



Load Bearing Roller Assemblies

DCB Roller: Double-Row Cylindrical Bearing Roller Assemblies



Product Showcase



PCI[®], ProCal Inc.

www.pcimfg.com

Toll Free 800.323.0966

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Double-Row Cylindrical Bearing Rollers

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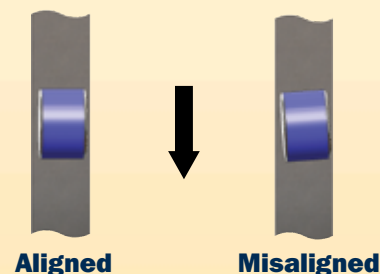
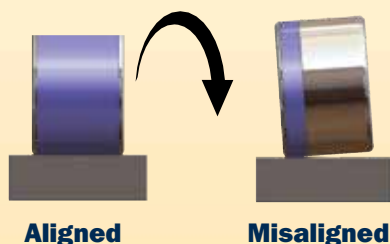
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PCI® has been developing Load Bearing Roller Assembly solutions for more than 20 years. An integral part of our success has been our commitment to understanding the ever-changing needs of our valued customers and developing solutions that turn application hurdles into success stories. It is this critical interaction that has fueled the development of our Double-Row Cylindrical Bearing Roller Assembly, the PCI DCB Roller. PCI's unique DCB design addresses performance problems associated with traditional Cam Follower products while offering several unique advantages over competitive alternatives.

Load Accommodation

Application Misalignment

Standard Cam Followers are very effective at accommodating radial load; however, internal design significantly limits their capacity to handle other types of load commonly found in real world applications. One of the most common is combination load produced from application misalignment. Combination load is comprised of both radial and thrust loads and is a large contributor to premature failure of Cam Followers. PCI DCB Rollers are designed to effectively accommodate combination load, providing a solution to performance problems associated with misalignment. Pictured below are common misalignment examples:



Dynamic Load Capacity

Traditional Load Bearing Roller Assembly products offer either significant radial capacity at low speeds or increased speed accommodation at reduced radial capacities. The PCI DCB Roller is designed to provide significant radial load capacity while operating at elevated speeds, a mixture of loads in a size package that no other Cam Follower or Track Roller product can offer.

Maintenance Free Operation

Most Cam Follower products are engineered to be re-lubricated at regular intervals in order to operate efficiently and effectively. In applications where moderate to high levels of contaminant are present, the frequency of re-lubrication can be quite significant. PCI DCB Rollers allow operation with reduced maintenance costs by addressing two primary design characteristics:

Seal Provisions

Needle Bearing Cam Follower products utilize nylon lip seals designed to provide low-level thrust capacity to the roller while providing some protection against contamination failure. Because of their dual-function purpose, nylon seals sacrifice sealing characteristics, struggling to compete against rubber seals in protection against external contamination. By engineering thrust accommodation into the internal design of the bearing, PCI DCB Rollers eliminate the need for the use of a dual purpose seal. This design improvement allows DCB Roller products the use of rubber lip seal technology as its protection against contamination, providing an industry proven solution to the problems commonly associated with Cam Follower designs.



Grease Capacity

Traditional Cam Follower products provide only a minimal amount of grease capacity to the bearing assembly because of internal design constraints. The minimal amount of lubrication limits the life of the Cam Follower once grease oxidation and break-down occur. PCI DCB Rollers are engineered with optimized grease capacity to ensure long-term operation, reducing the frequency of maintenance procedures. DCB Rollers provide up to 5 times the amount of grease capacity of standard Cam Follower products to ensure adequate lubrication for the assembly long after grease begins to oxidize.



Double-Row Cylindrical Bearing Roller Assemblies

OPTIMIZED DESIGN FOR MAXIMUM LIFE

Grease Storage

Maximizes Roller life by offering up to 20% more grease storage than competitive designs

Rolling Element Size and Quantity

Increases operating efficiency by providing industry proven performance in dynamic load conditions

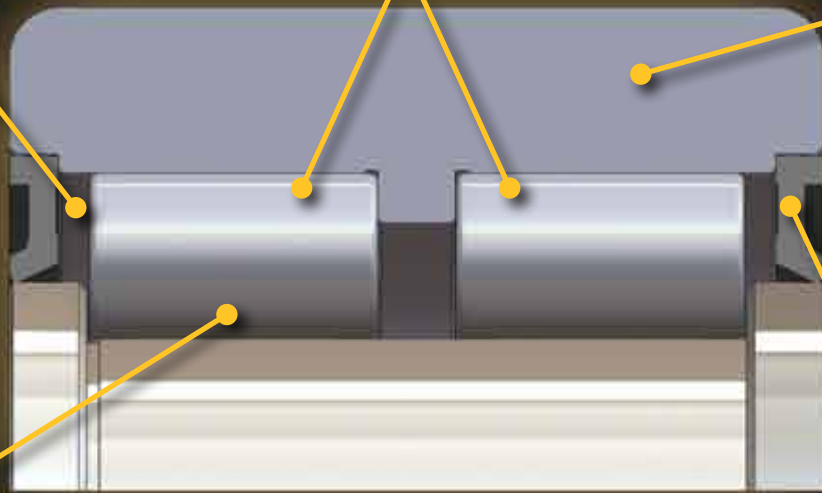
Case Hardened Roller Body

Maintains the integrity of the assembly by preventing pre-mature fracture under shock loads

PCI Unique Design

PCI Unique Design

PCI Unique Design



PCI Unique Design

PCI Unique Design

Rolling Element Profile

Lengthens component life by minimizing fatigue of load bearing surfaces

Guided Rolling Elements

Provides efficient handling of intermittent combination loads by reducing skewing of the rolling elements and minimizing internal contact points

Improved Sealing

Rubber lip seals with expanded grease barrier maximize protection of rolling elements

	PCI	RBC	McGill
Plain - Stud Type	PDC	RBC	CFD
Plain - Eccentric Stud	PDCE		
Crowned - Stud Type	CDC	CRBC	CCFD
Crowned - Eccentric Stud	CDCE		
Plain - Yoke Type	PDCY	RBY	CYRD
Crowned - Yoke Type	CDCY	CRBY	CCYRD
Regreasable	suffix - R	suffix - OH	
High Temperature	suffix - HT	suffix - NS	
Hex in Both Ends	suffix - H		

CUSTOM SOLUTIONS

Sometimes the most cost effective solution for an application means purchasing a custom roller assembly. However, piece minimums, extensive lead times and ineffective communication have forced users into adapting around the confines of pre-engineered products.

PCI makes custom roller solutions viable by providing the product you need in a quantity and delivery schedule that works for you. When you call PCI with your application, you can be assured the maximum number of choices for your solution.

CALL PCI TODAY WITH YOUR APPLICATION!!

Toll Free at 1.800.323.0966

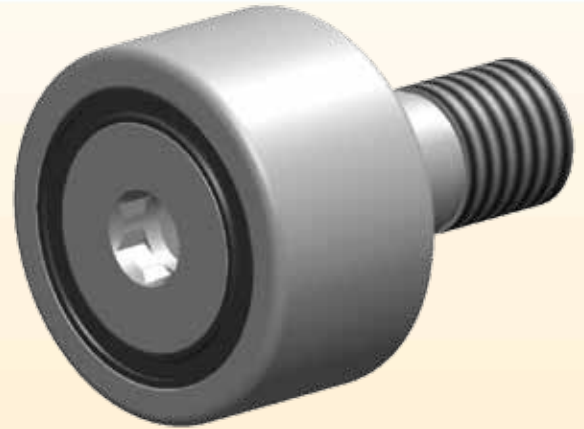
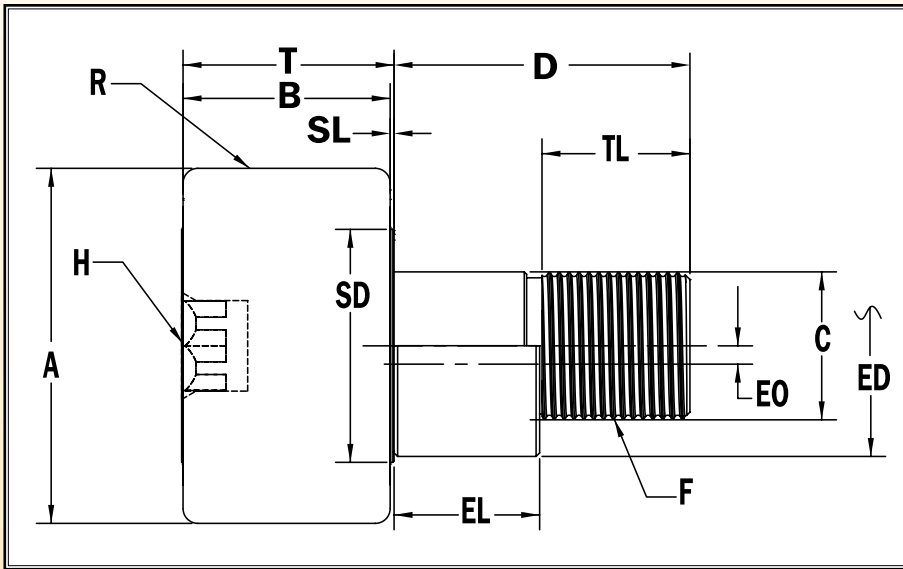
Direct Dial at 989.358.6148

"PDC" Series DCB Roller Assembly

Double-Row Cylindrical Bearing - Stud Type - Sealed



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PCI NOMENCLATURE

- PDC** - Plain Body Profile - Concentric Stud
- PDCE** - Plain Body Profile - Eccentric Stud
- CDC** - Crowned Body Profile - Concentric Stud
- CDCE** - Crowned Body Profile - Eccentric Stud

Stud Type Roller	A	B	C	D	TL	F	SD	SL	T	H	CDC / Eccentric Stud Style			
	Roller Dia. +.000 - .001	Roller Width	Stud Dia. +.000 - .001	Stud Length	Thread Length	Fine Threads	Shoulder Dia.	Shoulder Length	Roller Width + Shoulder Length	Hex Size	R	ED	EL	EO
PDC - 3.00	3.000	1.75	1.250	2.5	1.25	1 1/4 -12	1.9	.03	1.78	3/4	30	1.750	1.25	.06
PDC - 3.25	3.250	1.75	1.250	2.5	1.25	1 1/4 -12	1.9	.03	1.78	3/4	30	1.750	1.25	.06
PDC - 3.50	3.500	2.00	1.375	2.75	1.38	1 3/8 -12	2.1	.03	2.03	3/4	30	1.812	1.38	.06
PDC - 4.00	4.000	2.25	1.500	3.50	1.50	1 1/2 -12	2.3	.03	2.28	3/4	30	2.000	2.00	.06
PDC - 5.00	5.000	2.75	2.000	5.06	2.56	2 -12	2.9	.06	2.81	7/8	48	-	-	-
PDC - 6.00	6.000	3.25	2.500	6.00	3.00	2 1/2 -12	3.6	.06	3.31	1	56	-	-	-
PDC - 7.00	7.000	3.75	3.000	7.68	4.13	3 -12	4.1	.06	3.81	1 1/4	60	-	-	-
PDC - 8.00	8.000	4.25	3.250	8.50	4.25	3 1/4 -4 UNC	4.7	.13	4.38	1 1/4	40	-	-	-
PDC - 9.00	9.000	4.75	3.750	9.50	4.75	3 1/2 -4 UNC	5.3	.13	4.88	1 1/4	40	-	-	-
PDC - 10.00	10.000	5.25	4.250	10.00	4.75	3 1/2 -4 UNC	5.8	.13	5.38	1 1/4	40	-	-	-

Roller Diameter	Basic Dynamic Load Rating (lbs) C	Basic Static Load Rating (lbs) C ₀	Stud Capacity	Max. Clamping Torque (in-lbs)*	Approx. Roller Weight (lbs)
3.00"	27,600	38,000	21,200	3450	4
3.25"	27,600	38,000	21,200	3450	4.5
3.50"	36,000	50,100	24,700	4200	6
4.00"	47,200	67,200	28,700	5000	9
5.00"	71,000	104,700	54,600	5000	18
6.00"	102,000	155,500	90,900	5000	31
7.00"	132,000	204,800	136,800	5000	51
8.00"	169,200	267,500	149,800	5000	82
9.00"	210,600	337,200	207,100	5000	115
10.00"	260,700	424,800	274,100	5000	150

Additional Notes

250°F maximum operating temperature

*For lubricated threads, use half the maximum clamping torque value shown.

For Regreasable provisions in the roller and stud end, add a "-R" to the end of the part number
Example: PDC-3.00-R

For Hex provisions in the stud end, add a "-H" to the end of the part number.
Example PDC-3.00-H

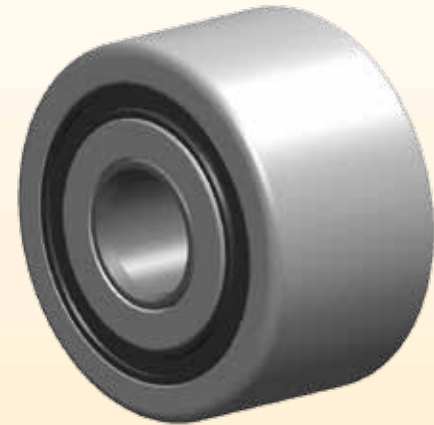
For High Temperature provisions (up to 350°F), add a "-HT" to the end of the part number.
Example PDC-3.00-HT

"PDCY" Series DCB Roller Assembly

Double-Row Cylindrical Bearing - Yoke Type - Sealed



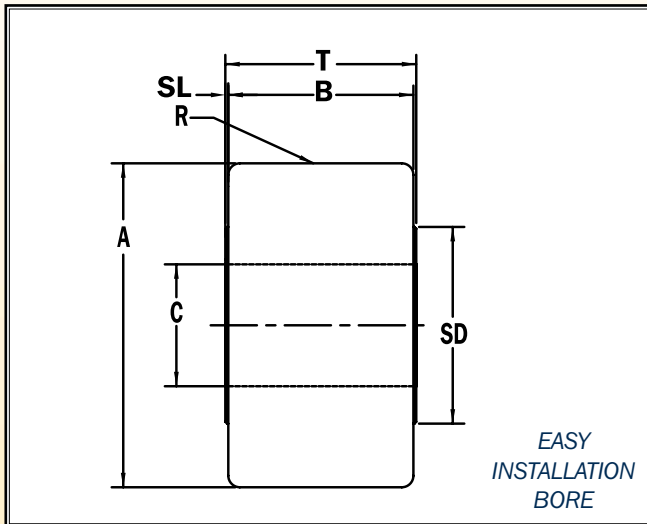
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PCI NOMENCLATURE

PDCY - Plain Body Profile – Yoke Type Mounting

CDCY - Crowned Body Profile – Yoke Type Mounting



Yoke Type Roller	A	B	C	SD	SL	T	CDCY R
	Roller Dia. + .000 - .001	Roller Width	Bore Dia. + .0007 - .0000	Shoulder Dia.	Shoulder Length	Inner Race Width + .005 - .010	Crown Radius
PDCY - 3.00	3.000	1.75	1.0000	1.9	0.03	1.813	30
PDCY - 3.25	3.250	1.75	1.0000	1.9	0.03	1.813	30
PDCY - 3.50	3.500	2.00	1.1250	2.1	0.03	2.063	30
PDCY - 4.00	4.000	2.25	1.2500	2.3	0.03	2.312	30
PDCY - 5.00	5.000	2.75	1.7500	2.9	0.06	2.875	48
PDCY - 6.00	6.000	3.25	2.2500	3.6	0.06	3.375	56
PDCY - 7.00	7.000	3.75	2.7500	4.1	0.06	3.875	60
PDCY - 8.00	8.000	4.25	3.2550	4.7	0.13	4.500	40
PDCY - 9.00	9.000	4.75	3.7550	5.3	0.13	5.000	40
PDCY - 10.00	10.000	5.25	4.2550	5.8	0.13	5.500	40

Additional Notes

For Regreasable provisions in the bore, add a "-R" to the end of the part number.
Example: PDCY-3.00-R

For High Temperature provisions, add a "-HT" to the end of the part number.
Example PDCY-3.00-HT

Roller Diameter	Basic Dynamic Load Rating (lbs) C	Basic Static Load Rating (lbs) C ₀	Sugg Shaft Dia + .0000 - .0005	Approx. Roller Weight (lbs)	Optional PCI Yoke Shaft
3.00"	27,600	38,000	1.0000	3	YSH-1.000
3.25"	27,600	38,000	1.0000	3.5	YSH-1.000
3.50"	36,000	50,100	1.2500	4.5	YSH-1.125
4.00"	47,200	67,200	1.1250	6	YSH-1.250
5.00"	71,000	104,700	1.7500	12	YSH-1.750
6.00"	102,000	155,500	2.2500	18	YSH-2.250
7.00"	132,400	204,800	2.7500	30	YSH-2.750
8.00"	169,200	267,500	3.2550	45	YSH-3.250
9.00"	210,600	337,200	3.7550	61	YSH-3.750
10.00"	260,700	424,800	4.2550	82	YSH-4.250

Optional PCI Precision Yoke Shafts

PCI Precision Carbon Steel Yoke Shafts are carefully designed and machined to tight tolerances to ensure optimum fit and dependable performance with Yoke Type Load Bearing Roller Assemblies. As an added convenience, installation hardware is included with each Precision Yoke Shaft assembly.

Consult PCI's Technical Manual for additional product specifications.