

dnp Black Bead Screen™



The dnp Black Bead Screen is a unique screen with superior contrast and black levels. The screen is especially designed for control rooms and multi-screen applications and offers excellent viewing angles – both horizontally and vertically.

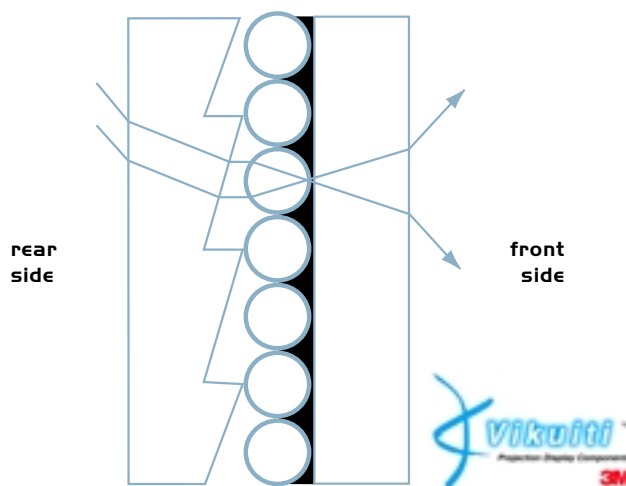
Matched with a modern powerful projector, the Black Bead Screen is the ideal display if your application requires a screen that effectively combats ambient light. The screen not only maximises the actual image contrast, it enhances the perceived contrast as the screen appears black when in repose. Designed for close-up viewing, it looks more like a sparkling poster than a projected image.

The Black Bead Screen is available in a **Non-Glare (NG) Acrylic version** and an **Anti-Reflective (AR) Glass version**. The acrylic NG version eliminates reflections from light sources such as windows, room lighting etc.

The AR glass version has a front element of glass with a high-quality multilayered AR coating, which prevents reflections and leaves the impression of optimum uniformity and clearness.

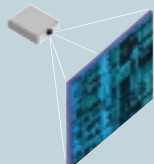
The Black Bead Screen combines dnp's Fresnel technology with 3M's advanced Vikuiti™ extended resolution.

- = **Unsurpassed contrast and resolution**
- = **Superb centre-to-corner brightness uniformity**
- = **Non-Glare or Anti-Reflective surface**
- = **Wide vertical and horizontal viewing angles**
- = **Multiple options for focal length**
- = **Easy-clean surface**
- = **Compatible with all single lens projectors including LCD, DLP, LCOS, Light Valve and D-ILA**



screen profile (horizontal section)

The ultra fine pitch Fresnel lens distributes the projected image through a Black Bead element which consists of a layer of minute glass beads set within a film of black material. The projected light exits through this optical filter, leaving an almost completely black area which absorbs virtually all the ambient light.



Rear projection

Rear projection means that the projector is placed behind the screen, shining straight forward towards the audience. The optical screen controls the light path and distributes bright, sharp images into a predefined viewing zone. Furthermore, the presenter and the audience can stand in front of the image without casting shadows. And with the projector equipment hidden behind the screen, the viewing area remains quiet, clean and tidy.

Screen specifications

Black Bead Screen	Type no.	50" BB 826 NG 1 550 9 082 00	50" BB 870 NG 1 550 9 085 00	50" BB 930 NG 1 550 9 095 00	50" BB 1100 NG 1 550 9 110 00	67" BB 1100 NG 1 567 9 110 00	67" BB 1600 NG 1 567 9 160 00	67" BB 2400 NG 3 067 9 240 00	72" BB 1250 NG 3 072 9 125 00
Dimensions		NG Acrylic version	NG Acrylic version	NG Acrylic version	NG Acrylic version	NG Acrylic version	NG Acrylic version	NG Acrylic version	NG Acrylic version
Width	mm	1040 +/- 0.75	1040 +/- 0.75	1040 +/- 0.75	1040 +/- 0.75	1400 +/- 1	1400 +/- 1	1400 +/- 1	1488.4 +/- 1
Height	mm	790 +/- 0.75	790 +/- 0.75	790 +/- 0.75	790 +/- 0.75	1060 +/- 1	1060 +/- 1	1060 +/- 1	1122.7 +/- 1
Rec. lens throw ratio range		0.7 - 0.9:1	0.75 - 1.0:1	0.8 - 1.1:1	0.9 - 1.3:1	0.7 - 0.9:1	1.0 - 1.3:1	1.5 - 2.0:1	0.7 - 1.0:1
Rec. projection distance range*	mm	700 - 950	750 - 1000	800 - 1070	940 - 1260	940 - 1260	1360 - 1840	2040 - 2760	1060 - 1440
Thickness	mm	6.2 +/- 0.4	6.2 +/- 0.4	6.2 +/- 0.4	6.2 +/- 0.4	6.2 +/- 0.4	6.2 +/- 0.4	6.8 +/- 0.4	6.8 +/- 1.2
Weight	kg	6.1 +/- 6 %	6.1 +/- 6 %	6.1 +/- 6 %	6.1 +/- 6 %	11 +/- 6 %	11 +/- 6 %	11 +/- 6 %	14.5 +/- 10 %
Image area									
Width	mm	1020	1020	1020	1020	1375	1375	1375	1463
Height	mm	770	770	770	770	1035	1035	1035	1097.3
Optical specifications									
Screen focal	mm	826	870	930	1100	1100	1600	2400	1250

Black Bead Screen	Type no.	72" BB 1450 NG 3 072 9 145 00	72" BB 1800 NG 3 072 9 180 00	72" BB 2400 NG 3 072 9 240 00	80" BB 1250 NG 3 080 9 125 00	80" BB 1450 NG 3 080 9 145 00	80" BB 1800 NG 3 080 9 180 00	80" BB 2400 NG 3 080 9 240 00
Dimensions		NG Acrylic version	NG Acrylic version	NG Acrylic version	NG Acrylic version	NG Acrylic version	NG Acrylic version	NG Acrylic version
Width	mm	1488.4 +/- 1	1488.4 +/- 1	1488.4 +/- 1	1625 +/- 1	1625 +/- 1	1625 +/- 1	1625 +/- 1
Height	mm	1122.7 +/- 1	1122.7 +/- 1	1122.7 +/- 1	1219 +/- 1	1219 +/- 1	1219 +/- 1	1219 +/- 1
Rec. lens throw ratio range		0.8 - 1.1:1	1.1 - 1.4:1	1.4 - 1.9:1	0.7 - 0.9:1	0.8 - 1.0:1	1.0 - 1.3:1	1.3 - 1.7:1
Rec. projection distance range*	mm	1230 - 1670	1530 - 2070	2040 - 2760	1060 - 1440	1230 - 1670	1530 - 2070	2040 - 2760
Thickness	mm	6.8 +/- 1.2	6.8 +/- 1.2	6.8 +/- 1.2	6.8 +/- 1.2	6.8 +/- 1.2	6.8 +/- 1.2	6.8 +/- 1.2
Weight	kg	14.5 +/- 10 %	14.5 +/- 10 %	14.5 +/- 10 %	17.2 +/- 10 %	17.2 +/- 10 %	17.2 +/- 10 %	17.2 +/- 10 %
Image area								
Width	mm	1463	1463	1463	1599.6	1599.6	1599.6	1599.6
Height	mm	1097.3	1097.3	1097.3	1193.6	1193.6	1193.6	1193.6
Optical specifications								
Screen focal	mm	1450	1800	2400	1250	1450	1800	2400

Black Bead Screen	Type no.	50" BB 826 AR 1 550 9 082 20	50" BB 870 AR 1 550 9 085 20	50" BB 930 AR 1 550 9 095 20	50" BB 1100 AR 1 550 9 110 20	67" BB 1100 AR 1 567 9 110 20	67" BB 1600 AR 1 567 9 160 20
Dimensions		AR Glass version	AR Glass version	AR Glass version	AR Glass version	AR Glass version	AR Glass version
Width	mm	1000 +/- 0.75	1000 +/- 0.75	1000 +/- 0.75	1000 +/- 0.75	1370 +/- 0.75	1370 +/- 0.75
Height	mm	750 +/- 0.75	750 +/- 0.75	750 +/- 0.75	750 +/- 0.75	1035 +/- 0.75	1035 +/- 0.75
Rec. lens throw ratio range		0.7 - 0.9:1	0.75 - 1.0:1	0.8 - 1.1:1	0.9 - 1.3:1	0.7 - 0.9:1	1.0 - 1.3:1
Rec. projection distance range*	mm	700 - 950	750 - 1000	800 - 1070	940 - 1260	940 - 1260	1360 - 1840
Thickness	mm	6.2 +/- 0.4	6.2 +/- 0.4	6.2 +/- 0.4	6.2 +/- 0.4	6.2 +/- 0.4	6.2 +/- 0.4
Weight	kg	8.5 +/- 6 %	8.5 +/- 6 %	8.5 +/- 6 %	8.5 +/- 6 %	15.9 +/- 6 %	15.9 +/- 6 %
Image area							
Width	mm	1000	1000	1000	1000	1370	1370
Height	mm	750	750	750	750	1035	1035
Optical specifications							
Screen focal	mm	826	870	930	1100	1100	1600

* General tolerance = +/- 15%, related to the actual screen focal length.

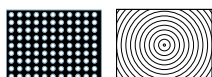
General specifications

Optical specifications	Peak Gain (50" - 67" 1600)	Peak Gain (67" 2400 - 80")	
Black Bead Screen	1.0 +/- 0.2	0.85 +/- 0.2	

Subject to change without notice. Please check specification at time of ordering. Detailed gain curves can be viewed and downloaded at www.dnp.dk

February 2004

Black Bead lens Fresnel lens



Optical screen technology

The dnp Black Bead Screen enhances the image for optimum viewing by combining the focusing ability of a Fresnel lens with the Black Bead lens's high contrast and resistance to ambient light. The result is brilliantly sharp images, high image uniformity and superb contrast – even in environments with extreme ambient light.

www.dnp.dk

dnp denmark as · Skrugangen 2 · DK - 2690 Karlslunde · Denmark · Tel: +45 46 16 51 00



Screens of the art