | 85  | 20 | 52 | 180 |
| HS-1620-FL6-90-85  | 16             | 1              | 54         | 11 | 140 | 85  | 21 | 52 | 85  |
| HS-1620-FL6-90-110 | 16             | 1              | 54         | 11 | 140 | 85  | 21 | 52 | 110 |
| HS-1620-FL6-90-130 | 16             | 1              | 54         | 11 | 140 | 85  | 21 | 52 | 130 |
| HS-1620-FL6-90-180 | 16             | 1              | 54         | 11 | 140 | 85  | 21 | 52 | 180 |
| HS-2016-FL6-90-80  | 20             | 1 - 1/4        | 47.6       | 10 | 155 | 85  | 21 | 62 | 80  |
| HS-2016-FL6-90-110 | 20             | 1 - 1/4        | 47.6       | 10 | 155 | 85  | 21 | 62 | 110 |
| HS-2020-FL6-90-95  | 20             | 1 - 1/4        | 54         | 11 | 165 | 95  | 26 | 62 | 95  |
| HS-2020-FL6-90-120 | 20             | 1 - 1/4        | 54         | 11 | 165 | 95  | 26 | 62 | 120 |
| HS-2020-FL6-90-150 | 20             | 1 - 1/4        | 54         | 11 | 165 | 95  | 26 | 62 | 150 |
| HS-2020-FL6-90-180 | 20             | 1 - 1/4        | 54         | 11 | 165 | 95  | 26 | 62 | 180 |
| HS-2024-FL6-90-100 | 20             | 1 - 1/4        | 63.5       | 13 | 195 | 120 | 27 | 62 | 100 |
| HS-2420-FL6-90-100 | 24             | 1 - 1/2        | 54         | 11 | 185 | 112 | 28 | 72 | 100 |
| HS-2424-FL6-90-100 | 24             | 1 - 1/2        | 63.5       | 13 | 195 | 120 | 29 | 72 | 100 |
| HS-2424-FL6-90-150 | 24             | 1 - 1/2        | 63.5       | 13 | 195 | 120 | 29 | 72 | 150 |
| HS-2424-FL6-90-200 | 24             | 1 - 1/2        | 63.5       | 13 | 195 | 120 | 29 | 72 | 200 |
| HS-2432-FL6-90-120 | 24             | 1 - 1/2        | 79.4       | 13 | 200 | 130 | 27 | 72 | 120 |
| HS-3232-FL6-90-130 | 32             | 2              | 79.4       | 13 | 270 | 175 | 41 | 85 | 130 |

\*\* O-Ring is not a part of the flange, it is ordered and invoiced separately.

\* R13, R15 are only upto 1" size (for higher sizes go to section 6 spiral fittings)

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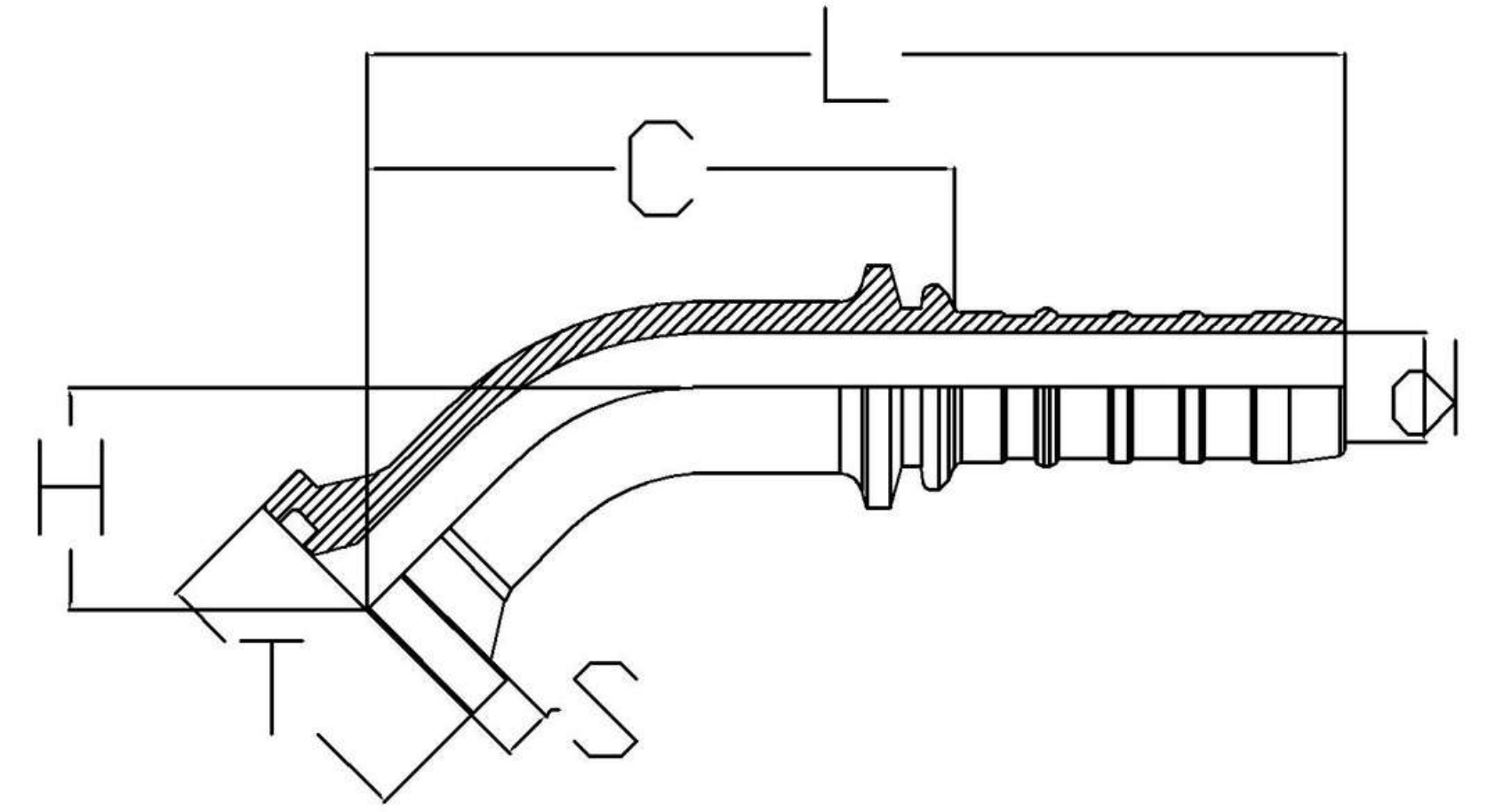
**Standard - SAE 6162-1**

6000 PSI CODE 62

**O RING - NBR\*\***

**Used for hose type -**

4SP,4SH, R12, R13\*, R15\*



| DESCRIPTION       | HOSE ID (DASH) | HOSE ID (inch) | Thread (T) | S  | L   | C   | d  | D  | H  |
|-------------------|----------------|----------------|------------|----|-----|-----|----|----|----|
| HS-0808-FL6-45-25 | 8              | 1/2            | 31.8       | 8  | 93  | 55  | 9  | 34 | 25 |
| HS-1012-FL6-45-34 | 10             | 5/8            | 41.3       | 9  | 135 | 85  | 12 | 42 | 34 |
| HS-1212-FL6-45-31 | 12             | 3/4            | 41.3       | 9  | 130 | 79  | 14 | 46 | 31 |
| HS-1216-FL6-45-32 | 12             | 3/4            | 47.6       | 10 | 132 | 81  | 14 | 46 | 32 |
| HS-1612-FL6-45-32 | 16             | 1              | 41.3       | 9  | 138 | 81  | 20 | 52 | 32 |
| HS-1616-FL6-45-33 | 16             | 1              | 47.6       | 10 | 146 | 91  | 22 | 52 | 33 |
| HS-1620-FL6-45-38 | 16             | 1              | 54.0       | 11 | 155 | 100 | 21 | 52 | 38 |
| HS-2020-FL6-45-40 | 20             | 1 - 1/4        | 54.0       | 11 | 195 | 120 | 26 | 62 | 40 |
| HS-2424-FL6-45-49 | 24             | 1 - 1/2        | 63.5       | 13 | 215 | 140 | 29 | 72 | 49 |
| HS-3232-FL6-45-67 | 32             | 2              | 79.4       | 13 | 250 | 170 | 39 | 85 | 67 |

\*\* O-Ring is not a part of the flange, it is ordered and invoiced separately.

\* R13, R15 are only upto 1" size (for higher sizes go to section 6 spiral fittings)

## JIS Female straight

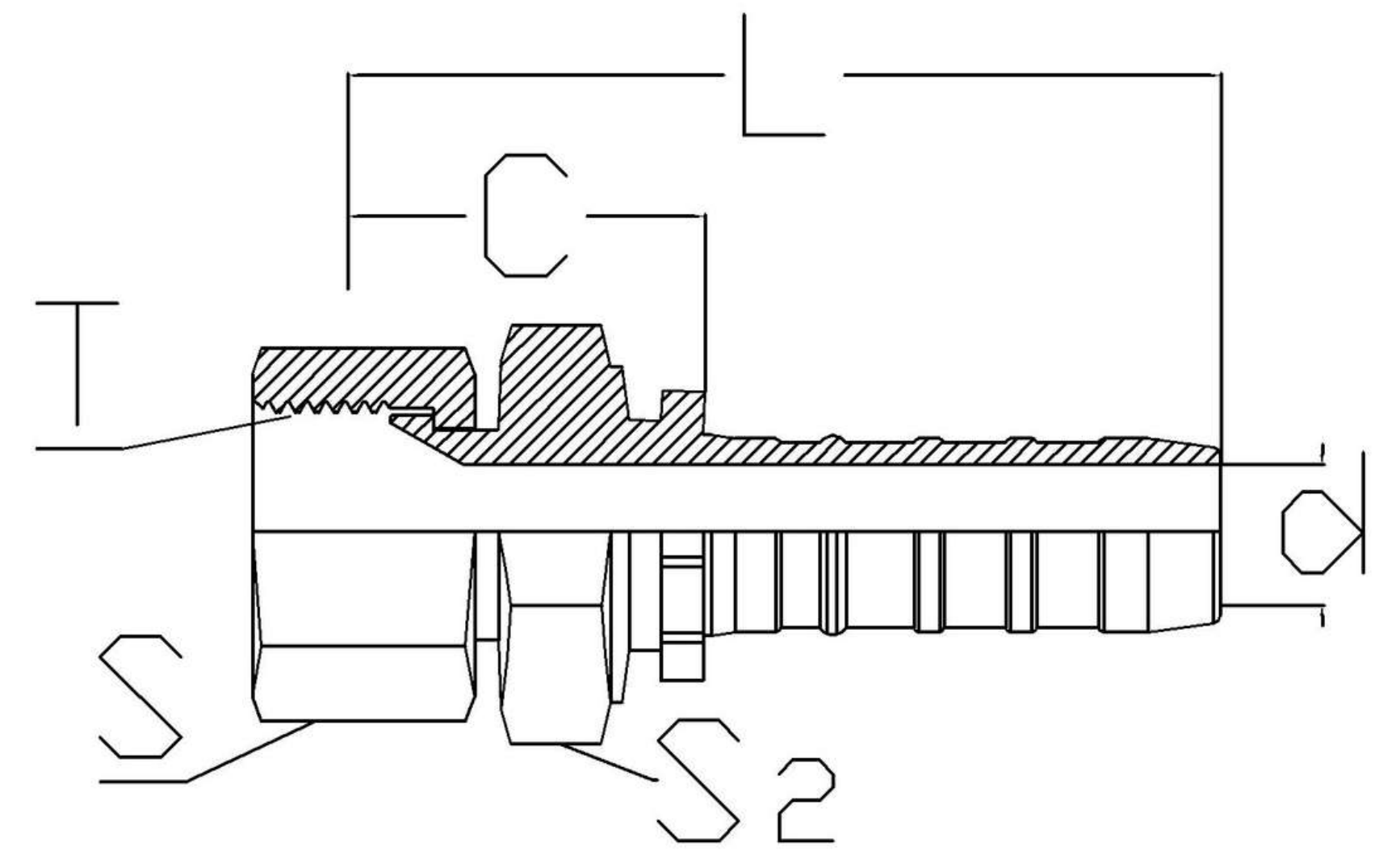
## 4 Spiral Fittings

**Standard** - BSP Inverted C-Type

**Cone** - 60°

**Used for hose type** -

4SP, 4SH, R12, R13\*, R15\*



| DESCRIPTION | HOSE ID (DASH) | HOSE ID (inch) | Thread (T)  | S  | L   | C  | d  | D  | S2 |
|-------------|----------------|----------------|-------------|----|-----|----|----|----|----|
| HS-0808-FBJ | 8              | 1/2            | 1/2-14BSP   | 27 | 63  | 26 | 9  | 34 | 27 |
| HS-1616-FBJ | 16             | 1              | 1-11BSP     | 41 | 95  | 38 | 18 | 52 | 41 |
| HS-1620-FBJ | 16             | 1              | 1.1/4-11BSP | 50 | 99  | 43 | 18 | 52 | 41 |
| HS-3232-FBJ | 32             | 2              | 2-11BSP     | 70 | 146 | 56 | 43 | 85 | 70 |

\* R13, R15 are only upto 1" size (for higher sizes go to section 6 spiral fittings)

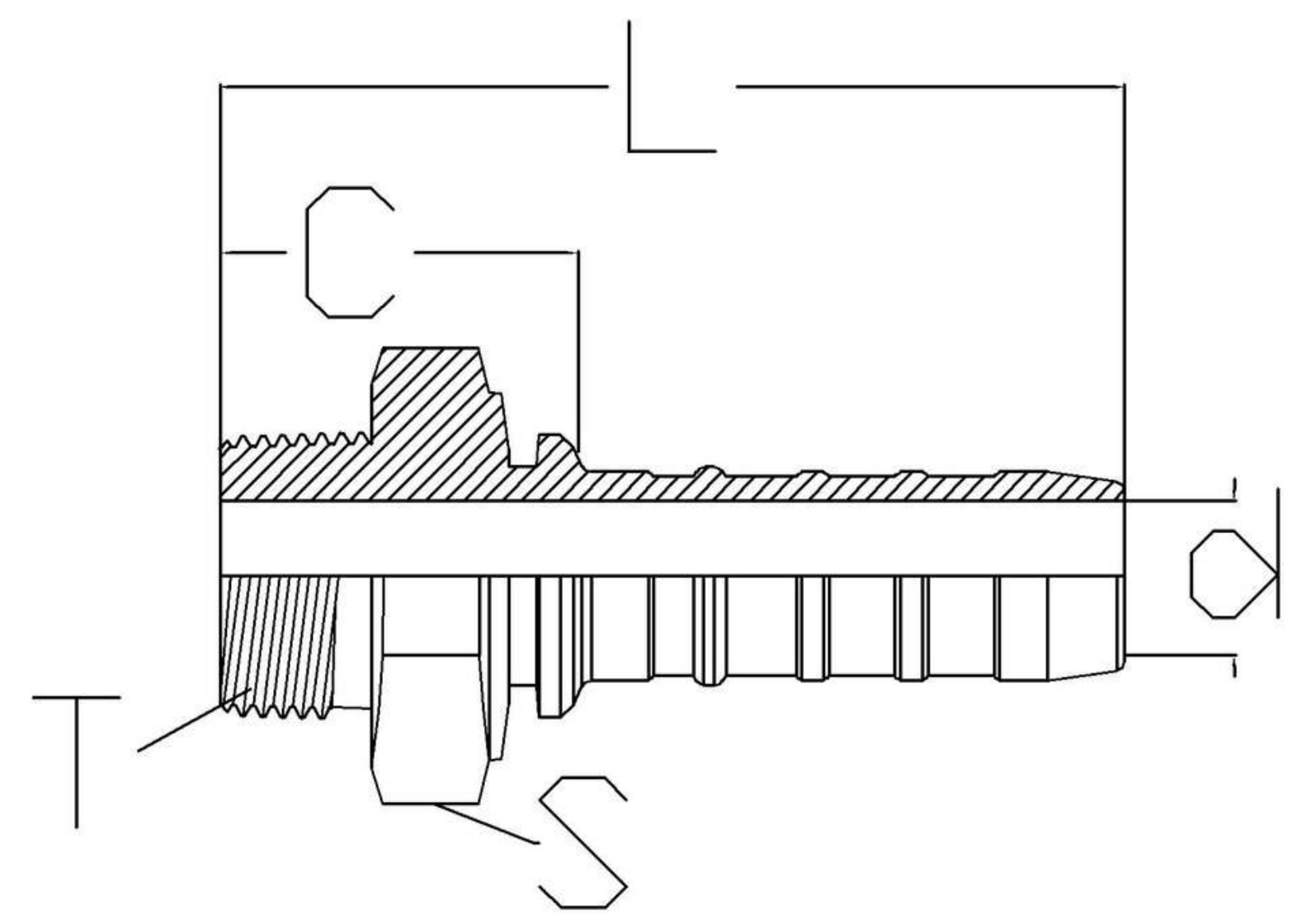
## NPT Male Straight

**Standard** - ANSI/ASME B1.20.1

**Cone** - 60°

**Used for hose type:**

4SP, 4SH, R12, R13\*, R15\*



| DESCRIPTION  | HOSE ID (DASH) | HOSE ID (inch) | Thread (T)     | S  | L   | C  | d  | D  |
|--------------|----------------|----------------|----------------|----|-----|----|----|----|
| HS-0808-MNPT | 8              | 1/2            | 1/2 - 14       | 24 | 72  | 35 | 9  | 34 |
| HS-1212-MNPT | 12             | 3/4            | 3/4 - 14       | 27 | 85  | 35 | 15 | 46 |
| HS-1616-MNPT | 16             | 1              | 1 - 11.1/2     | 36 | 103 | 46 | 21 | 52 |
| HS-2020-MNPT | 20             | 1 - 1/4        | 1.1/4 - 11.1/2 | 46 | 121 | 50 | 26 | 62 |
| HS-2424-MNPT | 24             | 1 - 1/2        | 1.1/2 - 11.1/2 | 50 | 125 | 51 | 32 | 72 |
| HS-3232-MNPT | 32             | 2              | 2 - 11.1/2     | 65 | 140 | 54 | 42 | 85 |

\* R13, R15 are only upto 1" size (for higher sizes go to section 6 spiral fittings)

## KOMATSU Female Straight

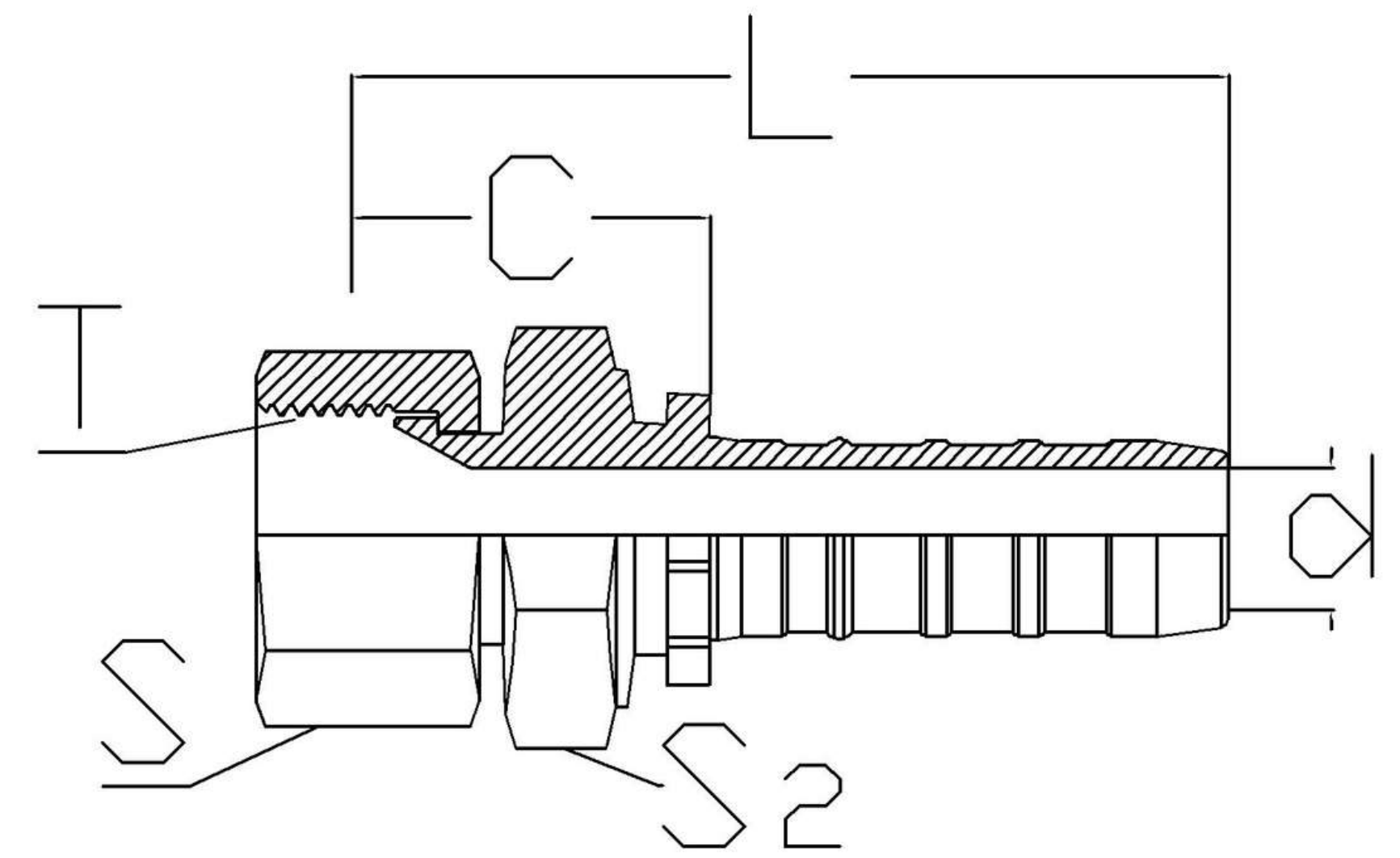
### 4 Spiral Fittings

**Standard - Komatsu**

**Cone - 60°**

**Used for hose type -**

4SP, 4SH, R12, R13\*, R15\*



| DESCRIPTION | HOSE ID (DASH) | HOSE ID (inch) | Thread (T) | S  | L  | C  | d  | D  | S2 |
|-------------|----------------|----------------|------------|----|----|----|----|----|----|
| HS-0808-FK  | 8              | 1/2            | 22X1.5     | 27 | 60 | 25 | 10 | 34 | 27 |
| HS-1010-FK  | 10             | 5/8            | 24X1.5     | 32 | 80 | 31 | 12 | 42 | 30 |
| HS-1212-FK  | 12             | 3/4            | 30X1.5     | 36 | 84 | 37 | 14 | 46 | 32 |
| HS-1616-FK  | 12             | 3/4            | 33X1.5     | 41 | 94 | 42 | 18 | 52 | 32 |

\* R13, R15 are only upto 1" size (for higher sizes go to section 6 spiral fittings)

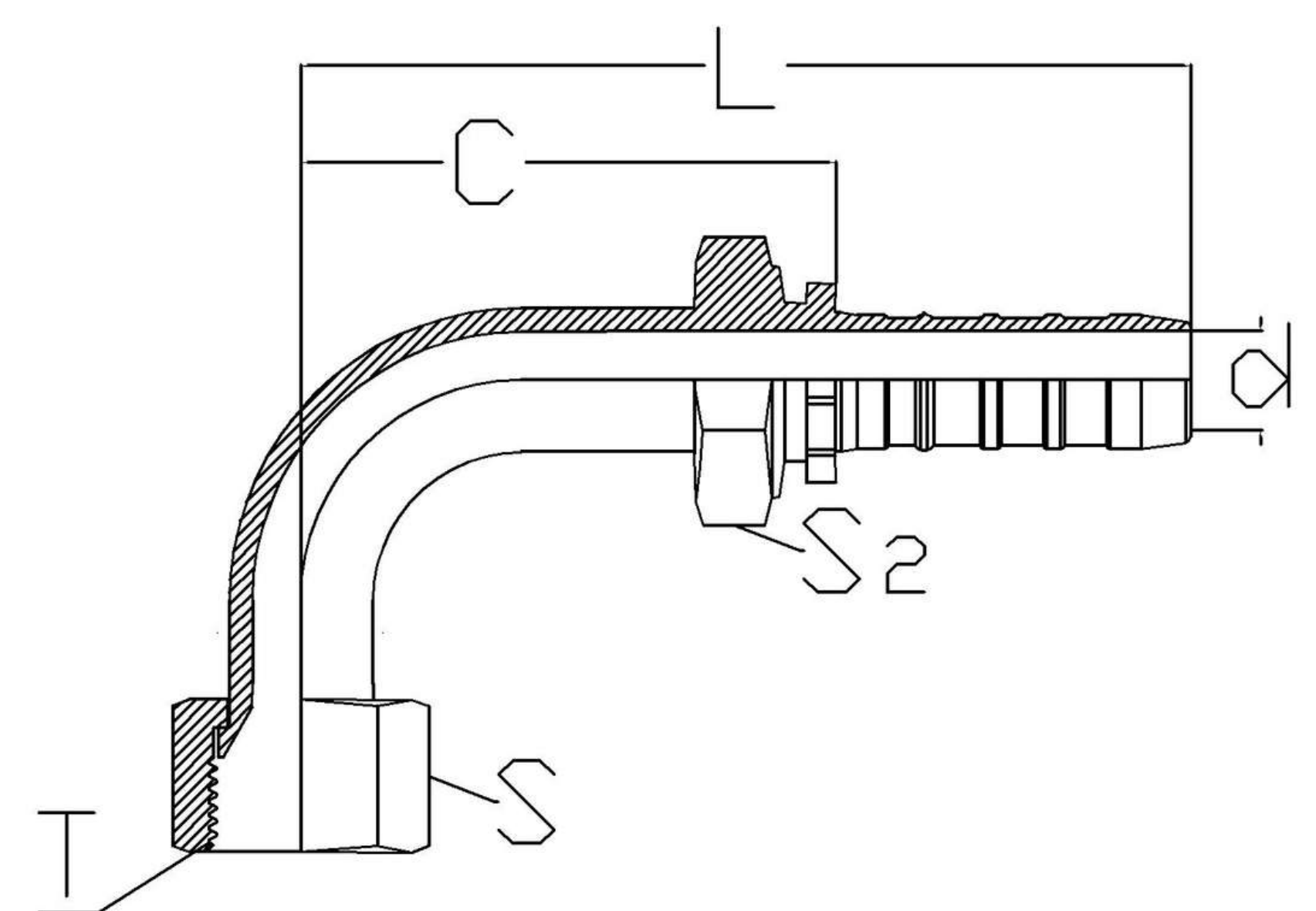
## KOMATSU Female 90 degree bend

**Standard - Komatsu**

**Cone - 60°**

**Used for hose type -**

4SP, 4SH, R12, R13\*, R15\*



| DESCRIPTION      | HOSE ID (DASH) | HOSE ID (inch) | Thread (T) | S  | L   | C  | d  | D  | H  | S2 |
|------------------|----------------|----------------|------------|----|-----|----|----|----|----|----|
| HS-0808-FK-90-35 | 8              | 1/2            | 22X1.5     | 27 | 86  | 47 | 7  | 34 | 35 | 27 |
| HS-1010-FK-90-40 | 10             | 5/8            | 24X1.5     | 32 | 104 | 53 | 9  | 42 | 40 | 30 |
| HS-1212-FK-90-65 | 12             | 3/4            | 30X1.5     | 36 | 123 | 75 | 15 | 46 | 65 | 32 |

\* R13, R15 are only upto 1" size (for higher sizes go to section 6 spiral fittings)

## Flange Caterpillar Straight

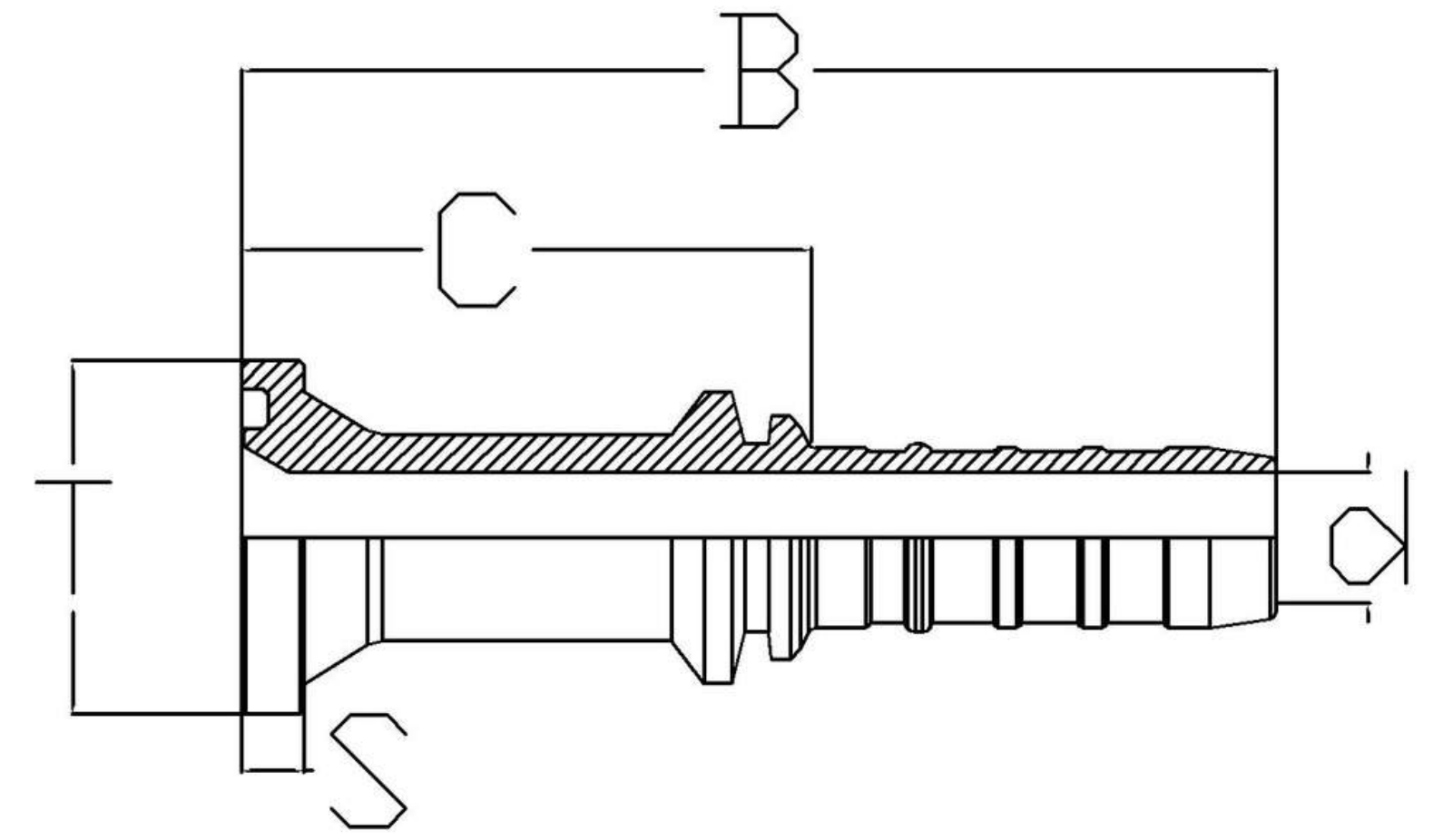
## 4 Spiral Fittings

### FLANGE FOR CATERPILLAR

O-Ring - NBR\*\*

Used for hose type -

4SP, 4SH, R12, R13\*, R15\*, 6Sp



| Description | HOSE ID (Dash) | HOSE ID (inch) | Thread (T) | S  | L   | C   | d  | D  |
|-------------|----------------|----------------|------------|----|-----|-----|----|----|
| HS-1212-FLC | 12             | 3/4            | 41.3       | 9  | 146 | 95  | 15 | 46 |
| HS-1216-FLC | 12             | 3/4            | 47.6       | 10 | 146 | 96  | 16 | 46 |
| HS-1616-FLC | 16             | 1              | 47.6       | 10 | 150 | 99  | 21 | 52 |
| HS-1620-FLC | 16             | 1              | 54.0       | 11 | 132 | 74  | 21 | 52 |
| HS-2020-FLC | 20             | 1 - 1/4        | 54.0       | 11 | 146 | 75  | 26 | 62 |
| HS-2424-FLC | 24             | 1 - 1/2        | 63.5       | 13 | 185 | 110 | 33 | 72 |

\*\* O-Ring is not a part of the flange, it is ordered and invoiced separately.

\* R13, R15 are only upto 1" size (to higher sizes go to section 6 spiral fittings)

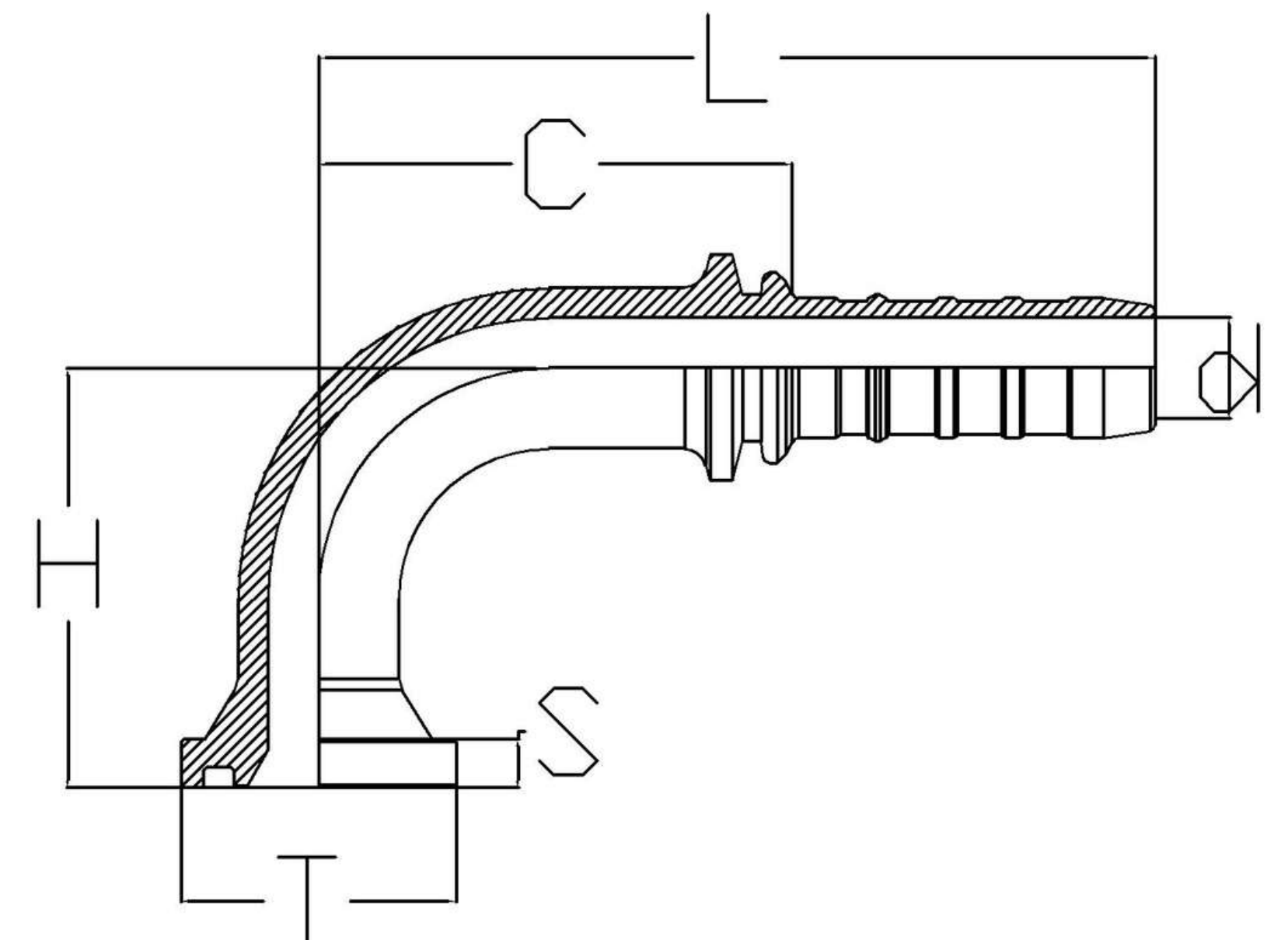
## Flange Caterpillar 90 degree bend

### FLANGE FOR CATERPILLAR

O-Ring - NBR\*\*

Used for hose type -

4SP, 4SH, R12, R13\*, R15\*, 6Sp



| Description        | HOSE ID (Dash) | HOSE ID (inch) | Thread (T) | S  | L   | C   | d  | D  | H   |
|--------------------|----------------|----------------|------------|----|-----|-----|----|----|-----|
| HS-1212-FLC-90-70  | 12             | 3/4            | 41.3       | 9  | 121 | 69  | 15 | 46 | 70  |
| HS-1216-FLC-90-85  | 12             | 3/4            | 47.6       | 10 | 125 | 70  | 14 | 46 | 85  |
| HS-1616-FLC-90-75  | 16             | 1              | 47.6       | 10 | 152 | 96  | 21 | 52 | 75  |
| HS-1616-FLC-90-110 | 16             | 1              | 47.6       | 10 | 140 | 82  | 21 | 52 | 110 |
| HS-1620-FLC-90-90  | 16             | 1              | 54.0       | 11 | 150 | 95  | 21 | 52 | 90  |
| HS-1620-FLC-90-100 | 16             | 1              | 54.0       | 11 | 140 | 83  | 21 | 52 | 100 |
| HS-2020-FLC-90-100 | 20             | 1 - 1/4        | 54.0       | 11 | 175 | 100 | 27 | 62 | 100 |
| HS-2020-FLC-90-105 | 20             | 1 - 1/4        | 54.0       | 11 | 170 | 98  | 27 | 62 | 105 |
| HS-2424-FLC-90-110 | 24             | 1 - 1/2        | 63.5       | 13 | 190 | 120 | 28 | 72 | 110 |

\*\* O-Ring is not a part of the flange, it is ordered and invoiced separately.

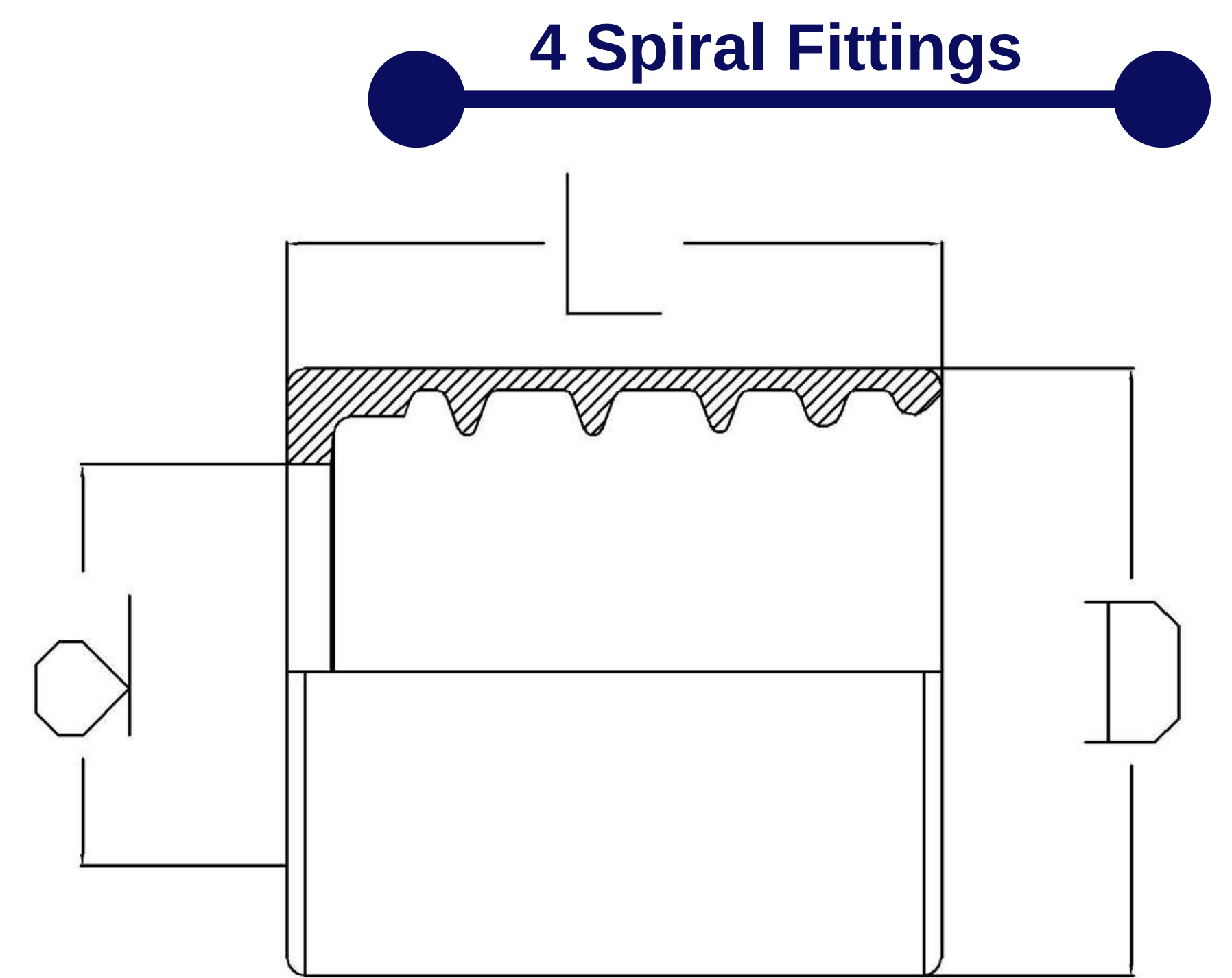
\* R13, R15 are only upto 1" size (to higher sizes go to section 6 spiral fittings)

## Ferrule

**Ferrule - Cap - Socket**

**Used for hose type -**

4SP, 4SH, R12, R13\*, R15\*



| DESCRIPTION | HOSE ID (DASH) | HOSE ID (inch) | L  | d  | D  |
|-------------|----------------|----------------|----|----|----|
| 06FSP01     | 6              | 3/8            | 36 | 19 | 32 |
| 08FSP01     | 8              | 1/2            | 37 | 23 | 34 |
| 10FSP01     | 10             | 5/8            | 48 | 27 | 42 |
| 12FSP01     | 12             | 3/4            | 51 | 30 | 46 |
| 16FSP01     | 16             | 1              | 56 | 36 | 52 |
| 20FSP01     | 20             | 1 - 1/4        | 68 | 48 | 62 |
| 24FSP01     | 24             | 1 - 1/2        | 77 | 54 | 72 |
| 32FSP01     | 32             | 2              | 91 | 66 | 85 |

\* R13, R15 are only upto 1" size (for higher sizes go to section 6 spiral fittings)



# ***6 Spiral Fittings***



[www.hpspl.com](http://www.hpspl.com)  
[www.hpsindia.co.in](http://www.hpsindia.co.in)

## BSP Female Straight

## 6 Spiral Fittings

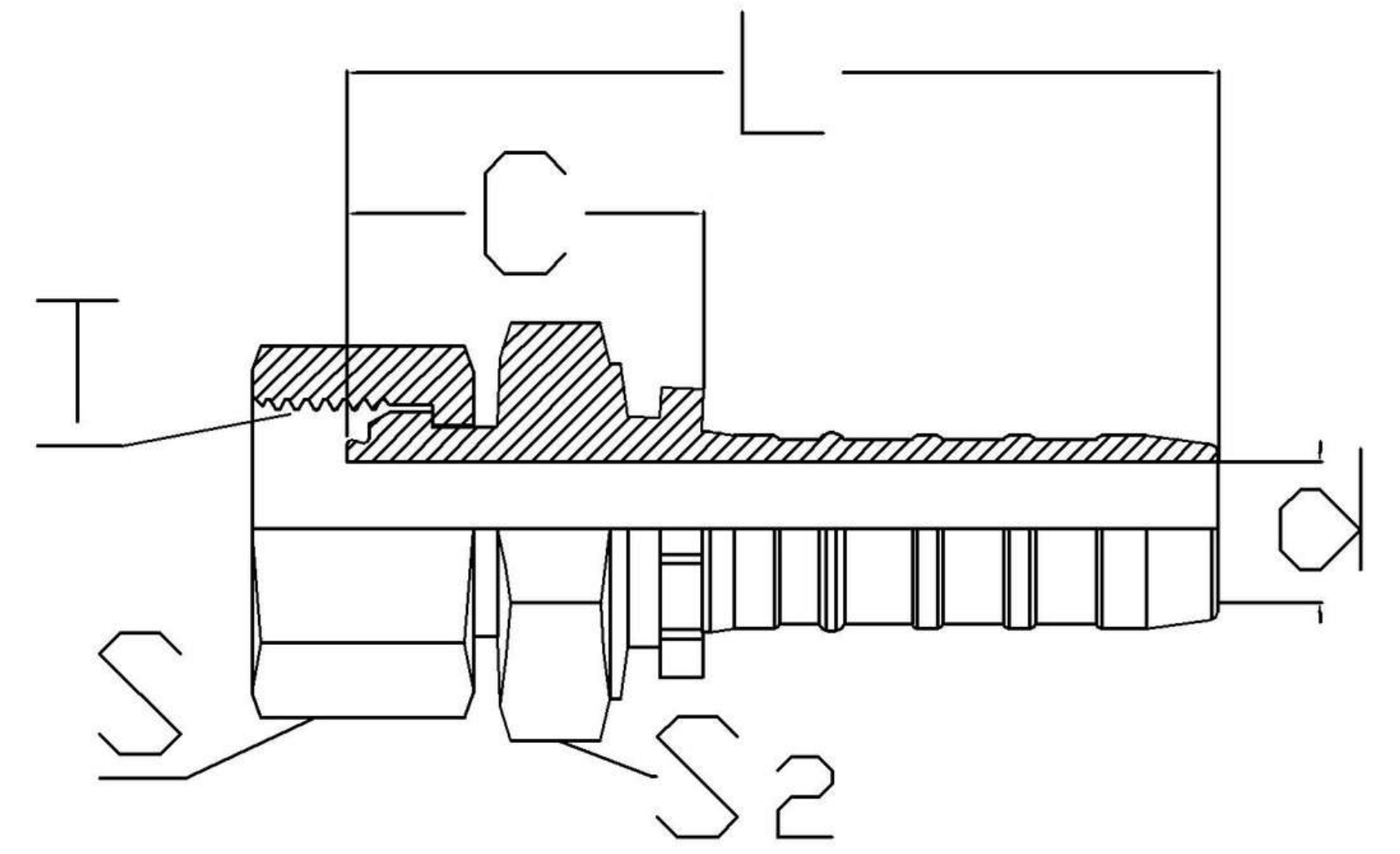
**Standard - ISO 8434-6**

**Cone - 60°**

**O- Ring - NBR\***

**Used for hose type -**

**6 SPIRAL HOSES, R13, R15**



| Description    | HOSE ID (Dash) | HOSE ID (inch) | Thread (T)  | S  | L   | C  | d  | D  | S2 |
|----------------|----------------|----------------|-------------|----|-----|----|----|----|----|
| HS-2020-FB-6SP | 20             | 1 - 1/4        | 1.1/4-11BSP | 50 | 119 | 47 | 26 | 68 | 50 |
| HS-2424-FB-6SP | 24             | 1 - 1/2        | 1.1/2-11BSP | 55 | 147 | 53 | 32 | 76 | 55 |
| HS-3232-FB-6SP | 32             | 2              | 2-11BSP     | 70 | 175 | 62 | 43 | 90 | 70 |

\* If part number contains FBO, the fitting is with O-Ring and if it contains FB, it is without O-Ring

## BSP Female 90 degree bend

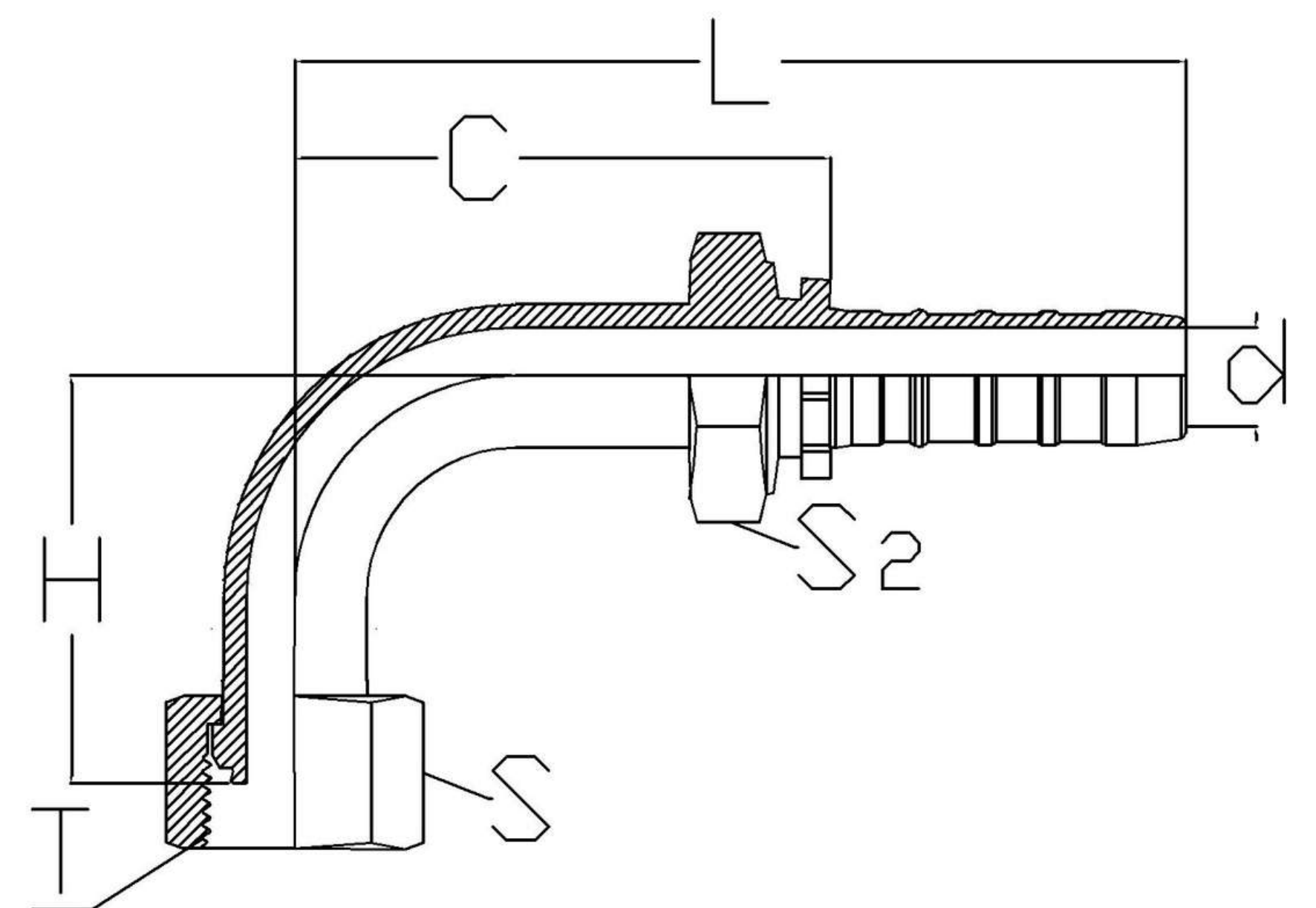
**Standard - ISO 8434-6**

**Cone - 60°**

**O- Ring - NBR\***

**Used for hose type -**

**6 SPIRAL HOSES, R13, R15**



| Description           | HOSE ID (Dash) | HOSE ID (inch) | Thread (T)  | S  | L   | C   | d  | D  | H   | S2 |
|-----------------------|----------------|----------------|-------------|----|-----|-----|----|----|-----|----|
| HS-2020-FB-90-95-6SP  | 20             | 1 - 1/4        | 1.1/4-11BSP | 50 | 140 | 108 | 24 | 68 | 95  | 50 |
| HS-2424-FB-90-100-6SP | 24             | 1 - 1/2        | 1.1/2-11BSP | 55 | 230 | 135 | 26 | 76 | 100 | 55 |
| HS-3232-FB-90-130-6SP | 32             | 2              | 2-11BSP     | 70 | 285 | 175 | 38 | 90 | 130 | 70 |

\* If part number contains FBO, the fitting is with O-Ring and if it contains FB, it is without O-Ring



## BSP Male Straight

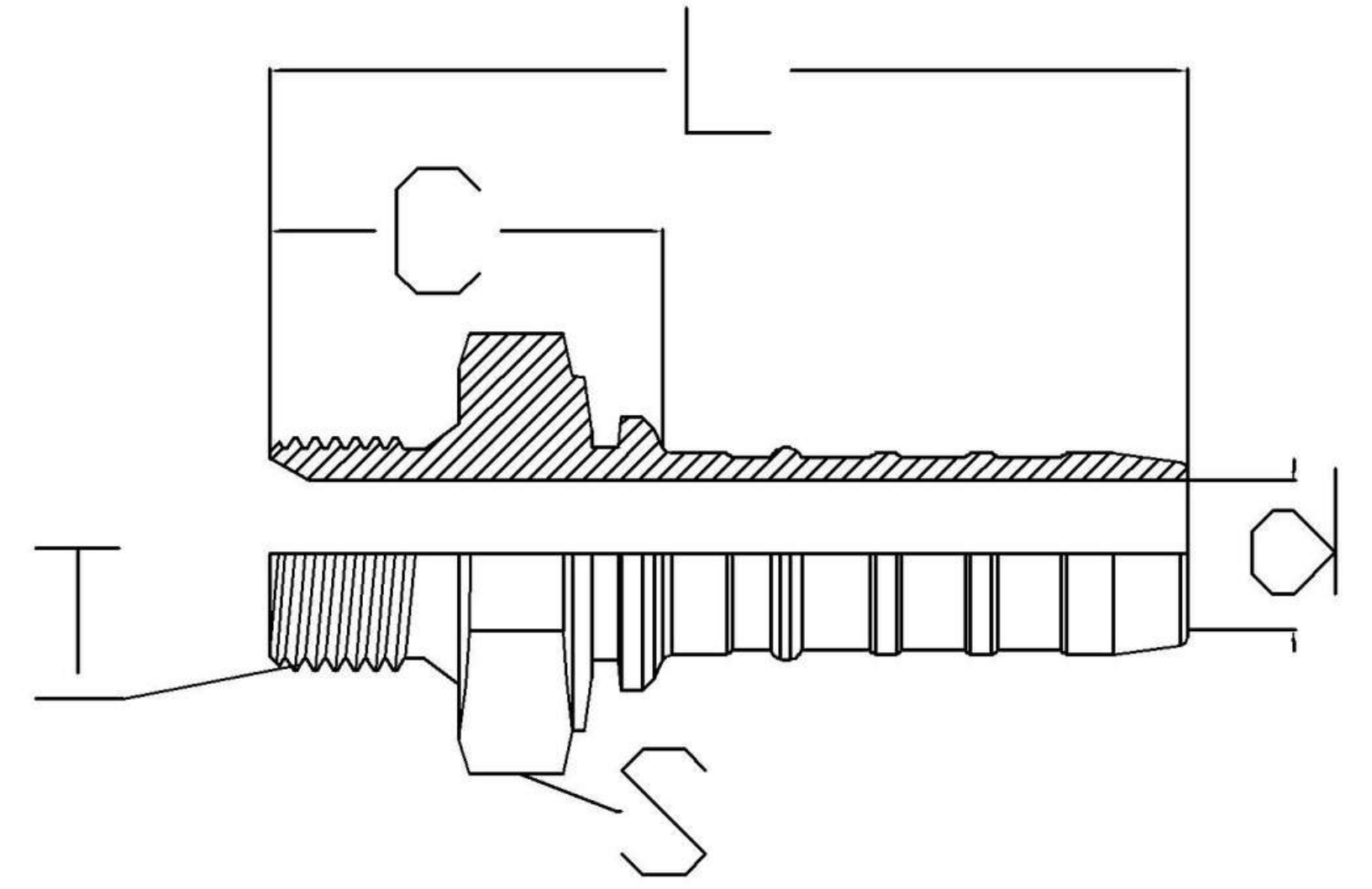
## 6 Spiral Fittings

**Standard - ISO 8434-6**

**Cone - 60°**

**Used for hose type -**

**6 SPIRAL HOSES, R13, R15**



| Description    | HOSE ID (Dash) | HOSE ID (inch) | Thread (T)  | S  | L   | C  | d  | D  |
|----------------|----------------|----------------|-------------|----|-----|----|----|----|
| HS-2424-MB-6SP | 24             | 1 - 1/2        | 1.1/2-11BSP | 55 | 150 | 54 | 33 | 76 |
| HS-3232-MB-6SP | 32             | 2              | 2-11BSP     | 70 | 181 | 65 | 42 | 90 |

## JIC Female Straight

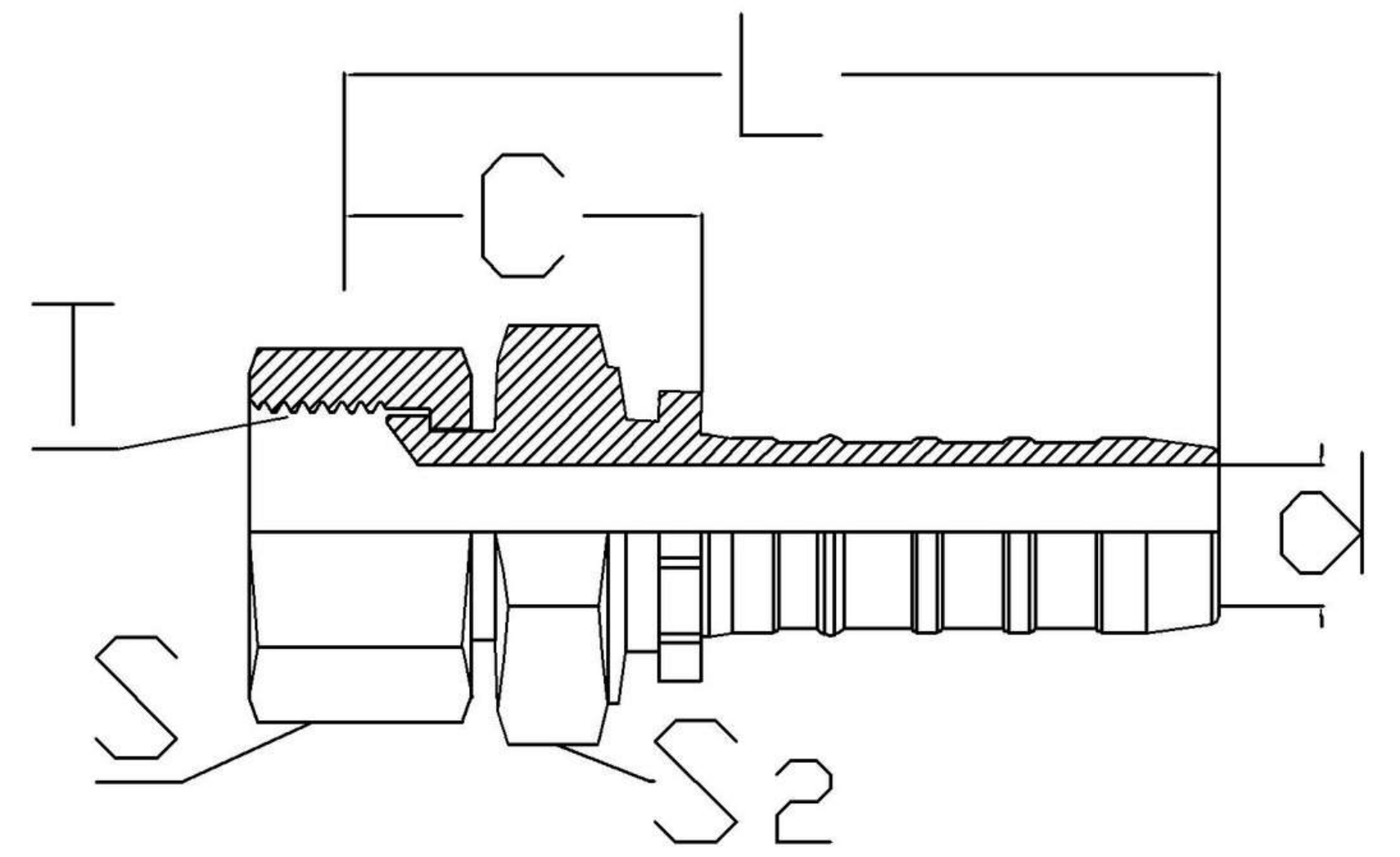
## 6 Spiral Fittings

**Standard - ISO 8434-2**

**Cone - 37°**

**Used for hose type -**

**6 SPIRAL HOSES, R13, R15**



| Description    | HOSE ID (Dash) | HOSE ID (inch) | Thread (T) | S  | L   | C  | d  | D  | S2 |
|----------------|----------------|----------------|------------|----|-----|----|----|----|----|
| HS-2020-FJ-6SP | 20             | 1 - 1/4        | 1.5/8-12UN | 50 | 118 | 46 | 26 | 68 | 50 |
| HS-3232-FJ-6SP | 32             | 2              | 2.1/2-12UN | 75 | 170 | 59 | 43 | 90 | 70 |

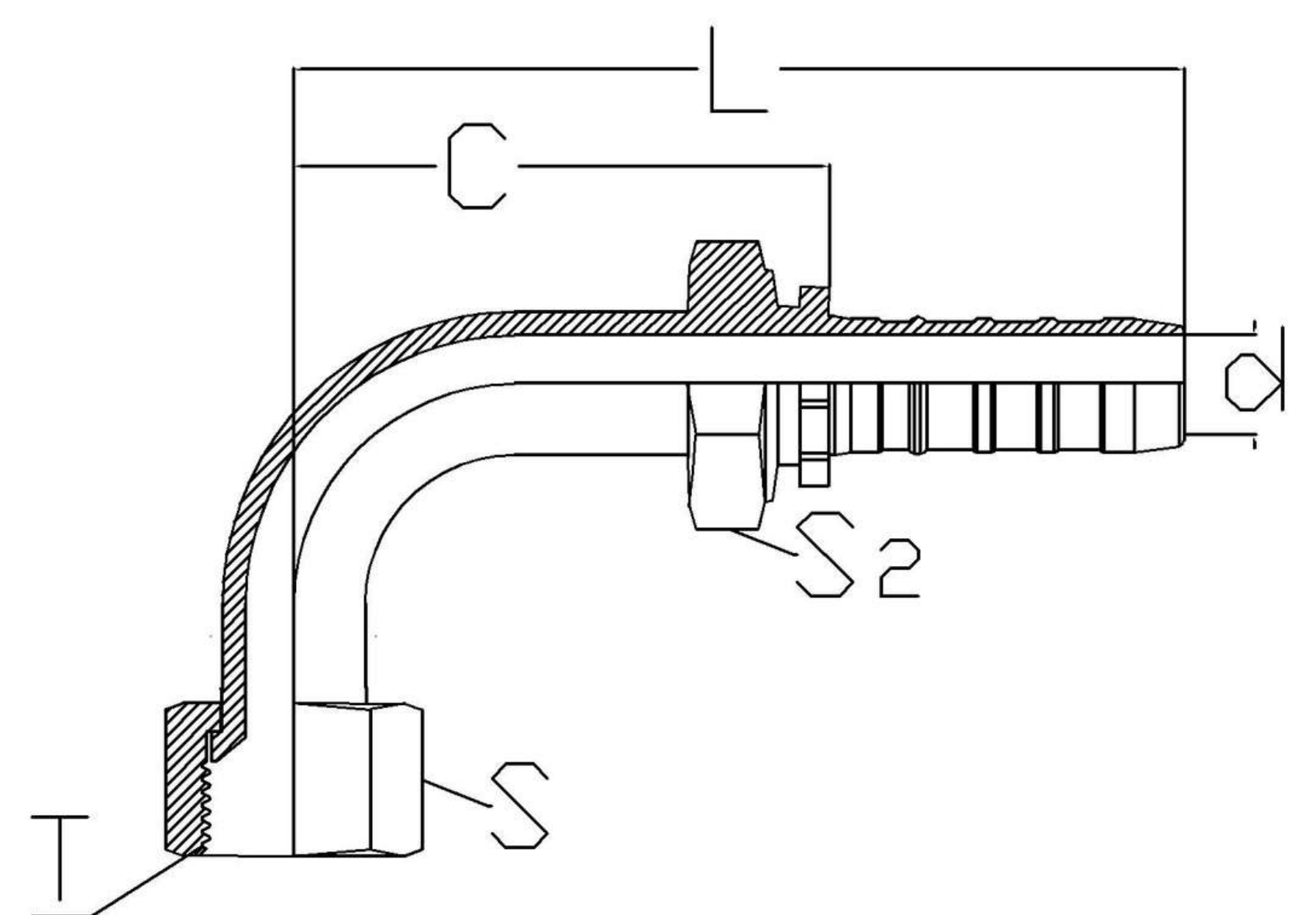
## JIC Female 90 degree bend

**Standard - ISO 8434-2**

**Cone - 37°**

**Used for hose type -**

**6 SPIRAL HOSES, R13, R15**



| Description           | HOSE ID (Dash) | HOSE ID (inch) | Thread (T) | S  | L   | C   | d  | D  | H   | S2 |
|-----------------------|----------------|----------------|------------|----|-----|-----|----|----|-----|----|
| HS-2020-FJ-90-90-6SP  | 20             | 1 - 1/4        | 1.5/8-12UN | 50 | 185 | 111 | 23 | 68 | 90  | 50 |
| HS-3232-FJ-90-130-6SP | 32             | 2              | 2.1/2-12UN | 75 | 290 | 180 | 38 | 90 | 130 | 70 |

## ORFS Female Straight

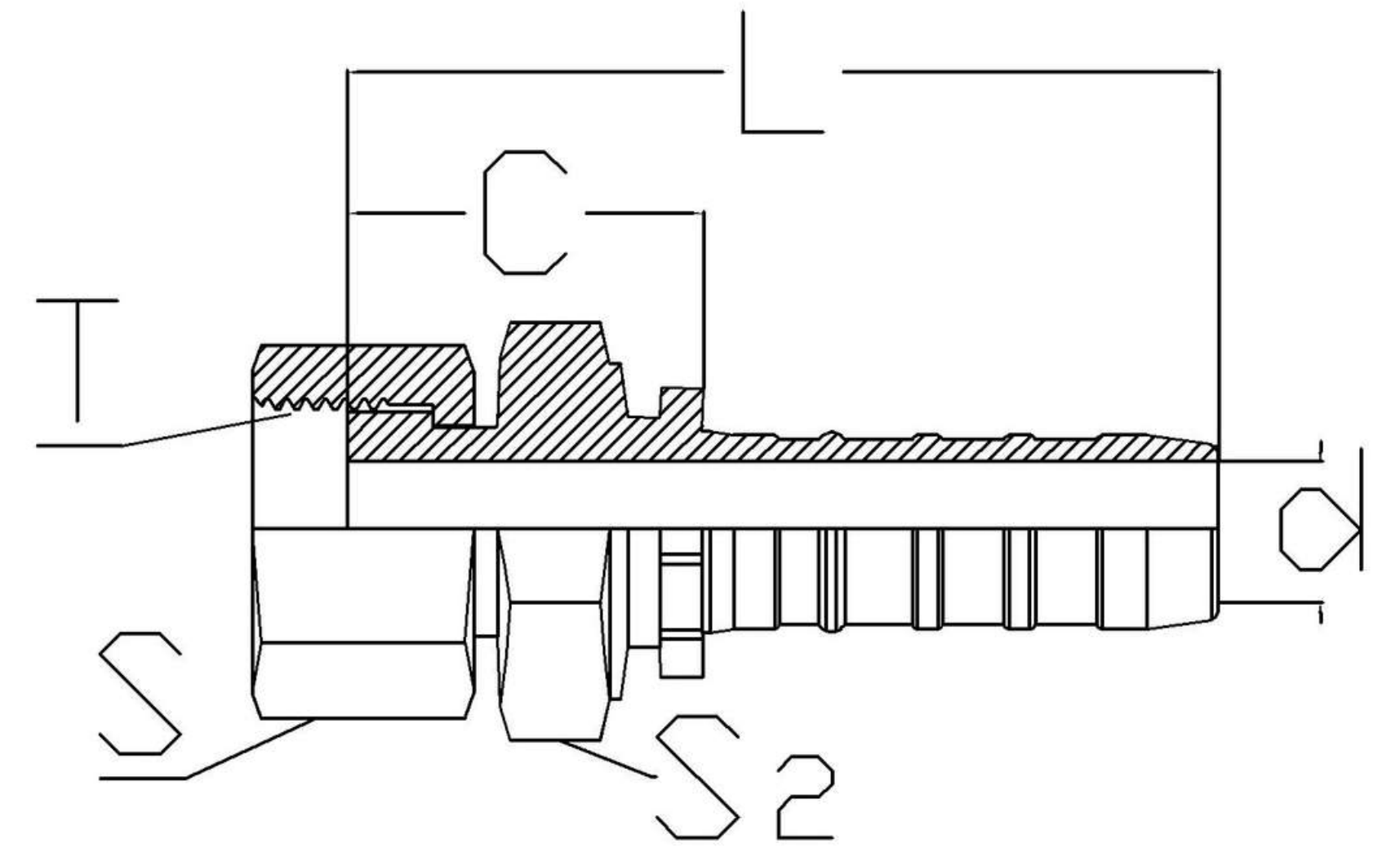
## 6 Spiral Fittings

**Standard** - ISO 8434-3

**Cone** - Flat face

**Used for hose type** -

6 SPIRAL HOSES, R13, R15



| Description    | HOSE ID (Dash) | HOSE ID (inch) | Thread (T)   | S  | L   | C  | d  | D  | S2 |
|----------------|----------------|----------------|--------------|----|-----|----|----|----|----|
| HS-2020-FO-6SP | 20             | 1 - 1/4        | 1.11/16 12UN | 50 | 128 | 57 | 26 | 68 | 50 |
| HS-2424-FO-6SP | 24             | 1 - 1/2        | 2-12UN       | 60 | 150 | 52 | 32 | 76 | 55 |

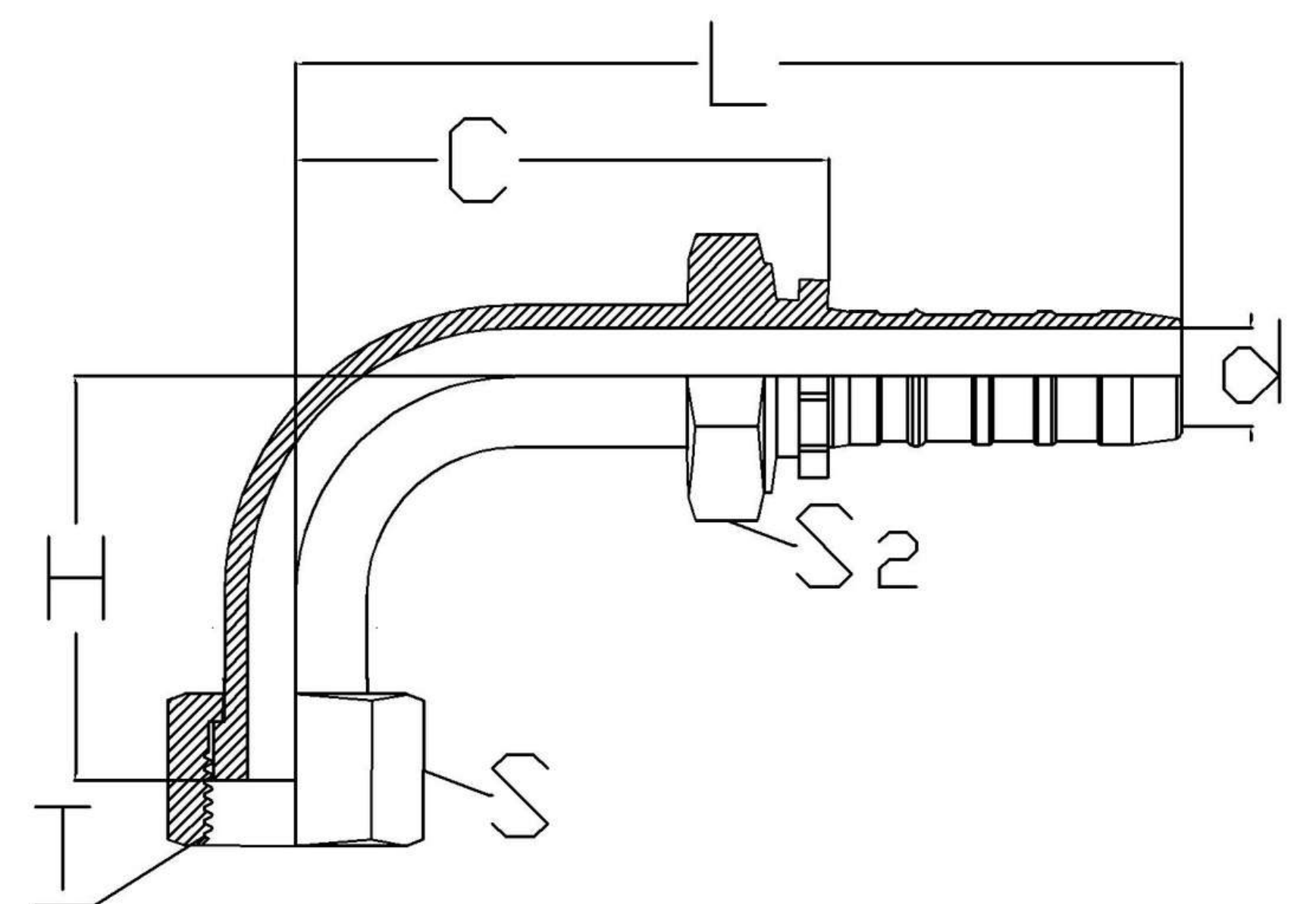
## ORFS Female 90 degree bend

**Standard** - ISO 8434-3

**Cone** - Flat face

**Used for hose type** -

6 SPIRAL HOSES, R13, R15



| Description           | HOSE ID (Dash) | HOSE ID (inch) | Thread (T)   | S  | L   | C   | d  | D  | H   | S2 |
|-----------------------|----------------|----------------|--------------|----|-----|-----|----|----|-----|----|
| HS-2020-FO-90-90-6SP  | 20             | 1 - 1/4        | 1.11/16 12UN | 50 | 175 | 115 | 23 | 68 | 90  | 50 |
| HS-2424-FO-90-100-6SP | 24             | 1 - 1/2        | 2-12UN       | 60 | 230 | 135 | 27 | 76 | 100 | 55 |

## METRIC Female Straight with O-Ring

## 6 Spiral Fittings

**Din Metric 24° Cone Female Straight**

**Standard - Din EN ISO 8434-1**

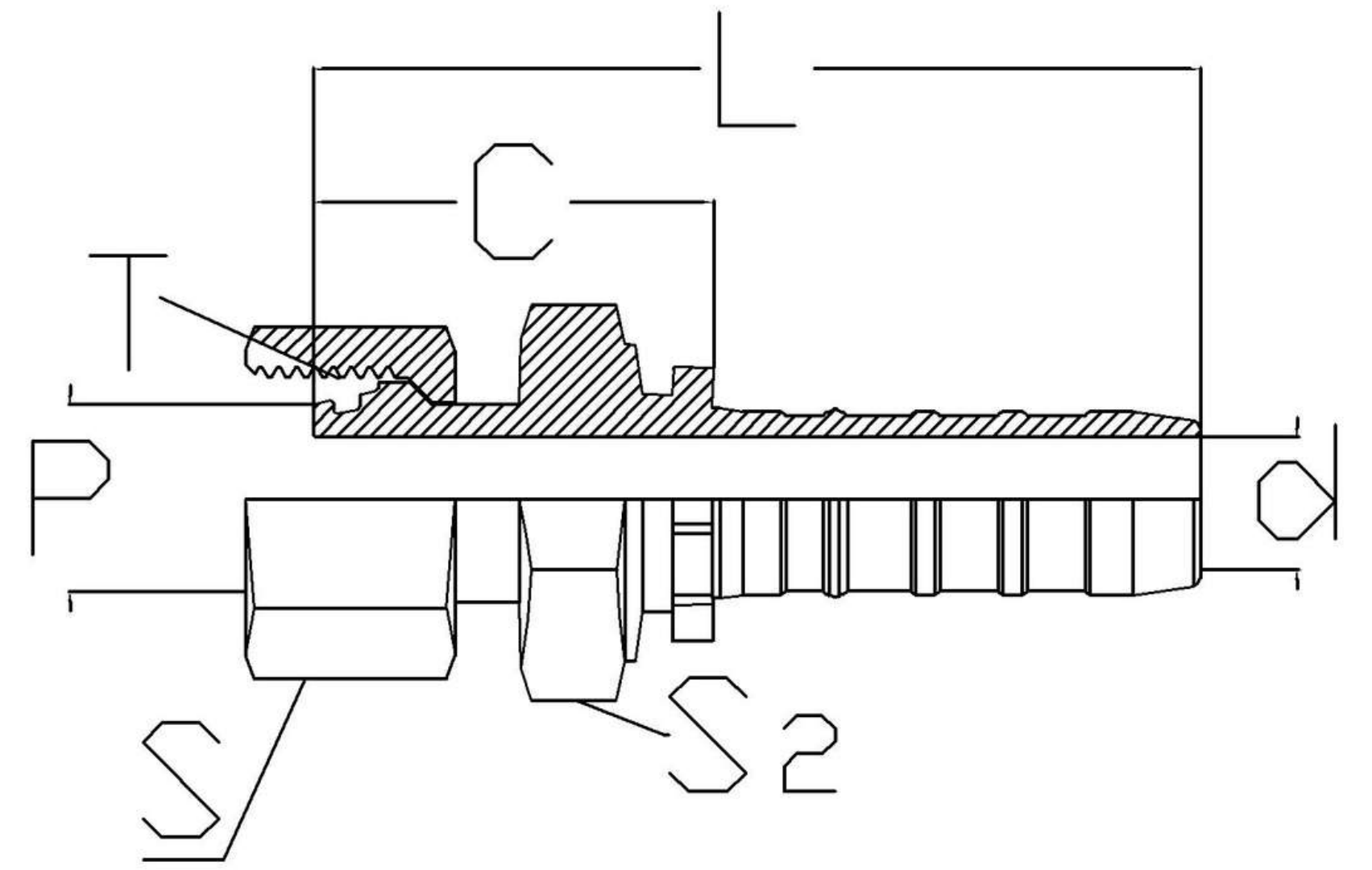
**O-ring - NBR**

**Light series - FDLO**

**Heavy series - FDHO**

**Used for hose type -**

**6 SPIRAL HOSES, R13, R15**



| Description      | HOSE ID (Dash) | HOSE ID (inch) | Thread (T) | S      | L  | C   | d  | D  | H  | S2 |
|------------------|----------------|----------------|------------|--------|----|-----|----|----|----|----|
| HS-2035-FDLO-6SP | 20             | 1 - 1/4        | 35L        | 45X2.0 | 50 | 134 | 51 | 27 | 68 | 50 |
| HS-2038-FDHO-6SP | 20             | 1 - 1/4        | 38H        | 52X2.0 | 60 | 142 | 61 | 26 | 68 | 50 |
| HS-2438-FDHO-6SP | 24             | 1 - 1/2        | 38H        | 52X2.0 | 60 | 175 | 66 | 28 | 76 | 55 |

## METRIC Female 90 degree bend with O-Ring

**Din Metric 24° Cone Female bend 90°**

**Standard - Din EN ISO 8434-1**

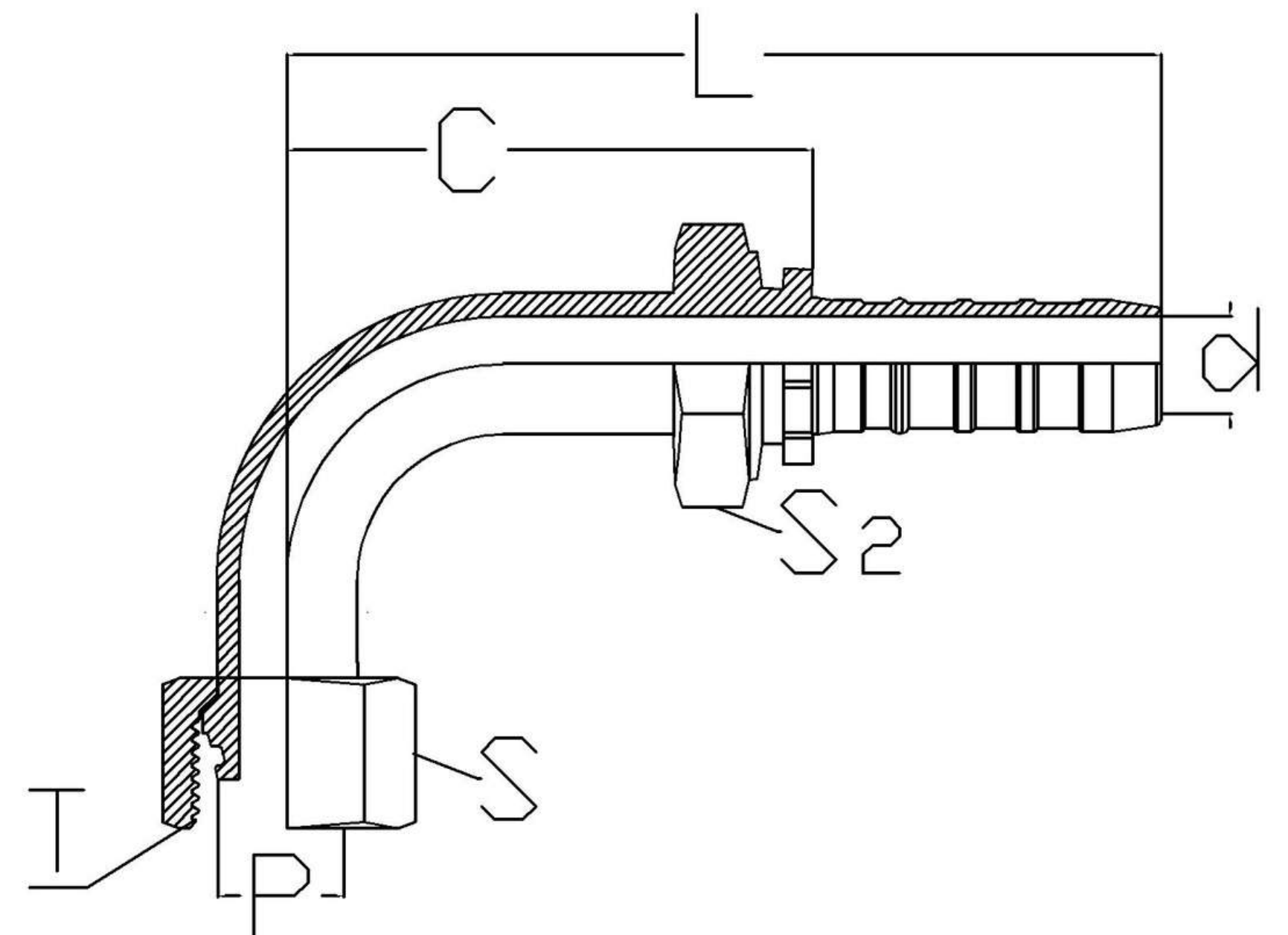
**O-ring - NBR**

**Light series - FDLO**

**Heavy series - FDHO**

**Used for hose type -**

**6 SPIRAL HOSES, R13, R15**



| Description             | HOSE ID (Dash) | HOSE ID (inch) | Pipe OD (P) | Thread (T) | S  | L   | C   | d  | D  | H   | S2 |
|-------------------------|----------------|----------------|-------------|------------|----|-----|-----|----|----|-----|----|
| HS-2035-FDLO-90-85-6SP  | 20             | 1 1/4          | 35L         | 45X2.0     | 50 | 185 | 112 | 26 | 68 | 85  | 50 |
| HS-2038-FDHO-90-90-6SP  | 20             | 1 1/4          | 38H         | 52X2.0     | 60 | 180 | 104 | 23 | 68 | 90  | 50 |
| HS-2438-FDHO-90-110-6SP | 24             | 1 1/2          | 38H         | 52X2.0     | 60 | 225 | 130 | 28 | 72 | 110 | 55 |

## Flange Code 61 Straight

## 6 Spiral Fittings

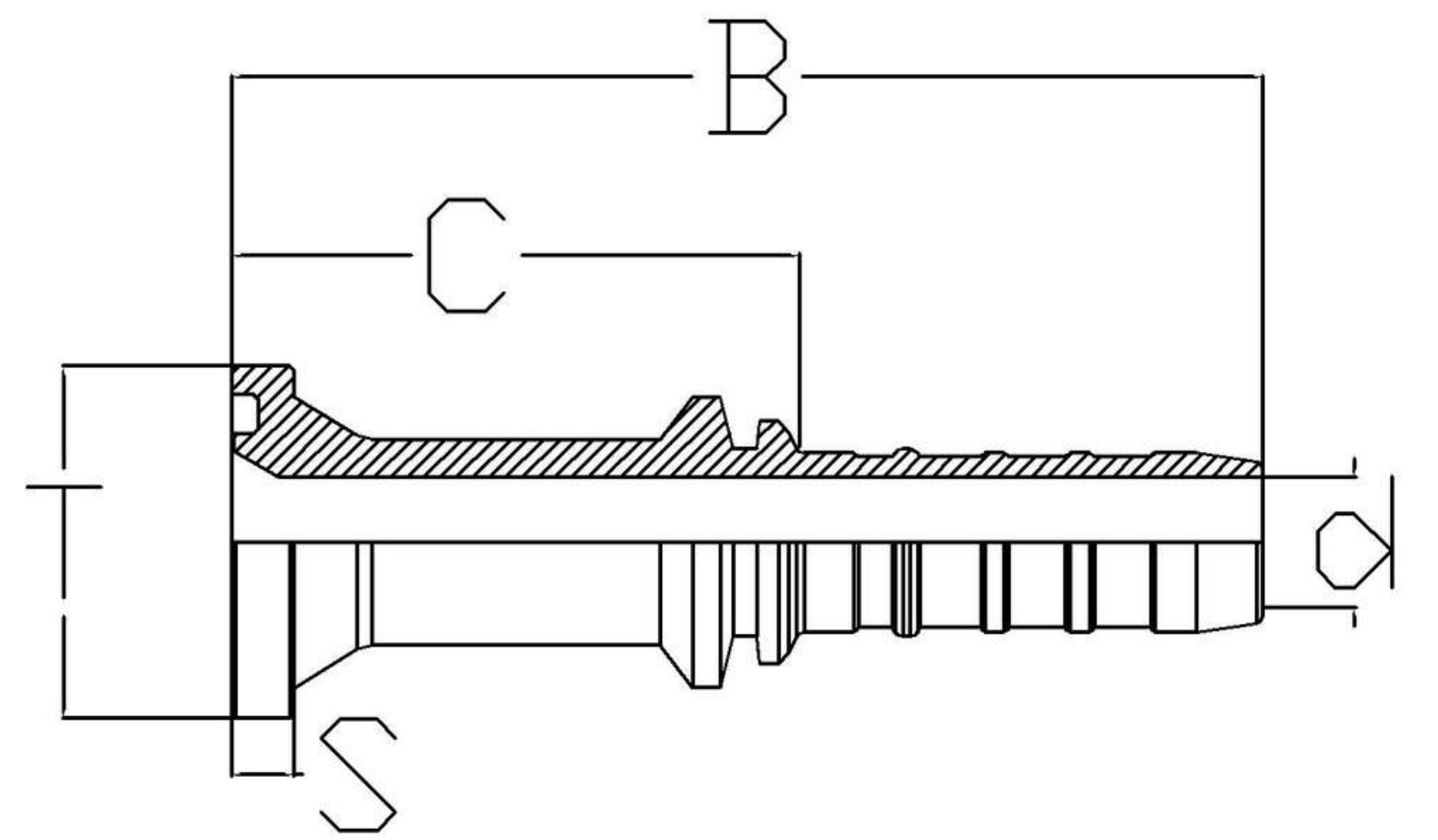
**Standard - SAE 6162-1**

3000 PSI CODE 61

**O RING - NBR\***

**Used for hose type -**

6 SPIRAL HOSES, R13, R15



| Description     | HOSE ID (Dash) | HOSE ID (inch) | Thread (T) | S  | L   | C  | d  | D  |
|-----------------|----------------|----------------|------------|----|-----|----|----|----|
| HS-2020-FL3-6SP | 20             | 1 - 1/4        | 50.8       | 8  | 147 | 76 | 26 | 68 |
| HS-3232-FL3-6SP | 32             | 2              | 71.4       | 10 | 230 | 24 | 44 | 90 |

\* O-Ring is not a part of the flange, it is ordered and invoiced separately.

## Flange Code 61 bend 90/45 degree

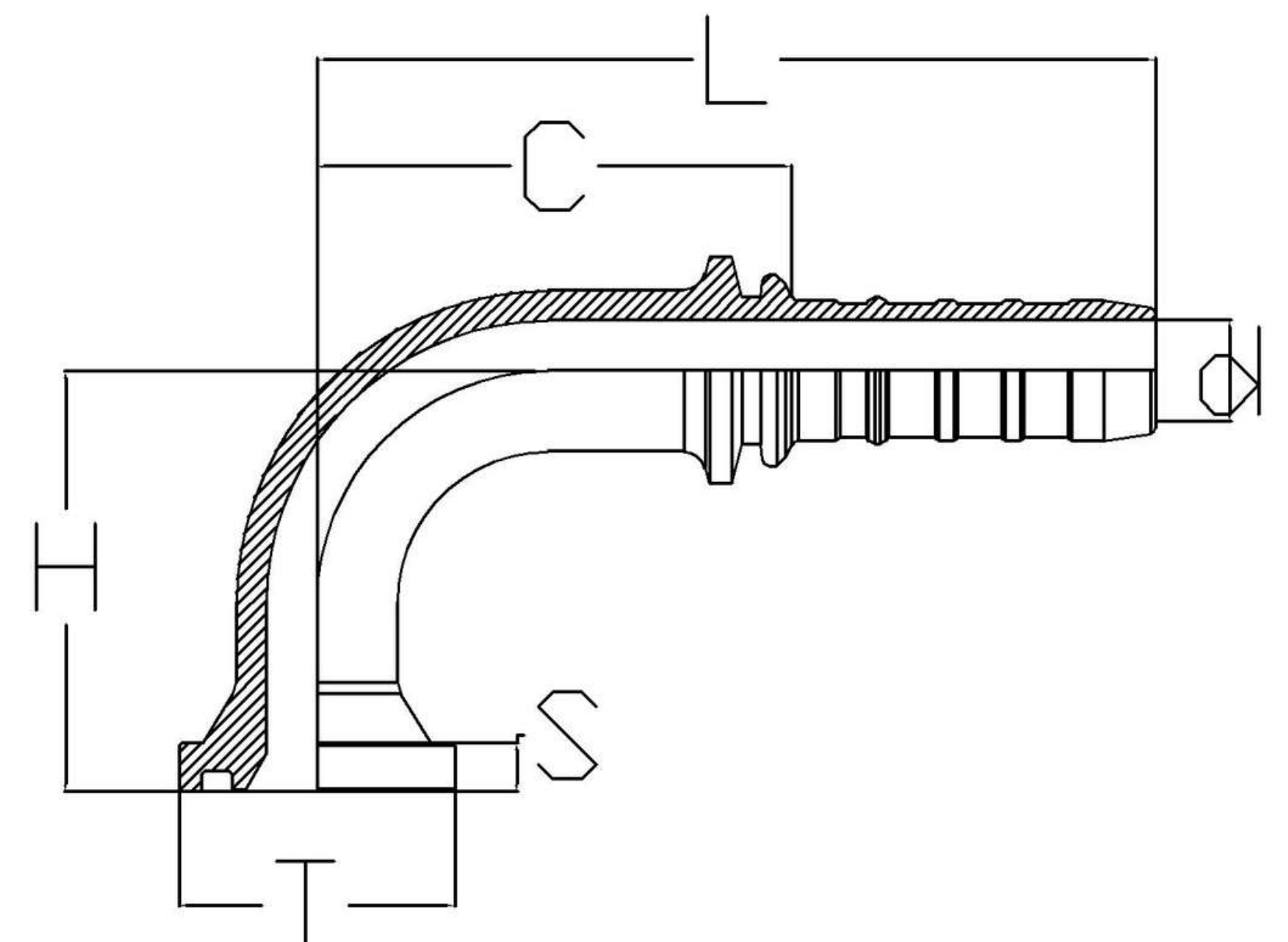
**Standard - SAE 6162-1**

3000 PSI CODE 61

**O RING - NBR\***

**Used for hose type -**

6 SPIRAL HOSES, R13, R15



| Description            | HOSE ID (Dash) | HOSE ID (inch) | Thread (T) | S  | L   | C   | d  | D  | H   |
|------------------------|----------------|----------------|------------|----|-----|-----|----|----|-----|
| HS-2020-FL3-90-90-6SP  | 20             | 1 - 1/4        | 50.8       | 8  | 170 | 95  | 26 | 68 | 90  |
| HS-3232-FL3-90-130-6SP | 32             | 2              | 71.4       | 10 | 265 | 155 | 39 | 85 | 130 |
| HS-3232-FL3-45-60-6SP  | 32             | 2              | 71.4       | 10 | 230 | 190 | 40 | 90 | 60  |

\* O-Ring is not a part of the flange, it is ordered and invoiced separately.

## Flange Code 62 Straight

## 6 Spiral Fittings

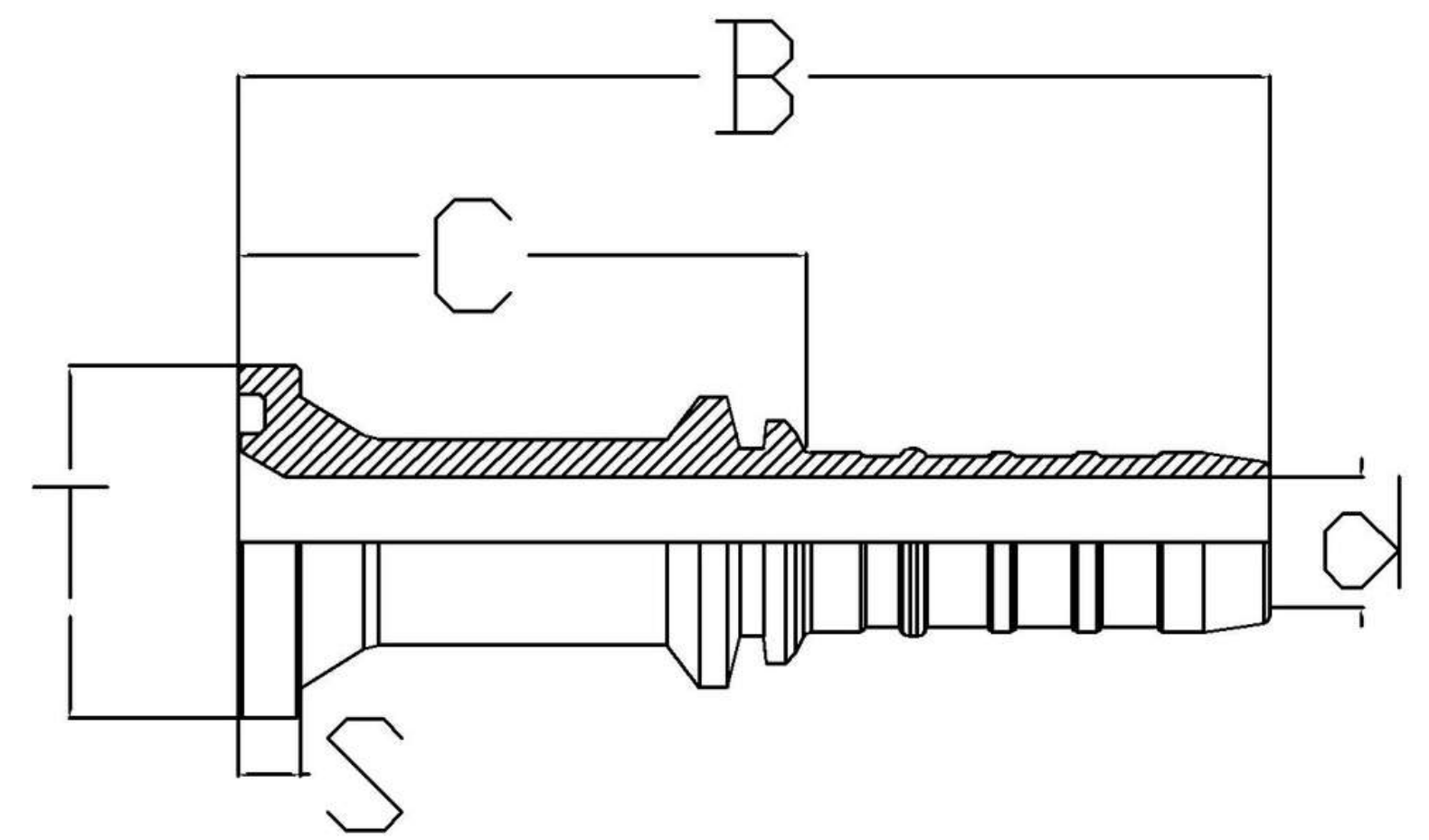
**Standard - SAE 6162-1**

6000 PSI CODE 62

**O RING - NBR\***

**Used for hose type -**

6 SPIRAL HOSES, R13, R15



| Description     | HOSE ID (Dash) | HOSE ID (inch) | Thread (T) | S  | L   | C   | d  | D  |
|-----------------|----------------|----------------|------------|----|-----|-----|----|----|
| HS-2016-FL6-6SP | 20             | 1 - 1/4        | 47.6       | 10 | 134 | 62  | 26 | 68 |
| HS-2020-FL6-6SP | 20             | 1 - 1/4        | 54         | 11 | 147 | 76  | 26 | 68 |
| HS-2420-FL6-6SP | 24             | 1 - 1/2        | 54         | 11 | 165 | 75  | 32 | 76 |
| HS-2424-FL6-6SP | 24             | 1 - 1/2        | 63.5       | 13 | 195 | 100 | 33 | 76 |
| HS-2432-FL6-6SP | 24             | 1 - 1/2        | 79.4       | 13 | 175 | 80  | 32 | 76 |
| HS-3232-FL6-6SP | 32             | 2              | 79.4       | 13 | 250 | 136 | 44 | 90 |

\* O-Ring is not a part of the flange, it is ordered and invoiced separately

## Flange Code 62 90/45 degree bend

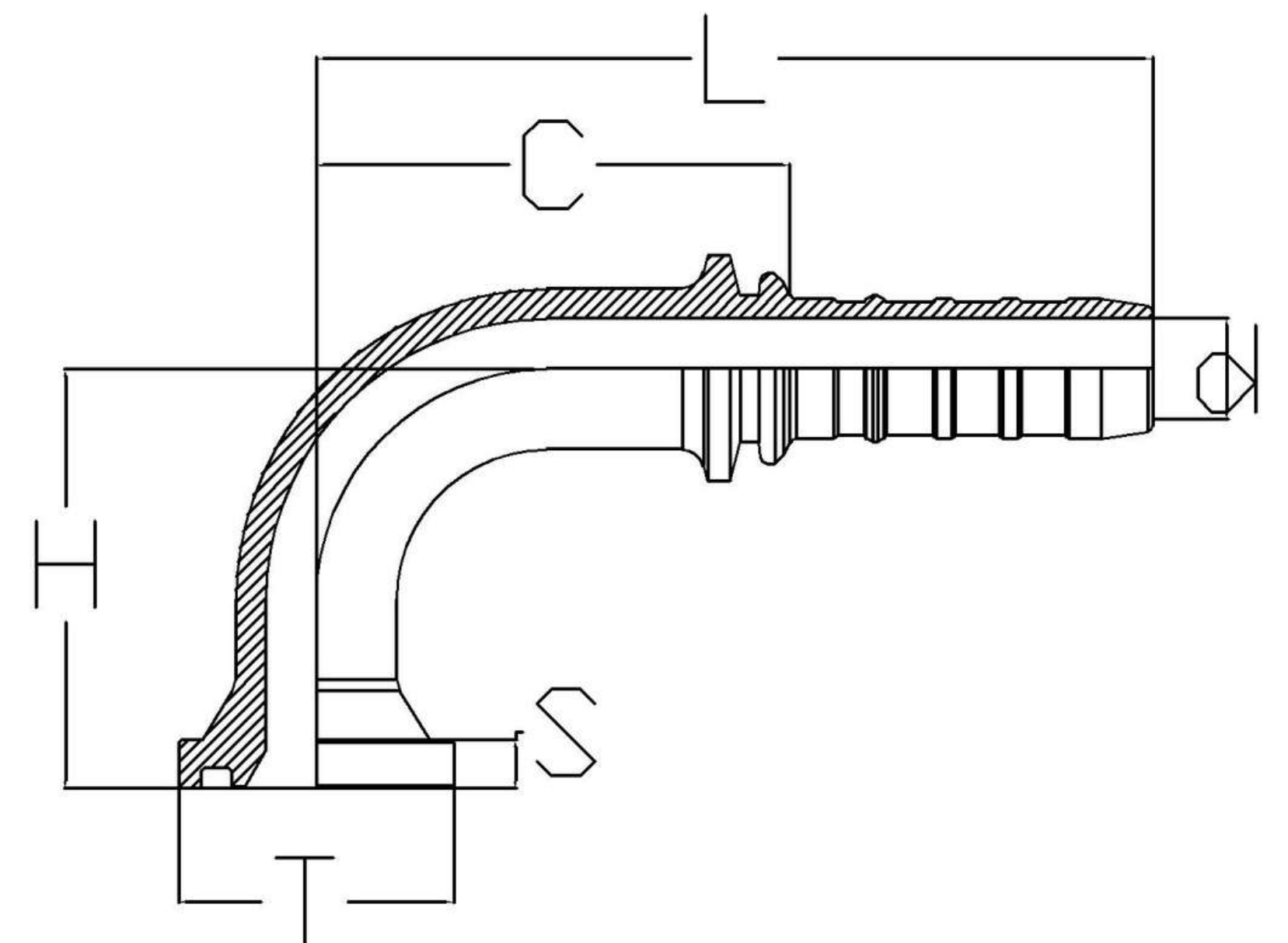
**Standard - SAE 6162-1**

6000 PSI CODE 62

**O RING - NBR\***

**Used for hose type -**

6 SPIRAL HOSES, R13, R15



| Description            | HOSE ID (Dash) | HOSE ID (inch) | Thread (T) | S  | L   | C   | d  | D  | H   |
|------------------------|----------------|----------------|------------|----|-----|-----|----|----|-----|
| HS-2016-FL6-90-85-6SP  | 20             | 1 - 1/4        | 47.6       | 10 | 160 | 90  | 21 | 68 | 85  |
| HS-2020-FL6-90-120-6SP | 20             | 1 - 1/4        | 54         | 11 | 165 | 95  | 26 | 68 | 120 |
| HS-2020-FL6-90-150-6SP | 20             | 1 - 1/4        | 54         | 11 | 165 | 95  | 26 | 68 | 150 |
| HS-2020-FL6-90-180-6SP | 20             | 1 - 1/4        | 54         | 11 | 180 | 110 | 26 | 68 | 180 |
| HS-2020-FL6-90-95-6SP  | 20             | 1 - 1/4        | 54         | 11 | 170 | 95  | 26 | 68 | 95  |
| HS-2420-FL6-90-95-6SP  | 24             | 1 - 1/2        | 54         | 11 | 190 | 95  | 26 | 76 | 95  |
| HS-2424-FL6-90-100-6SP | 24             | 1 - 1/2        | 63.5       | 13 | 220 | 120 | 28 | 76 | 100 |
| HS-2432-FL6-90-110-6SP | 24             | 1 - 1/2        | 79.4       | 13 | 235 | 130 | 27 | 76 | 110 |
| HS-3232-FL6-90-140-6SP | 32             | 2              | 79.4       | 13 | 285 | 180 | 43 | 90 | 140 |
| HS-2020-FL6-45-40-6SP  | 20             | 1 - 1/4        | 54.0       | 11 | 195 | 120 | 26 | 62 | 40  |
| HS-2424-FL6-45-46-6SP  | 24             | 1 - 1/2        | 63.5       | 13 | 230 | 150 | 31 | 76 | 46  |
| HS-3232-FL6-45-50-6SP  | 32             | 2              | 79.4       | 13 | 275 | 160 | 42 | 90 | 50  |

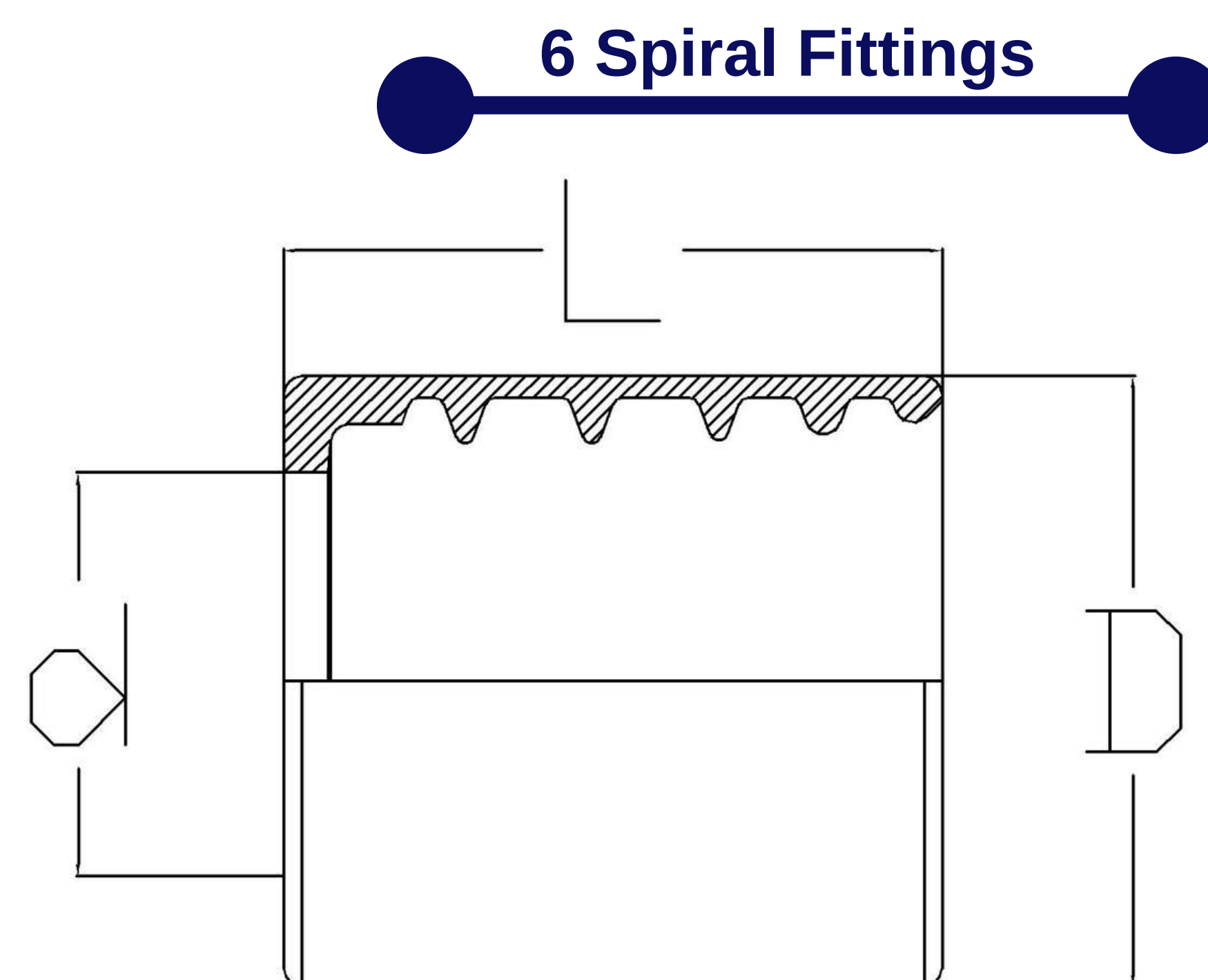
\* O-Ring is not a part of the flange, it is ordered and invoiced separately

## Ferrule

**Ferrule - Cap - Socket**

**Used for hose type-**

6 SPIRAL HOSES, R13, R15



| Description | HOSE ID (Dash) | HOSE ID (inch) | L   | d  | D  |
|-------------|----------------|----------------|-----|----|----|
| 20FSP01-6SP | 20             | 1 1/4          | 73  | 49 | 68 |
| 24FSP01-6SP | 24             | 1 1/2          | 92  | 54 | 76 |
| 32FSP01-6SP | 32             | 2              | 110 | 65 | 90 |









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