



- Notes:
- 1.- Engrave "TSH-GD-04.0003 Rev ... Pos"
 - 2.- Engrave Thread and Seal. Words shall be 0.8mm deep.
 - 3.- Material: Thyrodur 2990 Heat treatment:
 - a) Stress Relief at 650°C X 2 hours, as an intermediate step between machining and grinding.
 - b) Vacuum quenching since a temperature of austenitising 1070- 1080 °C at room temperature
 - c) Cooling: Subzero up to -80°C and then tempered twice at 520°C. Hardness requested 58-60 HRC
 - 4.- Serial Number- (according to the supplier identification)
 - 5.- Taper surfaces for thread and seal axes shall be perpendicular to the reference surface.
 - 6.- Dimensions S, Ref 3.000, T, ATP, Angle A and B shall be certified.
 - 7.- The Corrosion Protection and Packaging shall be according to TenarisConnections specification.
 - 8.- The Certification shall be according TenarisConnections specification.

| | | | | | | | | | | | | | | | | | | | |
|---|-----------------------------------|------------|--|-----------------|--|------|-----|-----|----------|---|--|--|--|--|--|--|--|--|--|
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| MODIFICATIONS | | | | | | | | | | OBJECT: | | | | | | | | | |
| Rev | Description | | | | | Draw | Chk | App | Date | TenaarisHydril Blue™ Near Flush Pin Internal Seal and Small Thread Standard | | | | | | | | | |
| 02 | Added pos. 3,2 and change seal | | | | | JPA | ELT | NCR | 19.10 | | | | | | | | | | |
| 03 | Added positions and a hole at the | | | | | JPA | BTL | NCR | 19.11.01 | | | | | | | | | | |
| 04 | Change pos. 3,2 and B | | | | | JPA | BTL | NCR | 30.04.01 | | | | | | | | | | |
| | tolerances | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
|  | | Scale: NOT | | Date: 25/Sep/09 | | | | | | | | | | | | | | | |
| DRAWING N.: | | | | | | | | | | R E V. N. | | | | | | | | | |
| TS-H-GD-04.0003 | | | | | | | | | | 04 1/3 | | | | | | | | | |

All the changes do not affect the functionality of the Standards made with previous revisions.

| Std Rev | Diameter | lb/ft | Wall Thickness | Position | Angle A° | ATP Ref | T or Diam T | Angle B° | S or Diam S | STP | SL | SR |
|---------|----------|-------|----------------|----------|----------|---------|-------------|----------|-------------|--------|------|------|
| 01 | 5 | 18.00 | 0.36 | 31 | 91.432 | 27.400 | 115.334 | 94.764 | 111.770 | 19.400 | 52.0 | 30.0 |
| 0 | 5 | 20.30 | 0.41 | 0 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.0 | 0.0 |
| 0 | 5 | 20.80 | 0.42 | 0 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.0 | 0.0 |
| 0 | 5 | 21.40 | 0.44 | 0 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.0 | 0.0 |
| 0 | 5 | 23.20 | 0.48 | 0 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.0 | 0.0 |
| 01 | 5.5 | 23.00 | 0.42 | 1 | 91.432 | 27.400 | 126.289 | 94.764 | 122.690 | 19.400 | 52.0 | 30.0 |
| 0 | 5.5 | 26.00 | 0.48 | 0 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.0 | 0.0 |
| 0 | 6.625 | 28.00 | 0.42 | 0 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.0 | 0.0 |
| 0 | 6.625 | 32.00 | 0.48 | 0 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.0 | 0.0 |
| 02 | 7 | 26.00 | 0.36 | 32 | 91.432 | 27.200 | 166.218 | 94.764 | 162.629 | 19.200 | 52.0 | 40.0 |
| 01 | 7 | 29.00 | 0.41 | 2 | 91.790 | 27.600 | 165.411 | 94.764 | 161.078 | 19.600 | 52.0 | 40.0 |
| 01 | 7 | 32.00 | 0.45 | 3 | 91.790 | 30.000 | 163.558 | 94.764 | 159.075 | 22.000 | 52.0 | 40.0 |
| 01 | 7 | 35.00 | 0.50 | 4 | 92.434 | 27.600 | 161.338 | 94.764 | 156.735 | 19.600 | 52.0 | 40.0 |
| 01 | 7 | 38.00 | 0.54 | 5 | 92.434 | 32.200 | 159.920 | 94.764 | 154.927 | 24.200 | 52.0 | 40.0 |
| 03 | 7 | 41.00 | 0.59 | 33 | 92.434 | 31.000 | 158.773 | 94.764 | 153.881 | 23.000 | 52.0 | 40.0 |
| 03 | 7.625 | 29.70 | 0.38 | 34 | 91.432 | 27.000 | 182.114 | 94.764 | 178.535 | 19.000 | 52.0 | 40.0 |
| 01 | 7.625 | 33.70 | 0.43 | 6 | 91.790 | 27.600 | 179.704 | 94.764 | 175.372 | 19.600 | 52.0 | 40.0 |
| 01 | 7.625 | 39.00 | 0.50 | 7 | 92.434 | 27.800 | 176.946 | 94.764 | 172.327 | 19.800 | 52.0 | 40.0 |
| 01 | 7.625 | 42.80 | 0.56 | 8 | 92.434 | 34.000 | 175.252 | 94.764 | 170.106 | 26.000 | 52.0 | 40.0 |
| 03 | 7.625 | 45.30 | 0.60 | 35 | 92.434 | 33.400 | 174.436 | 94.764 | 169.341 | 25.400 | 52.0 | 40.0 |
| 03 | 7.625 | 47.10 | 0.63 | 36 | 92.434 | 34.400 | 173.387 | 94.764 | 168.206 | 26.400 | 52.0 | 40.0 |
| 01 | 7.75 | 46.10 | 0.60 | 9 | 92.434 | 28.200 | 178.189 | 94.764 | 173.535 | 20.200 | 52.0 | 40.0 |
| 03 | 7.75 | 48.60 | 0.64 | 37 | 92.434 | 34.000 | 176.201 | 94.764 | 171.055 | 26.000 | 52.0 | 40.0 |
| 03 | 8.625 | 36.00 | 0.40 | 38 | 91.432 | 27.600 | 205.989 | 94.764 | 202.381 | 19.600 | 52.0 | 40.0 |
| 03 | 8.625 | 40.00 | 0.45 | 39 | 91.790 | 28.000 | 205.063 | 94.764 | 200.705 | 20.000 | 52.0 | 40.0 |
| 03 | 8.625 | 44.00 | 0.50 | 40 | 92.434 | 30.200 | 202.400 | 94.764 | 197.576 | 22.200 | 52.0 | 40.0 |
| 03 | 8.625 | 49.00 | 0.56 | 41 | 92.434 | 30.800 | 200.857 | 94.764 | 195.983 | 22.800 | 52.0 | 40.0 |
| 0 | 8.625 | 52.00 | 0.60 | 0 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.0 | 0.0 |
| 03 | 9.625 | 40.00 | 0.40 | 42 | 91.432 | 27.200 | 232.064 | 94.764 | 228.475 | 19.200 | 52.0 | 40.0 |
| 01 | 9.625 | 43.50 | 0.44 | 10 | 91.790 | 27.600 | 231.523 | 94.764 | 227.191 | 19.600 | 52.0 | 40.0 |



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| MODIFICATIONS | | | | | OBJECT: | |
|---|---|-------|------|-----------|-----------|-----------------------------------|
| Rev | Description | Draw. | Chk. | App. | Date | TenaRisHydril Blue™ Near Flush |
| 02 | Added pos. 32 and change seal length. | JPA | ELT | NCR | 19/10 | |
| 03 | Added positions and a hole at the JPA BTL | BTL | NCR | 13-sep-11 | | |
| 04 | Changed angles A and B Tolerances | JPA | BTL | NCR | 10-sep-11 | |
| DETAIL: Pin Internal Seal and Small Thread Standard | | | | | | |



Scale: NOT
Date: 25/Sep/04
TSH-GD-04.0003

Drawn by: JPA
Checked by: ELT
Approved by: NCR



DRAWING N.:
R E V
N
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All the changes do not affect the functionality of the Standards made with previous revisions.

| Std Rev | Diameter | lb/ft | Wall Thickness | Position | Angle A° | ATP Ref | T or Diam T | Angle B° | S or Diam S | STP | SL | SR |
|---------|----------|-------|----------------|----------|----------|---------|-------------|----------|-------------|--------|------|------|
| 01 | 9.625 | 47.00 | 0.47 | 11 | 91.790 | 31.600 | 228.956 | 94.764 | 224.374 | 23.600 | 52.0 | 40.0 |
| 01 | 9.625 | 53.50 | 0.55 | 12 | 92.434 | 30.600 | 227.757 | 94.764 | 222.899 | 22.600 | 52.0 | 40.0 |
| 03 | 9.625 | 58.40 | 0.60 | 43 | 92.434 | 33.400 | 226.239 | 94.764 | 221.144 | 25.400 | 52.0 | 40.0 |
| 0 | 9.625 | 64.90 | 0.67 | 0 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.0 | 0.0 |
| 01 | 9.875 | 62.80 | 0.63 | 13 | 92.434 | 31.400 | 230.201 | 94.764 | 225.275 | 23.400 | 52.0 | 40.0 |
| 03 | 9.875 | 65.30 | 0.65 | 44 | 92.434 | 35.000 | 228.898 | 94.764 | 223.667 | 27.000 | 52.0 | 40.0 |
| 0 | 9.875 | 68.80 | 0.70 | 0 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.0 | 0.0 |
| 01 | 10 | 68.80 | 0.70 | 14 | 92.434 | 31.400 | 230.201 | 94.764 | 225.275 | 23.400 | 52.0 | 40.0 |
| 01 | 10.75 | 51.00 | 0.45 | 15 | 91.790 | 27.800 | 258.721 | 94.764 | 254.376 | 19.800 | 52.0 | 40.0 |
| 01 | 10.75 | 55.50 | 0.50 | 16 | 91.790 | 30.000 | 256.712 | 94.764 | 252.229 | 22.000 | 52.0 | 40.0 |
| 01 | 10.75 | 60.70 | 0.55 | 17 | 92.434 | 27.600 | 255.027 | 94.764 | 250.425 | 19.600 | 52.0 | 40.0 |
| 01 | 10.75 | 65.70 | 0.60 | 18 | 92.434 | 32.800 | 254.667 | 94.764 | 249.623 | 24.800 | 52.0 | 40.0 |
| 03 | 10.75 | 71.10 | 0.65 | 45 | 92.434 | 28.800 | 252.176 | 94.764 | 247.472 | 20.800 | 52.0 | 40.0 |
| 01 | 11.75 | 54.00 | 0.44 | 19 | 91.790 | 28.000 | 284.342 | 94.764 | 279.985 | 20.000 | 70.0 | 50.0 |
| 01 | 11.75 | 60.00 | 0.49 | 20 | 91.790 | 29.200 | 282.389 | 94.764 | 277.957 | 21.200 | 70.0 | 50.0 |
| 01 | 11.75 | 65.00 | 0.53 | 21 | 92.434 | 27.600 | 282.773 | 94.764 | 278.170 | 19.600 | 70.0 | 50.0 |
| 01 | 11.75 | 71.00 | 0.58 | 22 | 92.434 | 32.400 | 279.186 | 94.764 | 274.175 | 24.400 | 70.0 | 50.0 |
| 01 | 11.875 | 71.80 | 0.58 | 23 | 92.434 | 29.600 | 283.045 | 94.764 | 278.272 | 21.600 | 70.0 | 50.0 |
| 01 | 13.375 | 61.00 | 0.43 | 24 | 91.432 | 27.800 | 325.997 | 94.764 | 322.379 | 19.800 | 70.0 | 50.0 |
| 01 | 13.375 | 68.00 | 0.48 | 25 | 91.790 | 27.600 | 324.115 | 94.764 | 319.783 | 19.600 | 70.0 | 50.0 |
| 01 | 13.375 | 72.00 | 0.51 | 26 | 91.790 | 31.000 | 322.965 | 94.764 | 318.358 | 23.000 | 70.0 | 50.0 |
| 01 | 13.375 | 77.00 | 0.55 | 27 | 92.434 | 30.600 | 321.436 | 94.764 | 316.578 | 22.600 | 70.0 | 50.0 |
| 01 | 13.375 | 80.70 | 0.58 | 28 | 92.434 | 31.800 | 320.683 | 94.764 | 315.724 | 23.800 | 70.0 | 50.0 |
| 01 | 13.375 | 86.00 | 0.63 | 29 | 92.434 | 28.600 | 319.339 | 94.764 | 314.651 | 20.600 | 70.0 | 50.0 |
| 01 | 13.625 | 88.20 | 0.63 | 30 | 92.434 | 31.400 | 325.952 | 94.764 | 321.027 | 23.400 | 70.0 | 50.0 |

Notes: -Tolerances T and S +/- 0.005 mm (+/- .0002") are for the manufacturing supplier and +/- 0.010 mm (+/- .0004") for the hubs.
-The original certificate submitted by the supplier will be loaded into the MTR.
- No compensation values will be allowed. If the hub find tolerances out of +/- 0.010 mm (+/- .0004") has to contact Tenaris Connection.

All the changes do not affect the functionality of the Standards made with previous revisions.

| | | | | | | | | | | | | | | | | | | | |
|---|--|--|--|-----------------|-------|------------------|------|----------------|--|--|--|--|--|--|--|--|--|-----------------------|--|
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| MODIFICATIONS | | | | | | | | | | OBJECT: | | | | | | | | | |
| Rev | Description | | | | Draw. | Chk. | App. | Date | | Tenarishydril Blue™ | | | | | | | | | |
| 02 | Added pos. 32 and change seal length | | | | JPA | ELT | NCR | 19/10 | | Near Flush | | | | | | | | | |
| 03 | Added positions and a hole at the bottom | | | | JPA | BTL | NCR | 11/sep-11 | | DETAIL: Pin Internal Seal and Small Thread Standard | | | | | | | | | |
| 04 | Changed angles A and B tolerances | | | | JPA | BTL | NCR | pending | | | | | | | | | | | |
|  | | | | Scale: NOT | | Date: 25/Sep/04 | | DRAWING N.: | | | | | | | | | | | |
| Drawn by: JPA | | | | Checked by: ELT | | Approved by: NCR | | TSH-GD-04.0003 | | | | | | | | | | R E V. N. page 04 3/3 | |