

# VISUAL OIL ANALYSIS:

## 3-D BullsEye®

Inspect the oil level easily and accurately with a 360° view of what's happening inside your system.



### APPLICATIONS:

- Pumps
- Gearboxes
- Storage Tanks
- Viewport Replacement

# The Overview

## 3-D BullsEye:

### Key Benefits

- 360° view of oil level & condition
- Lasts longer than traditional viewports
- Easy to install and maintain
- UV resistant

## The Overview:

The 3-D BullsEye, made of a high-performance transparent polyamide, allows immediate and accurate visual oil level monitoring from virtually any angle. Engineered to outperform and outlast traditional viewports, the inherently strong material provides excellent impact, chemical and UV resistance.



# The Specs

## Material:

- Transparent Polyamide
- Brass fittings standard on 1/4", 3/8" NPT, M10X1.0, M10X1.5, & M12X1.5

## Recommended Temperature Range:

- -40°F to 200°F
- -40°C to 93°C

## Maximum Operating Pressure:

- 65 psi at 200°F

## Chemical Compatibility:

- All gear, mineral and synthetic oils

## Available Options:

- NPT, metric, BSPP threads

## Sizing:

Description	Part Number	Outside Diameter		Length from Last Thread	
		(in)	(cm)	(in)	(mm)
NPT Sizes (Polyamide)					
1/4"NPT	DC-3DB0250	0.74	1.88	0.728	1.849
3/8"NPT	DC-3DB0375	0.9	2.286	0.738	1.875
1/2"NPT	DC-3DB0500	0.8	2.032	0.923	2.344
3/4"NPT	DC-3DB0750	1	2.54	0.974	2.474
1"NPT	DC-3DB1000	1.26	3.2	1.1	2.794
1-1/4"NPT	DC-3DB1250	1.6	4.064	1.135	2.883
1-1/2"NPT	DC-3DB1500	1.85	4.699	1.234	3.134
2"NPT	DC-3DB2000	2.32	5.893	1.513	3.843
BSPP Sizes (Polyamide)					
1/2"BSPP	DC-3DBBSPP0500	0.88	2.235	1	2.54
3/4"BSPP	DC-3DBBSPP0750	1.1	2.794	1	2.54
1"BSPP	DC-3DBBSPP1000	1.37	3.48	1.2	3.048
Metric Sizes (Polyamide)					
M10x1.0	DC-3DBM10X1.0	0.45	1.143	0.621	1.577
M10x1.5	DC-3DBM10X1.5	0.42	1.067	0.621	1.577
M12x1.5	DC-3DBM12X1.5	0.525	1.334	0.671	1.704
M16x1.5	DC-3DBM16x1.5	0.68	1.727	1	2.54
M20x1.5	DC-3DBM20X1.5	0.834	2.118	1	2.54
M22x1.5	DC-3DBM22X1.5	0.94	2.388	1	2.54
M24x1.5	DC-3DBM24X1.5	1.03	2.616	1.1	2.794
M26x1.5	DC-3DBM26X1.5	1.07	2.718	1.1	2.794
M27x1.5	DC-3DBM27X1.5	1.1	2.794	1.1	2.794
M30x1.5	DC-3DBM30X1.5	1.23	3.124	1.2	3.048
M30x2.0	DC-3DBM30X2.0	1.35	3.429	1.2	3.048
M33x1.5	DC-3DBM33X1.5	1.3	3.302	1.2	3.048

Contact Des-Case at [sales@descase.com](mailto:sales@descase.com) for guidance on chemical compatibility, recommended temperature or pressure ratings.



# The Questions

## **How should the 3-D BullsEye be installed?**

Installers should apply pipe dope or Teflon tape to the threads of the 3-D BullsEye. The 3-D BullsEye should be hand tightened. If there is any evidence of oil leakage, tighten 1/4 turn with a strap wrench and re-inspect. Continue the 1/4 turn tightening method followed by inspection until leaking stops. When installed properly, the 3-D BullsEye can withstand equipment vibration.

## **How can I clean/replace the 3-D BullsEye?**

Since the 3-D BullsEye is installed at the top of the oil level, you will need to wait for the machinery to be turned off before attempting to remove it. Some oil will need to be drained to prevent spillage. Once removed, the 3-D BullsEye can be cleaned with soap and water. Extended periods of direct sunlight can cause “film” to build up in the 3-D BullsEye, but this can typically be wiped away when cleaned.

## **How durable is the material used in the 3-D BullsEye?**

Polyamide is extremely durable. With excellent weathering and UV resistance, it is capable of withstanding years of exposure to sun, rain, and other extreme conditions.

## **I'm concerned about the 3-D BullsEye breaking. What can I do to prevent this?**

The 3-D BullsEye is extremely tough and will require extreme force to break. However it is not recommended for use on mobile equipment because of the increased risk of having a high-impact collision.

## **When should I replace my 3-D BullsEye?**

Years of exposure to extreme weather or caustic chemicals will degrade the polyamide over time. Watch for fogging and crazing (small cracks appearing on the surface of the polyamide). Given enough time, the 3-D BullsEye will degrade to a point where it is difficult to see and it will need to be replaced.

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### APPLICATIONS:

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# The Overview

## 3-D BullsEye:

### Key Benefits

- 360° magnified view of oil level & condition
- Durable stain-resistant acrylic
- Lasts longer than traditional viewports
- Easy to install and maintain

## The Overview:

The 3-D BullsEye is machined from one solid piece of impact-resistant cast acrylic and allows immediate and accurate visual oil level monitoring from virtually any angle. The inherently stain-resistant acrylic holds up to hydrocarbon and petroleum-based products, hydraulic fluids, most silicone fluids and fuels.



# The Specs

## Material:

- Stain-resistant acrylic
- Brass fittings standard on 1/4", 3/8" NPT, M10X1.0, M10X1.5, & M12X1.5

## Recommended Temperature Range:

- -40°F to 200°F
- -40°C to 93°C

## Maximum Operating Pressure:

- 65 psi
- 4.48 bar

## Sizing:

Description	Part Number	Outside Diameter		Length from Last Thread	
		(in)	(cm)	(in)	(mm)
NPT Sizes					
3-D BullsEye 1/4" NPT	DC-A-3DB0250	1	2.540	1.375	34.925
3-D BullsEye 3/8" NPT	DC-A-3DB0375	1.125	2.858	1.375	34.925
3-D BullsEye 1/2" NPT	DC-A-3DB0500	0.875	2.223	1	25.400
3-D BullsEye 3/4" NPT	DC-A-3DB0750	1.125	2.858	1.375	34.925
3-D BullsEye 1" NPT	DC-A-3DB1000	1.375	3.493	1.375	34.925
3-D BullsEye 1-1/4" NPT	DC-A-3DB125	1.175	4.445	1.375	34.925
3-D BullsEye 1-1/2" NPT	DC-A-3DB150	2	5.080	1.375	34.925
3-D BullsEye 2" NPT	DC-A-3DB2000	2.5	6.350	1.5	38.100
BSPP Sizes					
3-D BullsEye 1/2" BSPP	DC-A-3DBBSPP0500	1.25	31.75	1.156	29.36
3-D BullsEye 3/4" BSPP	DC-A-3DBBSPP0750	1.50	38.10	1.281	32.54
3-D BullsEye 1" BSPP	DC-A-3DBBSPP1000	1.75	44.45	1.344	34.14
Metric Sizes					
3-D BullsEye Metric 10X1.0	DC-A-3DBM10X1.0	0.875	2.223	1.00	25.400
3-D BullsEye Metric 10X1.5	DC-A-3DBM10X1.5	0.875	2.223	1.00	25.400
3-D BullsEye Metric 12X1.5	DC-A-3DBM12X1.5	0.875	2.223	1.00	25.400
3-D BullsEye Metric 16X1.5	DC-A-3DBM16x1.5	1	2.540	1.00	25.400
3-D BullsEye Metric 20X1.5	DC-A-3DBM20X1.5	1.25	3.175	1.06	26.975
3-D BullsEye Metric 22X1.5	DC-A-3DBM22X1.5	1.25	3.175	1.06	26.975
3-D BullsEye Metric 24X1.5	DC-A-3DBM24X1.5	1.375	3.493	1.13	28.575
3-D BullsEye Metric 26X1.5	DC-A-3DBM26X1.5	1.5	3.810	1.19	30.150
3-D BullsEye Metric 27X1.5	DC-A-3DBM27X1.5	1.5	3.810	1.19	30.150
3-D BullsEye Metric 30X1.5	DC-A-3DBM30X1.5	1.75	4.445	1.25	31.750
3-D BullsEye Metric 30X2.0	DC-A-3DBM30X2.0	1.75	4.445	1.25	31.750
3-D BullsEye Metric 33X1.5	DC-A-3DBM33X1.5	1.75	4.445	1.25	31.750

## Chemical Compatibility:

- All gear, mineral and synthetic oils

## Available Options:

- NPT, metric, BSPP threads

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## **How can I clean/replace the 3-D BullsEye?**

Since the 3-D BullsEye is installed at the top of the oil level, you will need to wait for the machinery to be turned off before attempting to remove the 3-D BullsEye. Some oil will need to be drained to prevent spillage. Once removed, the 3-D BullsEye can easily be cleaned with soap and water. Extended periods of direct sunlight can cause "film" to build up in the 3-D BullsEye, but this can typically be wiped away when cleaned.

## **How durable is the acrylic used in the 3-D BullsEye?**

Acrylic is extremely durable and stain resistant, and it is capable of withstanding years of exposure to sun, rain and other extreme weather conditions. Des-Case keeps the wall thicknesses robust to enhance the strength and ensure they withstand the environments they are installed in.

## **I'm concerned about the 3-D BullsEye breaking. What can I do to prevent this?**

The 3-D BullsEye is extremely tough and will require extreme force to break. It is not recommended for use on mobile equipment because of the increased risk of having a high-impact collision.

## **When should I replace my 3-D BullsEye?**

Because the 3-D BullsEye is made from one solid piece of acrylic, it has the longest life expectancy of all the VOA products. Years of exposure to sunlight, extreme weather or caustic chemicals will degrade the acrylic over time. Watch for fogging and crazing (small cracks appearing on the surface of the acrylic). Given enough time, the 3-D BullsEye will degrade to a point where it is difficult to see, at which point you would need to replace it.