

General Data

| | |
|---------------|--------|
| IADC Code | M122 |
| Body material | Matrix |

Design Specifications

| | | |
|---------------------|-------|---------------------------------|
| Profile | 2 | Deep Cone, Short Profile Length |
| Total Cutter Count | 78 | |
| Blade count | 7 | |
| | | |
| Cutter distribution | 16 mm | |
| - Face | 60 | |
| - Gauge | 18 | |

| | Value | Unit | Value | Unit |
|------------------------|-------------|------------|-----------|--------|
| Number of Nozzles 65 | 8 | | | |
| Junk Slot Area | 47.80 | sq. inches | 30,838.65 | sq. mm |
| Normalized Face Volume | 56 | % | | |
| API Connection | 7-5/8" Reg. | | | |
| Passive gauge length | 4.00 | inches | 101.60 | mm |
| Make-Up Length | 18.00 | inches | 457.20 | mm |

Features

| | |
|--------------------|----------------|
| Cutter type | Balanced (B) |
| Cutter grade | Premium (P) |
| Gage Reinforcement | Reinforced (R) |

Operating Parameters

| | | | | |
|----------------|------------------|-------|----------------|-------|
| Rotary speed | 75 - 140 RPM | | | |
| H.S.I. | 1 to 3 | | | |
| Weight on bit | 10,000 to 35,000 | lb | 5 to 16 | T |
| Flow rate | 900 to 1,200 | gpm | 4,091 to 5,455 | lpm |
| Make Up Torque | 48,300 to 61,000 | ft lb | 6,549 to 8,271 | daN m |

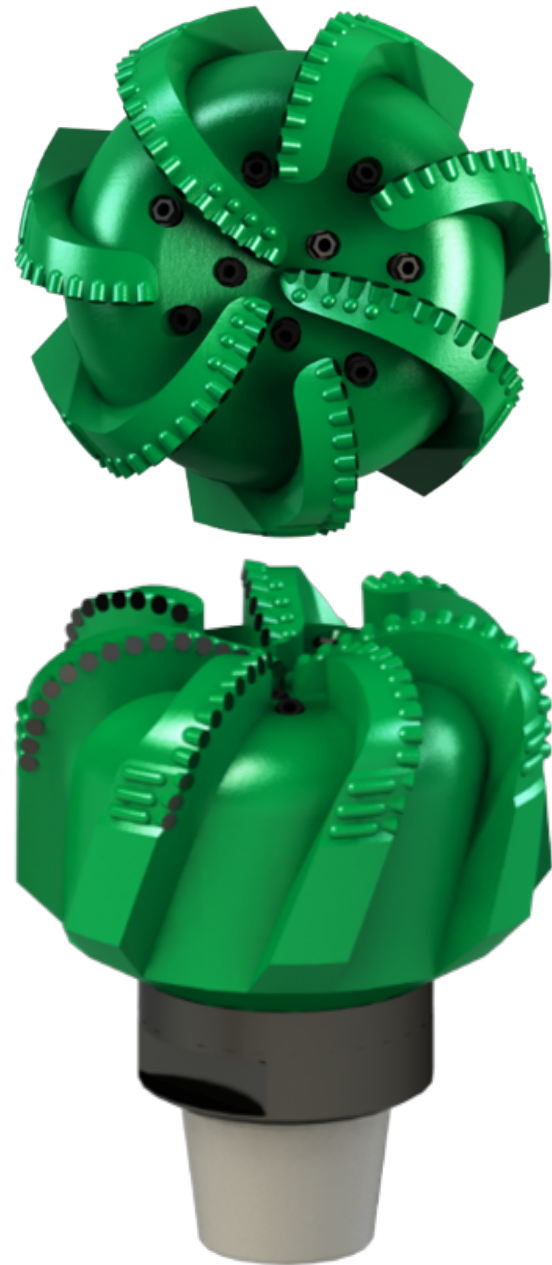
The above operating parameters are general parameters, please contact your local Tercel representative for recommendations that are specific for your well.

Special Features

- | | |
|--|--|
|  <p>The ShockREDUCER features allows the cutting structure to sustain axial and lateral shock, preserving the PDC cutting ability.</p> |  <p>The Low Spiral blade layout provides an optimum cleaning process. The increased borehole coverage along the gage enhances the lateral stability of the drill bit.</p> |
|--|--|

Depth of Cut Controllers in the cone.

Partially undercut gauge design:
4" passive gauge including 3" undercut at 1/16"



Pictures for illustration purposes only
Final product may vary slightly

For more information

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General Data

| | |
|---------------|--------|
| IADC Code | M422 |
| Body material | Matrix |

Design Specifications

| | | |
|---------------------|-------|---------------------------------|
| Profile | 2 | Deep Cone, Short Profile Length |
| Total Cutter Count | 80 | |
| Blade count | 7 | |
| Cutter distribution | 16 mm | |
| - Face | 64 | |
| - Gauge | 16 | |

| | Value | Unit | Value | Unit |
|------------------------|-------------|------------|-----------|--------|
| Number of Nozzles 65 | 9 | | | |
| Junk Slot Area | 95.00 | sq. inches | 61,290.20 | sq. mm |
| Normalized Face Volume | 55 | % | | |
| API Connection | 7-5/8" Reg. | | | |
| Passive gauge length | 4.00 | inches | 101.60 | mm |
| Make-Up Length | 16.50 | inches | 419.10 | mm |

Features

| | |
|--------------------|----------------|
| Cutter type | Balanced (B) |
| Cutter grade | Premium (P) |
| Gage Reinforcement | Reinforced (R) |

Operating Parameters

| | | |
|----------------|------------------------|----------------------|
| Rotary speed | 75 - 140 RPM | |
| H.S.I. | 1 to 3 | |
| Weight on bit | 10,000 to 35,000 lb | 5 to 16 T |
| Flow rate | 900 to 1,200 gpm | 4,091 to 5,455 lpm |
| Make Up Torque | 48,300 to 61,000 ft lb | 6,549 to 8,271 daN m |

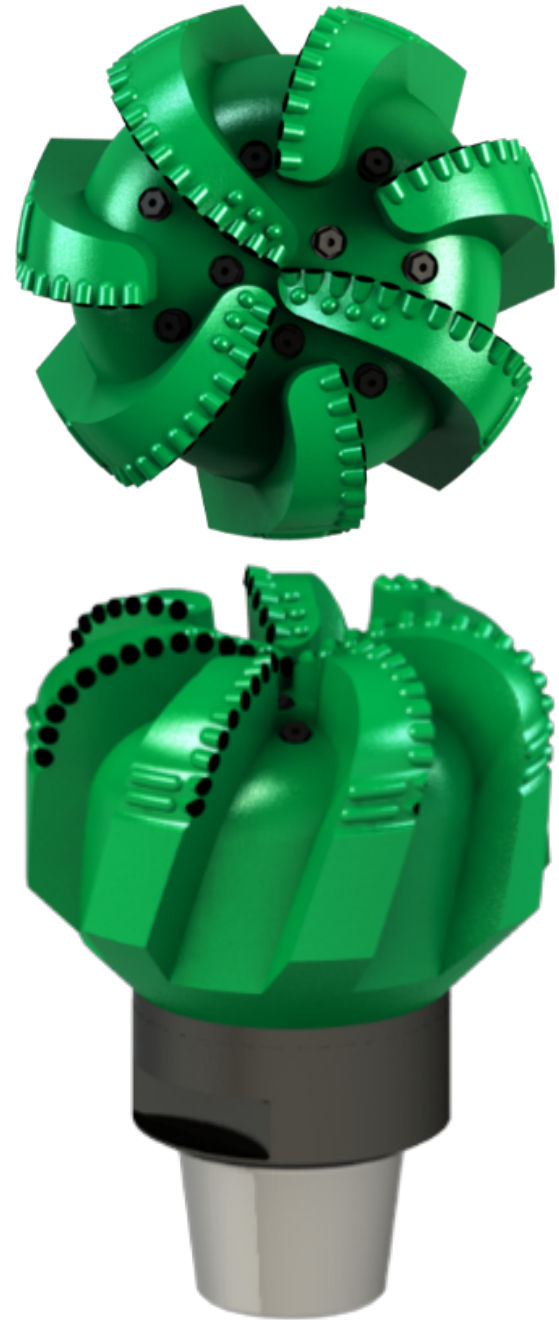
The above operating parameters are general parameters, please contact your local Tercel representative for recommendations that are specific for your well.

Special Features

| | | | |
|---|--|--|---|
|  SR | The ShockREDUCER features allows the cutting structure to sustain axial and lateral shock, preserving the PDC cutting ability. |  Low Spiral | The Low Spiral blade layout provides an optimum cleaning process. The increased borehole coverage along the gage enhances the lateral stability of the drill bit. |
|---|--|--|---|

Depth of Cut Controllers in the cone.

Partially undercut gauge design:
4" passive gauge including 3" undercut at 1/16"



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General Data

| | |
|---------------|-------|
| IADC Code | S222 |
| Body material | Steel |

Design Specifications

| | | |
|---------------------|-------|---------------------------------|
| Profile | 2 | Deep Cone, Short Profile Length |
| Total Cutter Count | 60 | |
| Blade count | 6 | |
| Cutter distribution | 16 mm | |
| - Face | 53 | |
| - Gauge | 7 | |

| | Value | Unit | Value | Unit |
|------------------------|-------------|------------|-----------|--------|
| Number of Nozzles 65 | 9 | | | |
| Junk Slot Area | 85.80 | sq. inches | 55,354.73 | sq. mm |
| Normalized Face Volume | 54 | % | | |
| API Connection | 7-5/8" Reg. | | | |
| Passive gauge length | 4.00 | inches | 101.60 | mm |
| Make-Up Length | 15.00 | inches | 381.00 | mm |

Features

| | |
|--------------------|----------------|
| Cutter type | Balanced (B) |
| Cutter grade | Premium (P) |
| Gage Reinforcement | Reinforced (R) |

Operating Parameters

| | | |
|----------------|------------------------|----------------------|
| Rotary speed | 75 - 140 RPM | |
| H.S.I. | 1 to 3 | |
| Weight on bit | 10,000 to 35,000 lb | 5 to 16 T |
| Flow rate | 900 to 1,200 gpm | 4,091 to 5,455 lpm |
| Make Up Torque | 48,300 to 61,000 ft lb | 6,549 to 8,271 daN m |

The above operating parameters are general parameters, please contact your local Tercel representative for recommendations that are specific for your well.

Special Features

| | | | |
|---|--|--|---|
|  SR | The ShockREDUCER features allows the cutting structure to sustain axial and lateral shock, preserving the PDC cutting ability. |  Low Spiral | The Low Spiral blade layout provides an optimum cleaning process. The increased borehole coverage along the gage enhances the lateral stability of the drill bit. |
|---|--|--|---|

Depth of Cut Controllers in the cone.

Partially undercut gauge design:
4" passive gauge including 3" undercut at 1/16"



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TERCEL
PRACTICAL INNOVATION

General Data

| | |
|---------------|-------|
| IADC Code | S433 |
| Body material | Steel |

Design Specifications

| | | |
|---------------------|-------|---------------------------------|
| Profile | 2 | Deep Cone, Short Profile Length |
| Total Cutter Count | 64 | |
| Blade count | 6 | |
| Cutter distribution | 13 mm | |
| - Face | 51 | |
| - Gauge | 13 | |

| | Value | Unit | Value | Unit |
|------------------------|-------------|------------|-----------|--------|
| Number of Nozzles | 65 | | | |
| Junk Slot Area | 25.20 | sq. inches | 16,258.03 | sq. mm |
| Normalized Face Volume | 38 | % | | |
| API Connection | 6-5/8" Reg. | | | |
| Passive gauge length | 4.00 | inches | 101.60 | mm |
| Make-Up Length | 14.00 | inches | 355.60 | mm |

Features

| | |
|--------------------|----------------|
| Cutter type | Balanced (B) |
| Cutter grade | Premium (P) |
| Gage Reinforcement | Reinforced (R) |

Operating Parameters

| | | |
|----------------|------------------------|----------------------|
| Rotary speed | 80 - 210 RPM | |
| H.S.I. | 1 to 6 | |
| Weight on bit | 10,000 to 50,000 lb | 5 to 23 T |
| Flow rate | 800 to 1,000 gpm | 3,637 to 4,546 lpm |
| Make Up Torque | 37,100 to 38,500 ft lb | 5,030 to 5,220 daN m |

The above operating parameters are general parameters, please contact your local Tercel representative for recommendations that are specific for your well.

Special Features

| | | | |
|---|--|--|---|
|  SR | The ShockREDUCER features allows the cutting structure to sustain axial and lateral shock, preserving the PDC cutting ability. |  Low Spiral | The Low Spiral blade layout provides an optimum cleaning process. The increased borehole coverage along the gage enhances the lateral stability of the drill bit. |
|---|--|--|---|

Depth of Cut Controllers in the cone.

Partially undercut gauge design:
4" passive gauge including 3" undercut at 1/16"



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TERCEL
PRACTICAL INNOVATION

General Data

| | |
|---------------|--------|
| IADC Code | M322 |
| Body material | Matrix |

Design Specifications

| | | |
|---------------------|-------|---------------------------------|
| Profile | 2 | Deep Cone, Short Profile Length |
| Total Cutter Count | 79 | |
| Blade count | 8 | |
| | | |
| Cutter distribution | 13 mm | |
| - Face | 63 | |
| - Gauge | 16 | |

| | Value | Unit | Value | Unit |
|------------------------|-------------|------------|-----------|--------|
| Number of Nozzles 65 | 8 | | | |
| Junk Slot Area | 24.30 | sq. inches | 15,677.39 | sq. mm |
| Normalized Face Volume | 40 | % | | |
| API Connection | 6-5/8" Reg. | | | |
| Passive gauge length | 4.00 | inches | 101.60 | mm |
| Make-Up Length | 13.60 | inches | 345.44 | mm |

Features

| | |
|--------------------|----------------|
| Cutter type | Balanced (B) |
| Cutter grade | Premium (P) |
| Gage Reinforcement | Reinforced (R) |

Operating Parameters

| | | | | |
|----------------|------------------|-------|----------------|-------|
| Rotary speed | 80 - 210 RPM | | | |
| H.S.I. | 1 to 6 | | | |
| Weight on bit | 10,000 to 50,000 | lb | 5 to 23 | T |
| Flow rate | 800 to 1,000 | gpm | 3,637 to 4,546 | lpm |
| Make Up Torque | 37,100 to 38,500 | ft lb | 5,030 to 5,220 | daN m |

The above operating parameters are general parameters, please contact your local Tercel representative for recommendations that are specific for your well.

Special Features

| | |
|--|--|
|  <p>The ShockREDUCER features allows the cutting structure to sustain axial and lateral shock, preserving the PDC cutting ability.</p> |  <p>The Low Spiral blade layout provides an optimum cleaning process. The increased borehole coverage along the gage enhances the lateral stability of the drill bit.</p> |
|--|--|

Depth of Cut Controllers in the cone.

Partially undercut gauge design:
4" passive gauge including 3" undercut at 1/16"



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General Data

| | |
|---------------|--------|
| IADC Code | M232 |
| Body material | Matrix |

Design Specifications

| | | |
|---------------------|-------|---------------------------------|
| Profile | 2 | Deep Cone, Short Profile Length |
| Total Cutter Count | 50 | |
| Blade count | 8 | |
| Cutter distribution | 13 mm | 19 mm |
| - Face | 38 | 0 |
| - Gauge | 0 | 12 |

| | Value | Unit | Value | Unit |
|------------------------|-------------|------------|----------|--------|
| Number of Nozzles 65 | 6 | | | |
| Junk Slot Area | 6.00 | sq. inches | 3,870.96 | sq. mm |
| Normalized Face Volume | 30 | % | | |
| API Connection | 4-1/2" Reg. | | | |
| Passive gauge length | 4.00 | inches | 101.60 | mm |
| Make-Up Length | 11.40 | inches | 289.56 | mm |

Features

| | |
|--------------------|----------------|
| Cutter type | Balanced (B) |
| Cutter grade | Premium (P) |
| Gage Reinforcement | Reinforced (R) |

Operating Parameters

| | | | | |
|----------------|------------------|-------|----------------|-------|
| Rotary speed | 80 - 180 RPM | | | |
| H.S.I. | 1 to 4 | | | |
| Weight on bit | 10,000 to 35,000 | lb | 5 to 16 | T |
| Flow rate | 500 to 750 | gpm | 2,273 to 3,410 | lpm |
| Make Up Torque | 12,500 to 17,800 | ft lb | 1,695 to 2,413 | daN m |

The above operating parameters are general parameters, please contact your local Tercel representative for recommendations that are specific for your well.

Special Features

| | |
|--|--|
|  <p>The ShockREDUCER features allows the cutting structure to sustain axial and lateral shock, preserving the PDC cutting ability.</p> |  <p>The Low Spiral blade layout provides an optimum cleaning process. The increased borehole coverage along the gage enhances the lateral stability of the drill bit.</p> |
|--|--|

Depth of Cut Controllers in the cone.

Partially undercut gauge design:
4" passive gauge including 3" undercut at 1/16"



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General Data

| | |
|---------------|--------|
| IADC Code | M132 |
| Body material | Matrix |

Design Specifications

| | | |
|---------------------|-------|---------------------------------|
| Profile | 2 | Deep Cone, Short Profile Length |
| Total Cutter Count | 28 | |
| Blade count | 8 | |
| Cutter distribution | 13 mm | |
| - Face | 20 | |
| - Gauge | 8 | |

| | Value | Unit | Value | Unit |
|------------------------|-------------|------------|----------|--------|
| Number of Nozzles | 55 | | | |
| Junk Slot Area | 5.70 | sq. inches | 3,677.41 | sq. mm |
| Normalized Face Volume | 30 | % | | |
| API Connection | 3-1/2" Reg. | | | |
| Passive gauge length | 4.00 | inches | 101.60 | mm |
| Make-Up Length | 10.00 | inches | 254.00 | mm |

Features

| | |
|--------------------|--------------|
| Cutter type | Balanced (B) |
| Cutter grade | Standard (S) |
| Gage Reinforcement | Standard (S) |

Operating Parameters

| | | | | |
|----------------|------------------|-------|----------------|-------|
| Rotary speed | 80 - 180 RPM | | | |
| H.S.I. | 1 to 4 | | | |
| Weight on bit | 10,000 to 35,000 | lb | 5 to 16 | T |
| Flow rate | 275 to 550 | gpm | 1,250 to 2,500 | lpm |
| Make Up Torque | 12,500 to 17,800 | ft lb | 1,695 to 2,413 | daN m |

The above operating parameters are general parameters, please contact your local Tercel representative for recommendations that are specific for your well.

Special Features



The ShockREDUCER features allows the cutting structure to sustain axial and lateral shock, preserving the PDC cutting ability.

Depth of Cut Controllers in the cone.
Partially undercut gauge design:
4" passive gauge including 3" undercut at 1/16"



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General Data

| | |
|---------------|--------|
| IADC Code | M232 |
| Body material | Matrix |

Design Specifications

| | | |
|---------------------|-------|---------------------------------|
| Profile | 2 | Deep Cone, Short Profile Length |
| Total Cutter Count | 39 | |
| Blade count | 7 | |
| Cutter distribution | 13 mm | |
| - Face | 24 | |
| - Gauge | 15 | |

| | Value | Unit | Value | Unit |
|------------------------|-------------|------------|----------|--------|
| Number of Nozzles | 55 | 3 | | |
| Ports | 1 | | | |
| Junk Slot Area | 3.70 | sq. inches | 2,387.09 | sq. mm |
| Normalized Face Volume | 40 | % | | |
| API Connection | 3-1/2" Reg. | | | |
| Passive gauge length | 4.00 | inches | 101.60 | mm |
| Make-Up Length | 10.50 | inches | 266.70 | mm |

Features

| | |
|--------------------|----------------|
| Cutter type | Balanced (B) |
| Cutter grade | Premium (P) |
| Gage Reinforcement | Reinforced (R) |

Operating Parameters

| | | |
|----------------|----------------------|--------------------|
| Rotary speed | 80 - 180 RPM | |
| H.S.I. | 1 to 3 | |
| Weight on bit | 10,000 to 35,000 lb | 5 to 16 T |
| Flow rate | 175 to 300 gpm | 796 to 1,364 lpm |
| Make Up Torque | 5,000 to 7,700 ft lb | 678 to 1,044 daN m |

The above operating parameters are general parameters, please contact your local Tercel representative for recommendations that are specific for your well.

Special Features



The ShockREDUCER features allows the cutting structure to sustain axial and lateral shock, preserving the PDC cutting ability.

Depth of Cut Controllers in the cone.
Partially undercut gauge design:
4" passive gauge including 3" undercut at 1/16"



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