
CF 2
McGILL

Cam Followers

Unmounted bearing assembly consisting of hardened precision ground inner and outer raceways with either full complement or separated (cage) needle, ball, tapered or cylindrical rolling elements constructed with an integral stud or precision ground bore. Cam follower bearings provide an antifriction solution for translating rotation to linear motion or supporting either pure radial or combination thrust loads depending on the rolling elements types.

Bearing Configurations

Cylindrical, Crowned, V-Groove Or Flanged

Mounting Styles

Eccentric Or Concentric Stud Or Yoke

Outer Roller Diameter Range

1/2” To 10” And 13 mm To 90 mm

Materials

Bearing Quality Steel, Stainless

McGILL® *Inch Cam Follower Bearings*

Cam Follower Selection Guide

		Product Series	Material / Finish	Size Range: Inch	Size Range: Metric
CAMROL		CF	Black Oxide Finish Bearing Steel	1/2 - 10	
		CYR		3/4 - 10	
		CFH		1/2 - 7	
		BCF		1/2 - 4	
		BCYR		3/4 - 4	
		MCF			16 - 90
		MCFR			13 - 90
		MCYR			5 - 50
		MCYRR			5 - 50
Heavy-Duty		CFD	Black Oxide Finish Bearing Steel	1 1/4 - 6	
		CYRD		1 1/4 - 6	
		MCFD			35 - 80
		MCYRD			15 - 50

* For estimating purpose only, individually sizes may vary and are subject to change without notification

McGill CAMROL Cam Followers are available in 400 series stainless steel components for improved resistance to both external and internal corrosion.

CRES CAMROL bearings are dimensionally interchangeable with standard CAMROL® bearings and easily identifiable with "CR" designation.

Design Characteristics					Features							
Radial Load	Thrust Load	Precision	High Speed	Relative Base Cost *	Crowned OD	Eccentric Stud	Lubrication Holes	Seal	Hex Hole	Slotted Face	Jam Nuts	Page No.
●	○	●	◒	$	O	O	S	O	O	S	-	B-15
●	○	◒	◒	$	O	-	S	O	-	-	-	B-39
●	○	◒	◒	$$	O	-	S	O	O	S	-	B-15
◒	○	◒	◒	$	O	O	S	O	O	S	-	B-45
◒	○	◒	◒	$	O	-	S	O	-	-	-	B-57
◒	○	●	◒	$	S	O	S	O	O	S	S	B-69
◒	○	●	◒	$	S	O	S	O	O	S	S	B-69
●	○	◒	◒	$	S	-	S	O	O	-	S	B-91
◒	○	◒	◒	$	S	-	S	O	-	-	S	B-91
◒	◒	●	◒	$$	O	O	O	S	S	-	-	B-103
●	◒	◒	◒	$$	O	-	O	S	-	-	-	B-107
●	◒	◒	◒	$$	S	O	S	-	O	S	S	B-111
●	◒	◒	◒	$$	S	-	S	-	-	-	-	B-115

Circular Track / Misalignment
Load Sharing / Adjustment To Track
Relubrication To Help Promote Bearing Operating Life
Contamination Barrier
Blind Hole Mounting
Allows The Use Of A Lube Fitting When Lubrication From The Flange Side Of Bearing
Accessories Included

O = Optional
S = Standard
○ = Not Recommended

◒ ◒ ◒ ◒ ●

Poor ⟷ Best

McGILL® Inch Cam Follower Bearings

Cam Follower Selection Guide

		Product Series	Material / Finish	Size Range: Inch	Size Range: Metric
Special Duty		SDCF	Black Oxide Finish Bearing Steel	1 - 4	
		SDMCF			25 - 100
TRAKROL		PCF	Black Oxide Finish Bearing Steel	1 1/2 - 9	
		PCYR		3 - 6	
		FCF		1 1/2 - 9	
		FCYR		3 - 6	
		VCF		2 1/2 - 8 1/2	
		VCYR		3 1/2 - 7 1/2	

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◒	○	●	◒	$$$	O	O	-	S	S	-	S	B-123
◒	○	●	◒	$$$	O	O	-	S	S	-	S	B-125
◒	◒	◒	◒	$$	O	O	-	S	-	-	O	B-131
◒	◒	◒	◒	$$	O	-	-	S	S	-	-	B-133
◒	◒	◒	◒	$$$	-	O	-	S	S	-	O	B-135
◒	◒	◒	◒	$$	-	-	-	S	-	-	-	B-137
◒	◒	◒	◒	$$	-	O	-	S	S	-	O	B-139
◒	◒	◒	◒	$$	-	-	-	S	-	-	-	B-141

Circular Track / Misalignment
Load Sharing / Adjustment To Track
Relubrication And Promote Bearing Life
Contamination Barrier
Blind Hole Mounting
Allows The Use Of A Lube Fitting When Lubrication From The Flange Side Of Bearing
Accessories Included

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Poor ⟷ Best

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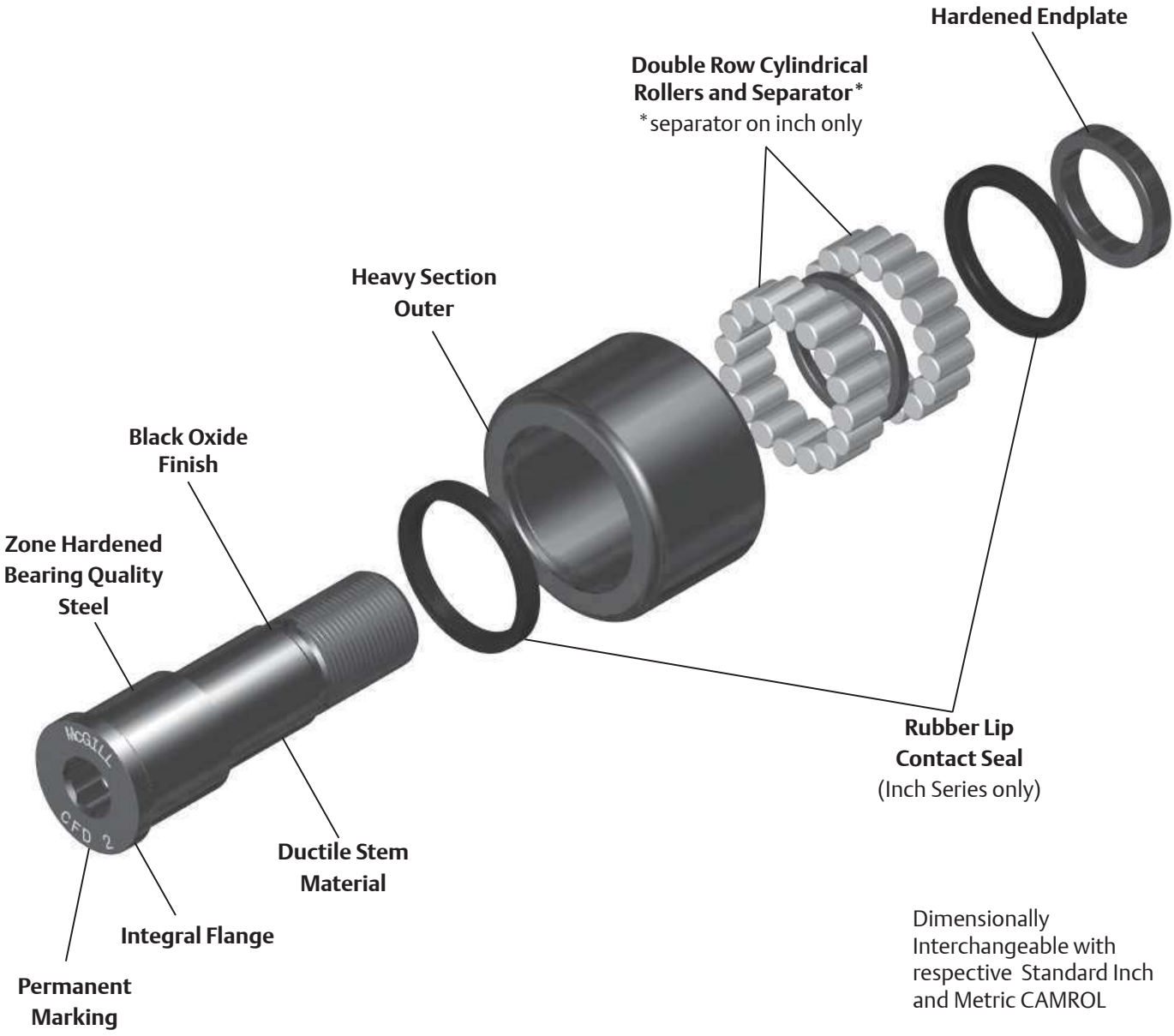
Heavy-Duty Inch and Metric CAMROL®

McGill Heavy-Duty CAMROL bearings are full complement cylindrical roller bearings featuring black oxide treated bearing steel, available in two basic mounting styles (stud or yoke) for use mechanical automation or linear motion applications. Our standard integral flange construction of stud version bearings helps maintain bearing integrity throughout the life. The inch series utilizes a rubber lip seal to provide a barrier for contamination and lubricant retention. Within the following section you can learn more about how these features and others can be applied to your application.



Dimensionally Interchangeable with respective Standard Inch and Metric CAMROL

Cam Follower Inch and Metric Nomenclature

Optional Prefix
- C - Crowned O.D. (Inch Series Only)
- M - Metric Series

Basic Type, Construction
- CFD - Heavy Duty Cam Follower
- CYRD - Heavy Duty Cam Yoke Roller

Construction Suffix
- E - Eccentric Bushing

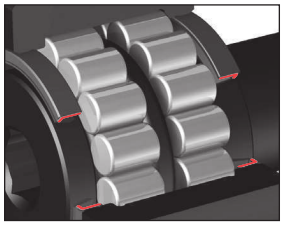
Size
- Inch Series: O.D. In Inches
- Metric Stud Type: O.D. In mm
- Metric Yoke Type: Bore In mm

Optional Suffix
- B - Broached Hex Hole (Metric Series Only)
- X - Cylindrical Roller Profile (Metric Series Only)
- R - Oil Hole (Inch Series Only)

C CFD E - 1 1/2 - B

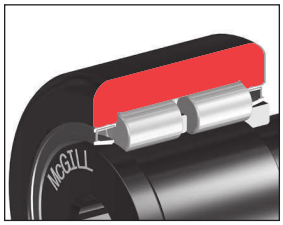
McGILL® *Heavy Duty CAMROL Bearings*

Features and Benefits



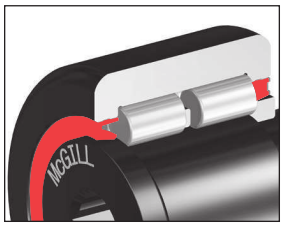
Double Row Full Complement Needle Rollers

The roller diameter to length ratio of Cylindrical rollers provides an end face and increases surface area to help support incidental thrust loads.



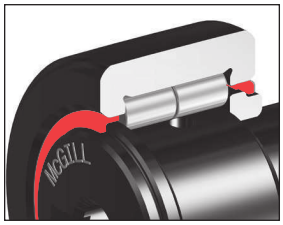
Heavy Section Outer

The heavy section outer helps support radial loading and provide proper rolling element support.



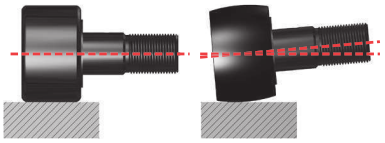
Rubber Lip Seals - Inch Series

Heavy-Duty CAMROL® Bearings have rubber lip seals to help keep contamination our and lubricant in. The seals are mounted inward to improve grease retention. Inch Only, removed as option- NS



Metallic Shields - Metric Series

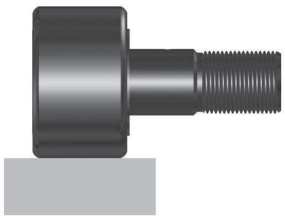
The metric series Heavy-Duty bearings metallic side shields providing a barriers to help retain grease and keep out containments. Metric Only, removed as option – NS



Crowned Outside Diameter (OD)

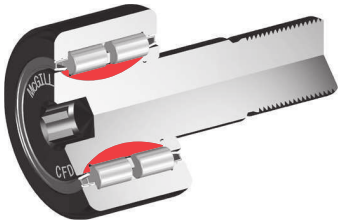
A crown on the OD of a cam follower bearing can increase bearing life versus a standard cylindrical cam follower. The crown achieves this performance by helping to distribute the stress on the outer ring and rolling elements resulting from misalignment due to mounting inaccuracy or stud deflection. The crown also helps reduce outer skidding in turntable or rotary applications. Not all applications may see the benefit of a crowned OD, consult Application Engineering for guidance for your application. Crowned OD is an option for Inch Series. Crowned OD is standard for Metric Series.

Features and Benefits continued



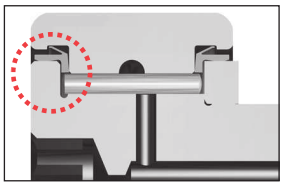
Cylindrical Outside Diameter (OD)

The cylindrical OD can improve performance in certain applications such as improved track capacity by maximizing the contact area with the track. Cylindrical OD is standard for Inch Series. Cylindrical OD is and option for Metric Series.



Zone Hardened Raceways

Heat treatment used to precisely harden working surfaces of the raceway and flange. The hardened surfaces provide support for the rolling element contact stresses, while keeping the core of the inner ductile to help absorb shock loads.



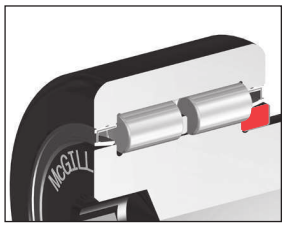
Integral Flange

The integral flange helps maintain bearing integrity throughout the bearing life. Zone hardened to provide wear resistance from incidental contact with the outer or rollers, and provides a sealing surface for rubber lipped seal.

Hex Hole (Broached)

The hex hole can aide in the installation and removal of stud type cam followers by increasing the holding power over a standard screw driver slot.
*Standard on inch, option on Metric.

Features and Benefits continued

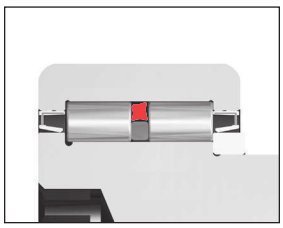


Hardened Endplate

Similar to the flange, the endplate must provide a contact surface for the seal and resist wear from incidental contact with the outer or rollers.

Factory Grease Fill

The cam follower and cam yoke roller bearings are factory lubricated with a medium temperature grease. Contact Application Engineering when application conditions require special lubricants.



Lubrication Reservoir

The inch series heavy-Duty bearings incorporate a spacer, resulting in an increased lubricant reservoir. Inch only

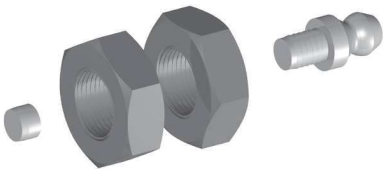
Black Oxide Finish

Bearings have a black oxide finish on all external surfaces.

Options

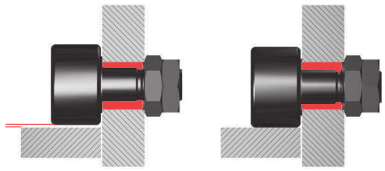
Permanent Marking

Part number permanently marked on bearing face, helps bearing identification after years of service.



Installation Accessory Pack - Metric Series Stud Type

All McGill Metric Cam followers include (2) oil hole plug to help provide proper lubrication path to the rolling elements and prevent contamination from entering the bearing through a unused oil hole. Metric only, Inch as -OH option,



Eccentric Stud

Eccentric stud option provides a means of adjusting the radial position of the bearing, which can improve the load sharing of inline bearing combinations. Cam follower load sharing helps reduce operation costs by reducing premature failures due to overloaded bearings, the need of precise mounting hole location tolerances and providing ability to realign bearing due to track wear.

Additional Options

BHT

Broached (Hex) hole at threaded end of cam follower stud.

THT

Threaded axial lubrication hole at threaded end of cam follower stud.

THF

Threaded axial lubrication hole at flanged end of cam follower stud. Available with all screw driver slot cam followers or broached cam followers over 3”.

THB

Threaded axial oil hole on both ends of cam follower stud. Available with all screw driver slot cam followers or broached cam followers over 3”.

ALG

Annular lubrication groove at cam follower stem radial lubrication hole.

Custom Capabilities

- *Customer specified factory grease fill*
- *Grease fitting installed*
- *Stud or thread length modifications*
- *Roller diameter variations or tolerances*
- *Cam followers grouped or matched diameter tolerance / run out sets*
- *Custom engineered to order designs*

McGILL® *Heavy Duty CAMROL Bearings*

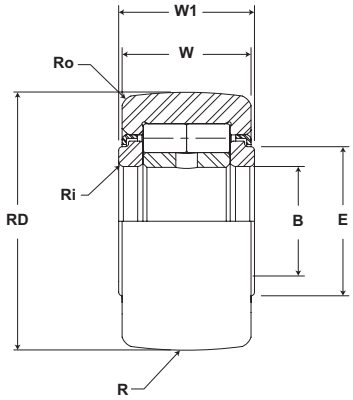
Basic Construction Type: Yoke Type Crowned / Cylindrical Outside Diameter

Rolling Elements: Full Complement Cylindrical Roller

Bearing Material: Bearing Quality Steel

Seal Type: Metallic Shield

Lubrication: Lithium Soap Grease NLGI #2



MCYRD

Part No.	RD		W		B		W1		R	Track Roller Dynamic Rating	Track Roller Static Rating
With Shields	Roller Diameter		Roller Width		Bore Diameter		Overall Width		Cylindrical Suffix MCF-X		
	mm inch		mm inch		mm inch		mm inch		mm inch	N/lb	N/lb
	Nom.	Tol.	Nom.	Tol.	Nom	Tol	Nom	Tol	Radius		
MCYRD 15	35.000 1.3780	+0/-.050 +0/-.002	18.00 .709	+0/.12 +0/-.005	15.000 .5906	+0/-.008 +0/-.0003	19.00 .748	+0/-0.21 +0/-0.0008	500 20	16,000 3,597	18,000 4,047
MCYRD 15 X		+0/-0.011 +0/- 0.0004							Cylindrical		
MCYRD 17	40.000 1.5748	+0/-.050 +0/-.002	20.00 .787	+0/.12 +0/-.009	17.000 .6693	+0/-.008 +0/-.0003	21.00 .827	+0/-0.21 +0/-0.0008	500 20	18,000 4,047	22,000 4,946
MCYRD 17 X		+0/-0.011 +0/- 0.0004							Cylindrical		
MCYRD 20	47.000 1.8504	+0/-.050 +0/-.002	24.00 .945	+0/.12 +0/-.013	20.000 .7874	+0/-.010 +0/-.0004	25.00 .984	+0/-0.21 +0/-0.0008	500 20	27,000 6,070	32,000 7,194
MCYRD 20 X		+0/-0.011 +0/- 0.0004							Cylindrical		
MCYRD 25	52.000 2.0472	+0/-.050 +0/-.002	24.00 .945	+0/.12 +0/-.017	25.000 .9843	+0/-.010 +0/-.0004	25.00 .984	+0/-0.21 +0/-0.0008	500 20	30,000 6,745	35,000 7,869
MCYRD 25 X		+0/-0.013 +0/- 0.0005							Cylindrical		
MCYRD 30	62.000 2.4409	+0/-.050 +0/-.002	28.00 1.102	+0/.12 +0/-.021	30.000 1.1811	+0/-.010 +0/-.0004	29.00 1.142	+0/-0.21 +0/-0.0008	500 20	41,000 9,218	47,000 10,567
MCYRD 30 X		+0/-0.013 +0/- 0.0005							Cylindrical		
MCYRD 35	72.000 2.8346	+0/-.050 +0/-.002	28.00 1.102	+0/.12 +0/-.025	35.000 1.3780	+0/-.012 +0/-.0005	29.00 1.142	+0/-0.21 +0/-0.0008	500 20	46,000 10,342	57,000 12,815
MCYRD 35 X		+0/-0.013 +0/- 0.0005							Cylindrical		
MCYRD 40	80.000 3.1496	+0/-.050 +0/-.002	30.00 1.181	+0/.12 +0/-.029	40.000 1.5748	+0/-.012 +0/-.0005	32.00 1.260	+0/-0.25 +0/-0.009	500 20	64,000 14,388	71,000 15,962
MCYRD 40 X		+0/-0.015 +0/- 0.0006							Cylindrical		
MCYRD 45	85.000 3.3465	+0/-.050 +0/-.002	30.00 1.181	+0/.12 +0/-.033	45.000 1.7717	+0/-.012 +0/-.0005	32.00 1.260	+0/-0.25 +0/-0.009	500 20	67,000 15,063	72,000 16,187
MCYRD 45 X		+0/-0.015 +0/- 0.0006							Cylindrical		
MCYRD 50	90.000 3.5433	+0/-.050 +0/-.002	30.00 1.181	+0/.12 +0/-.037	50.000 1.9685	+0/-.012 +0/-.0005	32.00 1.260	+0/-0.25 +0/-0.009	500 20	71,000 15,962	77,000 17,311
MCYRD 50 X		+0/-0.015 +0/- 0.0006							Cylindrical		

1. Standard bearing has a crowned roller outside diameter. For straight cylindrical outside roller diameter, add suffix "X". Example - MCYRD-15-X.

2. Since load, lubrication method, temperature and other factors affect the maximum operating speed, it is impossible to determine precise limiting speed. The listed limiting speeds are based on lightly loaded bearings having adequate lubrication and are listed only as a design guide. If grease lubricated, frequent relubrication is required. Actual bearing testing in the specific application should be conducted if the anticipated operating speed approaches the listed limiting speed.

3. Positive clamping across endplates required to ensure proper end play after mounting.

Metric dimensions for reference only.

Not all parts are available from stock. Please contact customer service for availability (800) 626-2120.

For more information on bearing capabilities outside of our standard offering, please contact Application Engineering (800) 626-2093.

MCYRD

E	Ro	Ri	LF	LFT	TF	TFT	LSD	WT
Min. Clamping Diameter	Outer Corner Radius	Inner Corner Radius	Recommended Shaft Diameters				Limiting Speed (Grease)	Bearing Weight
			Loose Fit		Light Fit			
mm inch		mm inch	mm inch		mm inch		RPM	kg lb
(Ref)	(Ref)	(Ref)	Nom	Tol	Nom	Tol		
20.00 .787	.60 .024	.30 .012	14.994 .5903	+0/-.011 +0/-.0004	15.000 .5906	+0/-.011 +0/-.0004	6,500	.10 .22
22.00 .866	1.00 .039	.30 .012	16.994 .6691	+0/-.011 +0/-.0004	17.000 .6693	+0/-.011 +0/-.0004	5,500	.15 .32
27.00 1.063	1.00 .039	.30 .012	19.993 .7871	+0/-.013 +0/-.0005	20.000 .7874	+0/-.013 +0/-.0005	4,200	.25 .54
31.00 1.220	1.00 .039	.30 .012	24.993 .9840	+0/-.013 +0/-.0005	25.000 .9843	+0/-.013 +0/-.0005	3,400	.28 .62
38.00 1.496	1.00 .039	.30 .012	29.993 1.1808	+0/-.013 +0/-.0005	30.000 1.1811	+0/-.013 +0/-.0005	2,600	.46 1.02
44.00 1.732	1.10 .043	.60 .024	34.991 1.3776	+0/-.016 +0/-.0006	35.000 1.3780	+0/-.016 +0/-.0006	2,100	.63 1.39
51.00 2.008	1.10 .043	.60 .024	39.991 1.5744	+0/-.016 +0/-.0006	40.000 1.5748	+0/-.016 +0/-.0006	1,600	.82 1.80
55.00 2.165	1.10 .043	.60 .024	44.991 1.7713	+0/-.016 +0/-.0006	45.000 1.7717	+0/-.016 +0/-.0006	1,400	.89 1.95
60.00 2.362	1.10 .043	.60 .024	45.991 1.8107	+0/-.016 +0/-.0006	50.000 1.9685	+0/-.016 +0/-.0006	1,300	.95 2.09