



DEUTSCH HDJ Series Filter Connectors

MIL-DTL-38999 SERIES I.5



DEUTSCH HDJ Series connectors are subminiature environment-class connectors with high and medium-density insert arrangements. They are based on MIL-DTL-38999 Series I coupling interface lengths and Series II diameters. They are used where a quick-disconnect coupling system is required for blind mating or other problem areas. The bayonet coupling requires 1/3 turn to mate fully. Available with crimp contacts, PC tails, solder cups and headers, they feature various plating options available and five keying options.

MATING COMPATIBILITY

- MIL-DTL-38999 Series 1.5 connectors
- DEUTSCH HDJ and AS Series connectors
- JN1003 connectors

RELIABLE

- 100% scoop proof
- Positive bayonet coupling
- RFI shell-to-shell coupling

VERSATILE

- Wide range of connector shell configurations
- Configurable filter topologies

DESIGNED FOR HARSH ENVIRONMENTS

- Vibration and shock
- Temperature extremes
- High humidity
- Altitude
- Salt spray

SPECIFICATIONS

Environmental

- **Temperature Range:** -55°C to 125°C
- **Physical Shock:** Typical to EIA-364-27 test condition C
- **Vibration:** Typical to EIA-364-28
- **Fungus Resistance:** Based on MIL-STD-810
- **Fluid Immersion:** Typically tested to EIA-364-10
- **Salt Spray:** Typically based on EIA/ECA-364-26
- **Humidity:** Typically EIA-364-31 test method IV
- **Durability:** 1500 cycles for Classes J and M and 500 cycles for all other connectors as per 38999 spec

Electrical

- **Grounded Line Resistance (Typ.):** 15 mΩ
- **Insulation Resistance (Typ.):** >5 GΩ
- **Dielectric Withstand (Typ.):** <5 μA
- **DWV:** up to 2000 VDC
- **Working Voltage:** up to 2000 VDC
- **Typical Test Specifications Used:**
MIL-STD-810: Test Method Standard
MIL-STD-202: Electrical & Electronic Component Parts
RTCA DO-160: Test Procedures for Airborne Equipment
EIA-364: Electrical Connector & Socket Test Procedures

Filtering

- **Capacitance Range:** 20 pF to 4 μF
- **Capacitance Tolerance:** Typically 20%
- **Unfiltered Line Cap (Typ.):** 15 pF
- **Filtering Topologies:** L, C, LC, CL, Pi, T, Double T

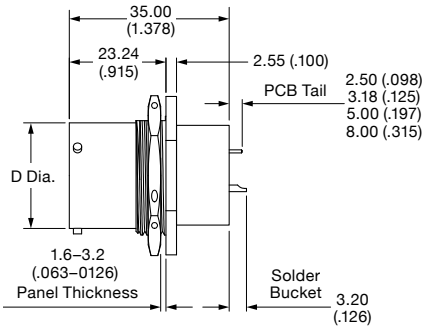
Transient protection available as per RTCA Publication DO 160 (see page 55).



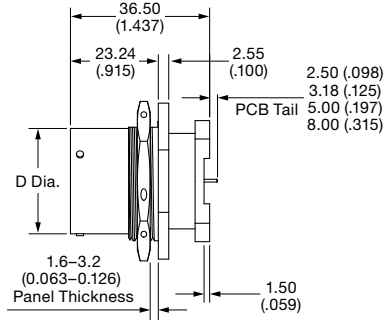
DEUTSCH HDJ Series Filter Connectors

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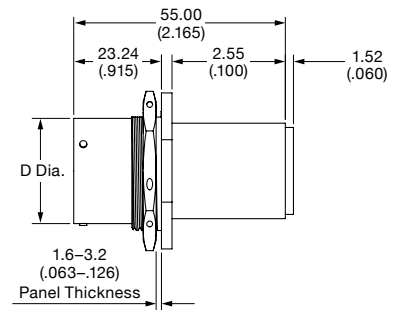
Jam Nut Receptacle Connectors



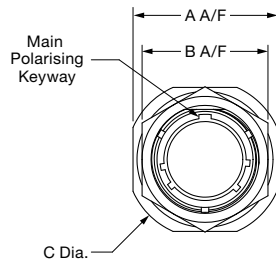
Single Flange



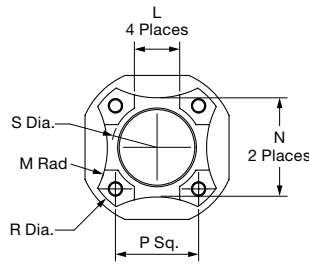
Double Flange



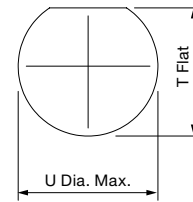
Single Flange, Crimp Contacts



Front View



Double Flange Footprint



Recommended Panel Cutout

| Shell Size | A Sq Max. | B Sq. | D Dia. | L Ref. | M Rad Ref. | N Ref. | P Sq. | R Dia. | S Dia. | Mounting Dims | |
|------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| | | | | | | | | | | T Flat | U Dia. |
| 8 | 21.03 (0.828) | 15.08 (0.594) | 12.00 (0.472) | 8.00 (0.315) | 9.00 (0.354) | 15.50 (0.610) | 14.00 (0.551) | 27.06 (1.065) | 14.34 (0.565) | 13.62 (0.536) | 14.53 (0.572) |
| 10 | 24.23 (0.954) | 18.26 (0.719) | 15.00 (0.590) | 8.00 (0.315) | 9.00 (0.354) | 15.50 (0.610) | 14.00 (0.551) | 27.06 (1.065) | 14.34 (0.565) | 16.79 (0.661) | 17.70 (0.697) |
| 12 | 26.59 (1.047) | 20.62 (0.812) | 19.05 (0.750) | 8.00 (0.315) | 12.00 (0.472) | 18.65 (0.734) | 17.00 (0.669) | 32.06 (1.262) | 17.42 (0.686) | 21.00 (0.826) | 22.50 (0.886) |
| 14 | 28.98 (1.141) | 23.02 (0.906) | 22.22 (0.875) | 12.00 (0.472) | 18.00 (0.709) | 22.00 (0.866) | 19.00 (0.748) | 35.06 (1.380) | 20.72 (0.816) | 24.08 (0.948) | 25.70 (1.012) |
| 16 | 31.34 (1.234) | 24.58 (0.968) | 25.40 (1.000) | 12.00 (0.472) | 20.00 (0.787) | 25.25 (0.994) | 22.00 (0.866) | 39.06 (1.538) | 23.89 (0.941) | 27.23 (1.072) | 28.83 (1.135) |
| 18 | 33.73 (1.328) | 26.98 (1.062) | 28.57 (1.125) | 16.00 (0.630) | 22.00 (0.866) | 28.40 (1.118) | 25.00 (0.984) | 42.06 (1.656) | 26.43 (1.041) | 30.41 (1.197) | 32.01 (1.260) |
| 20 | 36.91 (1.453) | 29.36 (1.156) | 31.75 (1.250) | 16.00 (0.630) | 22.00 (0.866) | 31.55 (1.242) | 27.00 (1.063) | 45.06 (1.774) | 29.58 (1.165) | 33.58 (1.322) | 35.18 (1.385) |
| 22 | 40.08 (1.578) | 31.76 (1.250) | 34.92 (1.375) | 16.00 (0.630) | 22.00 (0.866) | 34.50 (1.358) | 29.00 (1.142) | 48.06 (1.892) | 32.76 (1.290) | 36.95 (1.455) | 38.36 (1.510) |
| 24 | 43.26 (1.703) | 34.92 (1.375) | 38.10 (1.500) | 16.00 (0.630) | 24.00 (0.945) | 37.30 (1.469) | 31.00 (1.221) | 51.06 (2.010) | 35.83 (1.411) | 39.93 (1.572) | 41.53 (1.635) |

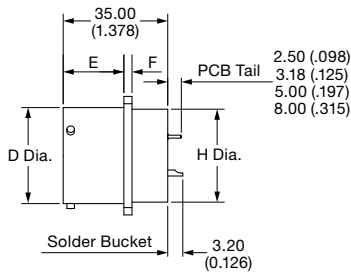
See page 29 for insert arrangements and back cover for configuration sheet.



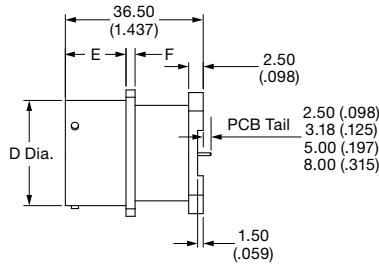
DEUTSCH HDJ Series Filter Connectors

MIL-DTL-38999 SERIES I.5

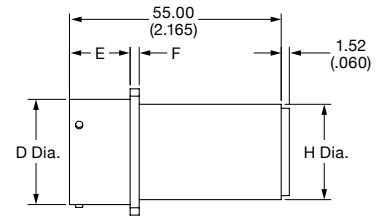
Square Flange Receptacle Connectors



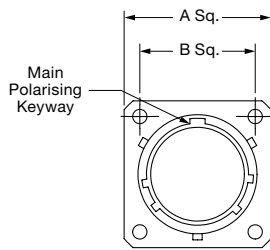
Single Flange



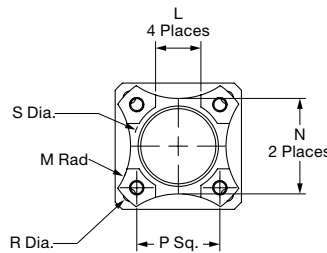
Double Flange



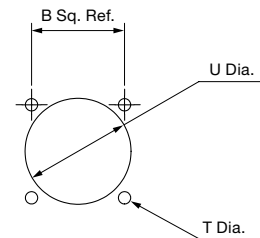
Single Flange, Crimp Contacts



Front View



Double Flange Footprint



Square Flange Mounting

| Shell Size | A Sq. Max. | B Sq. | D Dia. | E | F | H Dia. Max | L Ref. | M Rad Ref. | N Ref. | P Sq. | R Dia. | S Dia. | Mounting Dims | |
|------------|------------------|------------------|------------------|------------------|-----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-----------------|------------------|
| | | | | | | | | | | | | | T Dia. | U Dia. Max. |
| 8 | 21.03 (0.828) | 15.08 (0.594) | 12.00 (0.472) | | | 11.91 (0.469) | 8.00 (0.315) | 9.00 (0.354) | 15.50 (0.610) | 14.00 (0.551) | 27.06 (1.065) | 14.34 (0.565) | 3.60 (0.142) | 13.70 (0.539) |
| 10 | 24.23 (0.954) | 18.26 (0.719) | 15.00 (0.590) | | | 15.09 (0.594) | 8.00 (0.315) | 9.00 (0.354) | 15.50 (0.610) | 14.00 (0.551) | 27.06 (1.065) | 14.34 (0.565) | | 16.90 (0.665) |
| 12 | 26.59 (1.047) | 20.62 (0.812) | 19.05 (0.750) | | | 18.26 (0.719) | 8.00 (0.315) | 12.00 (0.472) | 18.65 (0.734) | 17.00 (0.669) | 32.06 (1.262) | 17.42 (0.686) | | 21.00 (0.827) |
| 14 | 28.98 (1.141) | 23.02 (0.906) | 22.22 (0.875) | 16.05 (0.632) | 2.16 (0.085) | 21.44 (0.844) | 12.00 (0.472) | 18.00 (0.709) | 22.00 (0.866) | 19.00 (0.748) | 35.06 (1.380) | 20.72 (0.816) | | 24.20 (0.953) |
| 16 | 31.34 (1.234) | 24.58 (0.968) | 25.40 (1.000) | | | 24.61 (0.969) | 12.00 (0.472) | 20.00 (0.787) | 25.25 (0.994) | 22.00 (0.866) | 39.06 (1.538) | 23.89 (0.941) | | 27.30 (1.075) |
| 18 | 33.73 (1.328) | 26.98 (1.062) | 28.57 (1.125) | | | 27.38 (1.078) | 16.00 (0.630) | 22.00 (0.866) | 28.40 (1.118) | 25.00 (0.984) | 42.06 (1.656) | 26.43 (1.041) | | 30.50 (1.201) |
| 20 | 36.91 (1.453) | 29.36 (1.156) | 31.75 (1.250) | | | 30.56 (1.203) | 16.00 (0.630) | 22.00 (0.866) | 31.55 (1.242) | 27.00 (1.063) | 45.06 (1.774) | 29.58 (1.165) | | 33.70 (1.327) |
| 22 | 40.08 (1.578) | 31.76 (1.250) | 34.92 (1.375) | 15.29 (0.602) | 2.92 (0.115) | 33.73 (1.328) | 16.00 (0.630) | 22.00 (0.866) | 34.50 (1.358) | 29.00 (1.142) | 48.06 (1.892) | 32.76 (1.290) | | 36.90 (1.453) |
| 24 | 43.26 (1.703) | 34.92 (1.375) | 38.10 (1.500) | | | 36.91 (1.453) | 16.00 (0.630) | 24.00 (0.945) | 37.30 (1.469) | 31.00 (1.221) | 51.06 (2.010) | 35.83 (1.411) | 3.91 (0.154) | 40.0 (1.575) |

See page 29 for insert arrangements and back cover for configuration sheet.



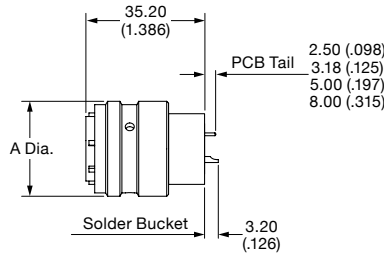
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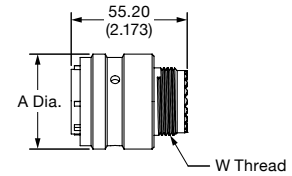
Plug Connectors

| Shell Size | A Dia. | W Thread* UNEF Class 2A |
|------------|------------------|----------------------------|
| 8 | 18.64 (0.734) | 0.4375-28 |
| 10 | 21.44 (0.844) | 0.5625-24 |
| 12 | 25.81 (1.016) | 0.6875-24 |
| 14 | 28.98 (1.141) | 0.8125-20 |
| 16 | 32.13 (1.265) | 0.9375-20 |
| 18 | 35.33 (1.391) | 1.0625-18 |
| 20 | 38.10 (1.500) | 1.1875-18 |
| 22 | 41.27 (1.625) | 1.3125-18 |
| 24 | 44.45 (1.750) | 1.4375-18 |

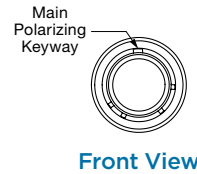
*UNEF Class 2A.



PCB/Solder Bucket Contacts

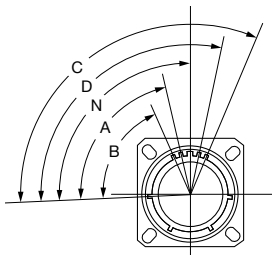


Crimp Contacts



Keying Options

(Viewed from Mating Face of the Receptacle Connector)



| Shell Size | Key Position | | | | |
|------------|--------------|----|----|-----|-----|
| | N | A | B | C | D |
| 9 | 95 | 77 | — | — | 113 |
| 11 | 95 | 81 | 67 | 123 | 109 |
| 13 | 95 | 75 | 63 | 127 | 115 |
| 15 | 95 | 74 | 61 | 129 | 116 |
| 17 | 95 | 77 | 65 | 125 | 113 |
| 19 | 95 | 77 | 65 | 125 | 113 |
| 21 | 95 | 77 | 65 | 125 | 113 |
| 23 | 95 | 80 | 69 | 121 | 110 |
| 25 | 95 | 80 | 69 | 121 | 110 |

See page 29 for insert arrangements and back cover for configuration sheet.



Insert Arrangements

- **Filter Connector Series:** H91, H92, H93, H94, HDJ, AS
- **Industry Specification:** MIL-DTL-38999
- **Insert Arrangement Specification:** MIL-STD-1560
- **Notes:** H91, H92, H93, H94 connectors use odd numbers for shell sizes
 HDJ and AS connectors use even numbers for shell sizes
 Shaded rows are TE-specific configurations not covered in MIL-STD-1560

| Shell Size | Arrangement | Contact Size and Type | | | | | | | | | | | | | |
|---------------|-----------------------|-----------------------|---|--------|--------|---------|---------|---------|----|----|----|----|----|----|----|
| | | 0 | 4 | 8 Twin | 8 Coax | 8 Power | 12 Twin | 12 Coax | 10 | 12 | 16 | 20 | 22 | 23 | 24 |
| 9 (8) | 09-98 (08-98) | – | – | – | – | – | – | – | – | – | – | 3 | – | – | – |
| | 09-35 (08-35) | – | – | – | – | – | – | – | – | – | – | – | 6 | – | – |
| | 09-07 (08-07) | – | – | – | – | – | – | – | – | – | – | – | 7 | – | – |
| | 09-23 (08-23) | – | – | – | – | – | – | – | – | – | – | – | – | 9 | – |
| | 09-11 (08-11) | – | – | – | – | – | – | – | – | – | – | – | – | – | 11 |
| 11 (10) | 11-02 (10-02) | – | – | – | – | – | – | – | – | – | 2 | – | – | – | – |
| | 11-04 (10-04) | – | – | – | – | – | – | – | – | – | – | 4 | – | – | – |
| | 11-05 (10-05) | – | – | – | – | – | – | – | – | – | – | 5 | – | – | – |
| | 11-98 (10-98) | – | – | – | – | – | – | – | – | – | – | 6 | – | – | – |
| | 11-99 (10-99) | – | – | – | – | – | – | – | – | – | – | 7 | – | – | – |
| | 11-35 (10-35) | – | – | – | – | – | – | – | – | – | – | – | 13 | – | – |
| | 11-23 (10-23) | – | – | – | – | – | – | – | – | – | – | – | – | 19 | – |
| 11-23 (10-23) | – | – | – | – | – | – | – | – | – | – | – | – | – | 23 | |
| 13 (12) | 13-04 (12-04) | – | – | – | – | – | – | – | – | – | 4 | – | – | – | – |
| | 13-08 (12-08) | – | – | – | – | – | – | – | – | – | – | 8 | – | – | – |
| | 13-98 (12-98) | – | – | – | – | – | – | – | – | – | – | 10 | – | – | – |
| | 13-35 (12-35) | – | – | – | – | – | – | – | – | – | – | – | 22 | – | – |
| | 13-23 (12-23) | – | – | – | – | – | – | – | – | – | – | – | – | 32 | – |
| | 13-41 (12-41) | – | – | – | – | – | – | – | – | – | – | – | – | – | 41 |
| 15 (14) | 15-05 (14-08) | – | – | – | – | – | – | – | – | – | 5 | – | – | – | – |
| | 15-97 (14-97) | – | – | – | – | – | – | – | – | – | 4 | 8 | – | – | – |
| | 15-15 (14-15) | – | – | – | – | – | – | – | – | – | 1 | 14 | – | – | – |
| | 15-18 (14-18) | – | – | – | – | – | – | – | – | – | – | 18 | – | – | – |
| | 15-19 (14-18) | – | – | – | – | – | – | – | – | – | – | 19 | – | – | – |
| | 15-26 (14-26) | – | – | – | – | – | – | – | – | – | 2 | – | 24 | – | – |
| | 15-35 (14-35) | – | – | – | – | – | – | – | – | – | – | – | 37 | – | – |
| | 15-23 (14-23) | – | – | – | – | – | – | – | – | – | – | – | – | 55 | – |
| | 15-64 (14-64) | – | – | – | – | – | – | – | – | – | – | – | – | – | 64 |
| 17 (16) | 17-22 (16-22) | – | – | 2 | – | – | – | – | – | 2 | – | – | – | – | – |
| | 17-06 (16-06) | – | – | – | – | – | – | – | – | 6 | – | – | – | – | – |
| | 17-08 (16-08) | – | – | – | – | – | – | – | – | – | 8 | – | – | – | – |
| | 17-11 (16-11) | – | – | 2 | 1 | – | – | – | – | – | 8 | – | – | – | – |
| | 17-19 (16-19) | – | – | – | – | – | – | – | – | – | 4 | 11 | 4 | – | – |
| | 17-20 (16-20) | – | – | – | – | – | – | – | – | 4 | – | – | 16 | – | – |
| | 17-99 (16-99) | – | – | – | – | – | – | – | – | – | 2 | 21 | – | – | – |
| | 17-24 (16-24) | – | – | – | – | 2 | – | – | – | – | – | – | 22 | – | – |
| | 17-26 (16-26) | – | – | – | – | – | – | – | – | – | – | 26 | – | – | – |
| | 17-03 [17-02] (16-03) | – | – | – | – | – | – | – | – | – | – | – | 38 | – | – |
| | 17-35 (16-35) | – | – | – | – | – | – | – | – | – | – | – | 55 | – | – |
| | 17-23 (16-23) | – | – | – | – | – | – | – | – | – | – | – | – | 73 | – |



Insert Arrangements

| Shell Size | Arrangement | Contact Size and Type | | | | | | | | | | | | | |
|--------------------------|--------------------------|-----------------------|---|--------|--------|---------|---------|---------|----|----|-----|----|-----|----|-----|
| | | 0 | 4 | 8 Twin | 8 Coax | 8 Power | 12 Twin | 12 Coax | 10 | 12 | 16 | 20 | 22 | 23 | 24 |
| 19 (18) | 19-11 (18-11) | — | — | — | — | — | — | — | — | — | 11 | — | — | — | — |
| | 19-19 [19-18] 18-18 | — | — | 4 | — | — | — | — | — | — | — | — | 14 | — | — |
| | 19-28 (18-28) | — | — | — | — | — | — | — | — | — | 2 | 26 | — | — | — |
| | 19-32 (18-32) | — | — | — | — | — | — | — | — | — | — | 32 | — | — | — |
| | 19-35 (18-35) | — | — | — | — | — | — | — | — | — | — | — | 66 | — | — |
| | 19-23 (18-23) | — | — | — | — | — | — | — | — | — | — | — | — | 88 | — |
| | 19-118 (18-118) | — | — | — | — | — | — | — | — | — | — | — | — | — | 118 |
| 21 (20) | 21-76 [21-75] (20-76) | — | — | 4 | — | — | — | — | — | — | — | — | — | — | — |
| | 21-48 (20-48) | — | — | — | — | 4 | — | — | — | — | — | — | — | — | — |
| | 21-11 (20-11) | — | — | — | — | — | — | — | 11 | — | — | — | — | — | — |
| | 21-16 (20-16) | — | — | — | — | — | — | — | — | — | 16 | — | — | — | — |
| | 21-20 (20-20) | — | — | 2 | — | — | — | — | — | — | — | 18 | — | — | — |
| | 21-39 (20-39) | — | — | — | — | — | — | — | — | — | 2 | 37 | — | — | — |
| | 21-41 (20-41) | — | — | — | — | — | — | — | — | — | — | 41 | — | — | — |
| | 21-35 (20-35) | — | — | — | — | — | — | — | — | — | — | — | 79 | — | — |
| 21-23 (20-23) | — | — | — | — | — | — | — | — | — | — | — | — | 121 | — | |
| 23 (22) | 23-100 (22-100) | 1 | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 23-24320 (22-24320) | — | 2 | — | — | — | — | — | — | — | — | 3 | — | — | — |
| | 23-68 (22-68) | — | — | — | — | 6 | — | — | — | — | — | — | — | — | — |
| | 23-06 (22-06) | — | — | 6 | — | — | — | — | — | — | — | — | — | — | — |
| | 23-21 (22-21) | — | — | — | — | — | — | — | — | 21 | — | — | — | — | — |
| | 23-54 (22-54) | — | — | — | — | — | — | — | 4 | 9 | — | 40 | — | — | — |
| | 23-53 (22-53) | — | — | — | — | — | — | — | — | — | 53 | — | — | — | — |
| | 23-55 (22-55) | — | — | — | — | — | — | — | — | — | 55 | — | — | — | — |
| | 23-63 (22-63) | — | — | — | — | — | — | — | 4 | 4 | — | 49 | — | — | — |
| 23-35 (22-35) | — | — | — | — | — | — | — | — | — | — | 100 | — | — | — | |
| 23-23 (22-23) | — | — | — | — | — | — | — | — | — | — | — | — | 151 | — | |
| 25 (24) | 25-44420 (24-44420) | — | 4 | — | — | — | — | — | — | — | — | 4 | — | — | — |
| | 25-08 (24-08) | — | 8 | — | — | — | — | — | — | — | — | — | — | — | — |
| | 25-11 (24-11) | — | — | — | — | — | — | — | 9 | — | — | 2 | — | — | — |
| | 25-24 (24-24) | — | — | — | — | — | — | — | — | 12 | 12 | — | — | — | — |
| | 25-21 [25-20] (24-21) | — | — | 3 | — | — | — | 4 | — | — | 13 | 10 | — | — | — |
| | 25-19 (24-19) | — | — | — | — | — | — | — | — | 19 | — | — | — | — | — |
| | 25-29 (24-29) | — | — | — | — | — | — | — | — | — | 29 | — | — | — | — |
| | 25-37 (24-37) | — | — | — | — | — | — | — | — | — | 37 | — | — | — | — |
| | 25-17 (24-17) | — | — | 6 | — | — | — | — | — | — | — | — | 36 | — | — |
| | 25-43 (24-43) | — | — | — | — | — | — | — | — | — | 20 | 23 | — | — | — |
| | 25-47 [25-46] (24-47) | — | — | — | 2 | — | — | — | — | — | 4 | 40 | — | — | — |
| | 25-91 [25-90] (24-91) | — | — | 2 | — | — | — | — | — | — | 4 | 40 | — | — | — |
| | 25-04 (24-04) | — | — | — | — | — | — | — | — | — | 8 | 48 | — | — | — |
| | 25-35 (24-35) | — | — | — | — | — | — | — | — | — | — | — | 128 | — | — |
| | 25-61 (24-61) | — | — | — | — | — | — | — | — | — | — | 61 | — | — | — |
| 25-09 [25-07] (24-09) | — | — | 2 | — | — | — | — | — | — | — | — | 97 | — | — | |
| 25-23 (24-23) | — | — | — | — | — | — | — | — | — | — | — | — | 187 | — | |