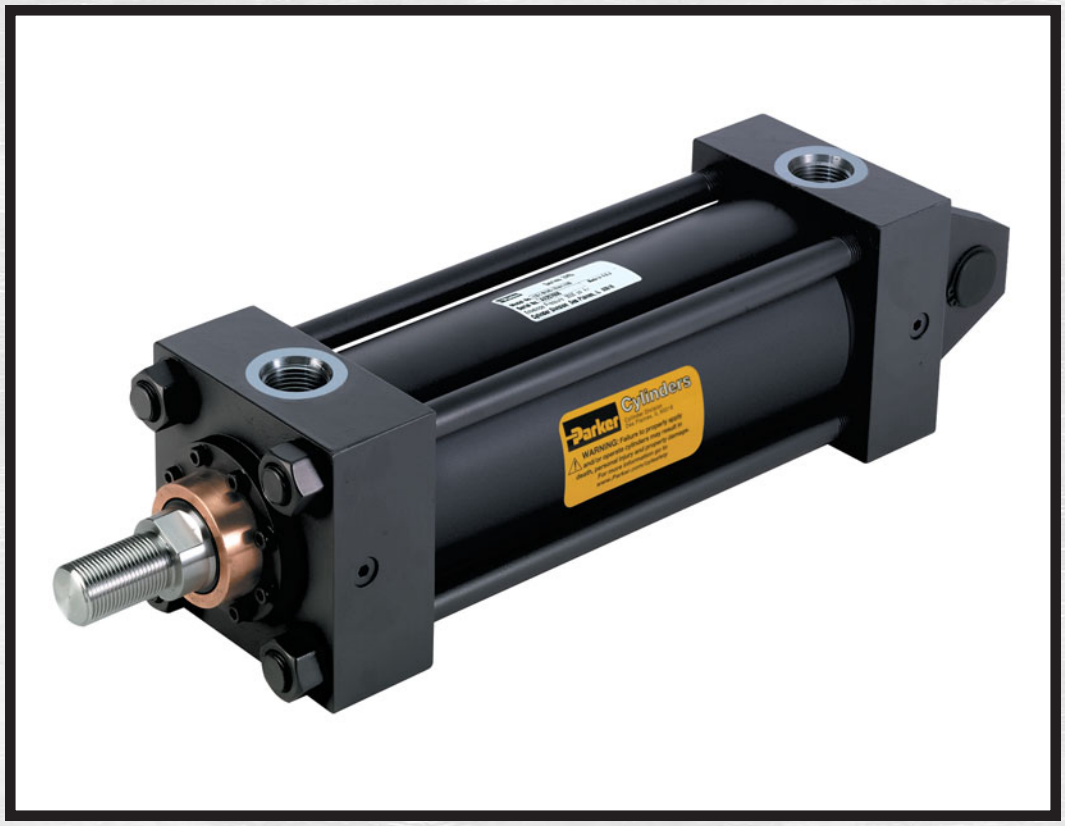


Hydraulics

U.S. Industrial Cylinder

Bolt-On Gland Option
Series 2HD and 3HD
Heavy Duty
Hydraulic Cylinders

Bolt-On Gland Option
2HD & 3HD Series
Heavy Duty
Hydraulic Cylinders

Now Featuring Optional Bolt-On Gland

For 1½"-6" Bore 2H and 7" & 8" Bore 3H Series Cylinders

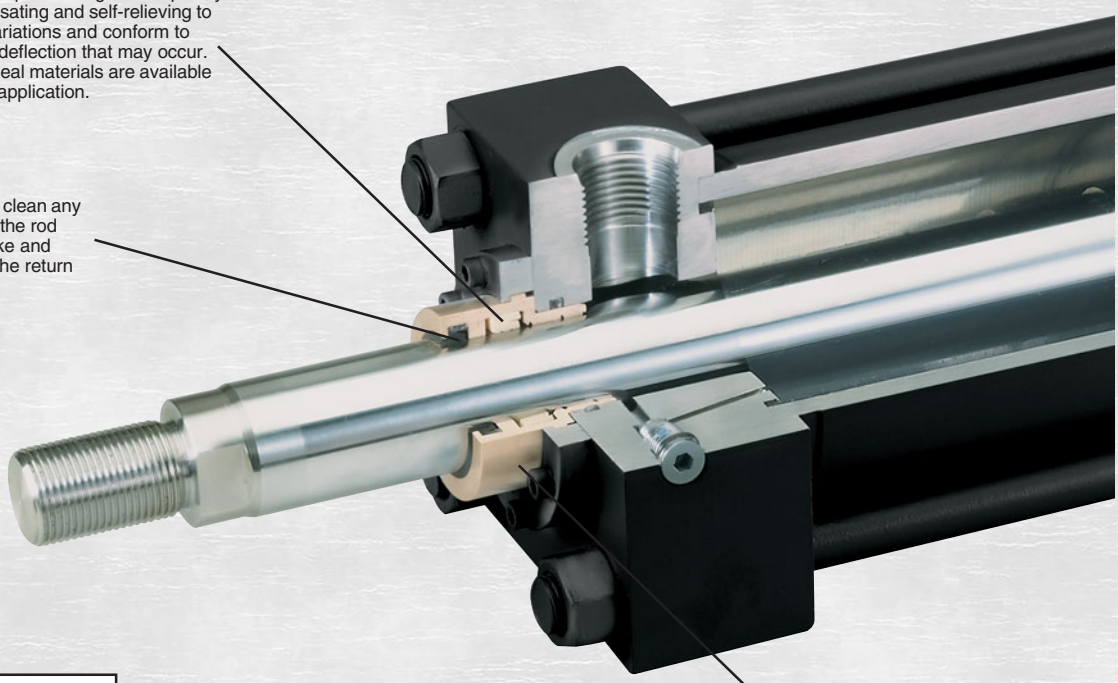
- **Non-threaded gland is clamped between bolt-on circular retainer and head for simplified service**
- **Polyurethane Rod Seal with multiple sealing edges for leak proof service**
- **Long inboard rod bearing surface that is lubricated from within**

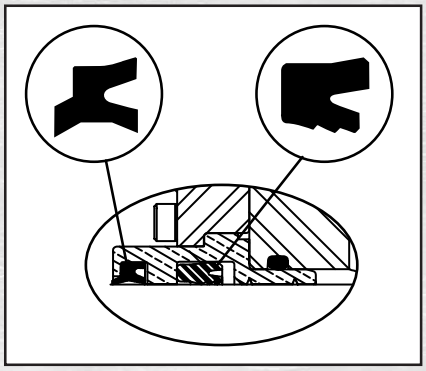
Parker Hannifin Corporation
Cylinder Division
Des Plaines, IL USA

Parker Series 2H & 3H – your best choice in heavy duty hydraulic cylinders

Primary Seal – Polyurethane Rod Seal is a proven leak proof design – completely self-compensating and self-relieving to withstand variations and conform to mechanical deflection that may occur. Alternative seal materials are available to suit your application.

Secondary Seal – Rod Wiper – wipes clean any oil film adhering to the rod on the extend stroke and cleans the rod on the return stroke.





Gland Assembly
Gland Assembly is externally removable without cylinder disassembly. An O-ring is used as a seal between the gland and head. The rod seal has multiple sealing edges to produce "dry rod" performance. It is molded from a special polyurethane material that is extremely resistant to abrasion and extrusion, resulting in exceptional service life. Wiperseal cleans rod of dirt, preventing it from entering the gland and also acts as a secondary rod seal.

Rod Gland Assembly – Bronze gland is externally removable without cylinder disassembly. Long inboard bearing surface is ahead of the seals assuring lubrication by cylinder operating fluid.

Here's What's New...

Rod Seal – The polyurethane rod seal has multiple sealing edges to produce "dry rod" performance. It is molded from a special polyurethane material that is extremely resistant to abrasion and extrusion. Alternative seal materials are available to suit your application.

Lubricated Rod Bearing – The rod seal is forward in the rod gland allowing operating fluid to lubricate the bearing area. Increased lubrication of the bearing can improve performance and extend gland life.

Bolt-on Gland – Most (but not all) rod glands are serviceable without cylinder disassembly. See the table on the next page for mounting, bore, and rod combinations (indicated with an "R") that ***do not*** have this feature. Also see the comparison of 2HD and 3HD retainer dimensions to Series HD and 2H/3H JJ Mount.

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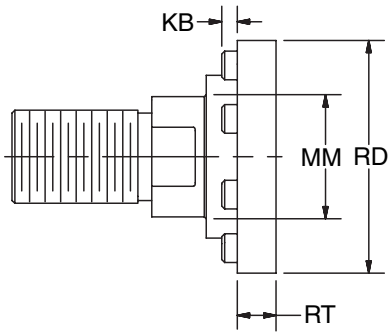
2HD & 3HD Gland Retention by Mounting Style / Bolt-On Retainer Dimension Comparison



Bore	Rod Dia. MM	2HD/3HD Rod Gland Retention: Mounting Style: TC, H, HB, HH, C, F, D, DB, BB, DD, SB	TB, TD	J, JB	JJ	Gland Retainer Comparison: RD: 2HD / 3HD	RD: HD	RD: 2H & 3H JJ Mount	RT: 2HD / 3HD	RT: HD	RT: 2H & 3H JJ Mount	KB: 2HD / 3HD	KB: HD	KB: 2H & 3H JJ Mount
1 1/2	5/8	B	**R**	**R**	B	1 15/16	2 31/64	2 1/8	3/8	1/2	3/8	3/16	–	–
	1	**R**	**R**	**R**	B	2 3/8	2 1/2	2 1/2	3/8	1/2	3/8	3/16	–	–
2	1	B	**R**	**R**	B	2 3/8	2 27/32	2 1/2	3/8	15/16	3/8	3/16	–	–
	1 3/8	**R**	**R**	**R**	B	2 7/8	3	3	3/8	1/2	3/8	3/16	–	1/4
2 1/2	1	B	B	B	B	2 3/8	2 27/32	2 1/2	3/8	15/16	3/8	3/16	–	–
	1 3/8	B	B	B	B	2 7/8	3 35/64	3	3/8	3/4	3/8	3/16	–	1/4
	1 3/4	B	B	**R**	B	3 15/32	3 7/8	3 1/2	5/8	3/4	3/8	3/16	–	1/4
3 1/4	1 3/8	B	B	B	B	2 7/8	3 35/64	3	3/8	3/4	3/8	3/16	–	1/4
	1 3/4	B	B	B	B	3 15/32	3 57/64	3 1/2	5/8	3/4	3/8	3/16	–	1/4
	2	B	B*	B	B	3 23/32	4 1/4	4	5/8	3/4	5/8	1/4	–	1/8
4	1 3/4	B	B	B	B	3 15/32	3 57/64	3 1/2	5/8	3/4	3/8	3/16	–	1/4
	2	B	B	B	B	3 23/32	4 1/4	4	5/8	3/4	5/8	1/4	–	1/8
	2 1/2	B	B*	B	B	4 1/4	4 5/8	4 1/2	5/8	3/4	5/8	1/4	–	1/4
5	2	B	B	B	B	3 23/32	4 1/4	4	5/8	3/4	5/8	1/4	–	1/8
	2 1/2	B	B	B	B	4 1/4	4 5/8	4 1/2	5/8	3/4	5/8	1/4	–	1/4
	3	B	B	B	B	5 7/16	N/A	5 1/4	7/8	N/A	5/8	–	N/A	1/4
	3 1/2	B	B	**R**	B	5 15/16	5 9/16	5 3/4	15/16	3/4	5/8	–	–	1/4
6	2 1/2	B	B	B	B	4 1/4	4 5/8	4 1/2	5/8	3/4	5/8	1/4	–	1/4
	3	B	B	B	B	5 7/16	N/A	5 1/4	7/8	N/A	5/8	–	N/A	1/4
	3 1/2	B	B	B	B	5 15/16	5 9/16	5 3/4	15/16	3/4	5/8	–	–	1/4
	4	B	B	B	B	6 5/16	6 1/2	6 1/2	15/16	15/16	3/4	–	–	1/4
7	3	B	B	B	B	5 7/16	5 1/4	5 1/4	7/8	3/4	5/8	–	–	1/4
	3 1/2	B	B	B	B	5 15/16	5 9/16	5 3/4	15/16	3/4	5/8	–	–	1/4
	4	B	B	B	B	6 5/16	6 1/2	6 1/2	15/16	15/16	3/4	–	–	1/4
	4 1/2	B	B	B	B	6 15/16	N/A	7	15/16	N/A	3/4	–	N/A	1/4
	5	B	B	B	B	7 7/16	7 9/16	7 1/4	15/16	15/16	1	–	–	–
8	3 1/2	B	B	B	B	5 15/16	5 9/16	5 3/4	15/16	3/4	5/8	–	–	1/4
	4	B	B	B	B	6 5/16	6 1/2	6 1/2	15/16	15/16	3/4	–	–	1/4
	4 1/2	B	B	B	B	6 15/16	N/A	7	15/16	N/A	3/4	–	N/A	1/4
	5	B	B	B	B	7 7/16	7 9/16	7 1/4	15/16	15/16	1	–	–	–
	5 1/2	B	B	B	B	7 15/16	8 9/32	8 1/4	15/16	15/16	1	–	–	–

B = Bolt-On Gland with Circular Retainer

R = Tie Rod Retained Gland

* 3 1/4 inch bore with 2 inch rod and 4 inch bore with 2 1/2 inch rod in HD Series were supplied with tie rod retained gland in TB and TD mounts. These bore, rod and mounting combinations in 2HD design are supplied as Bolt-On Gland with Circular Retainer.

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Seal Kits

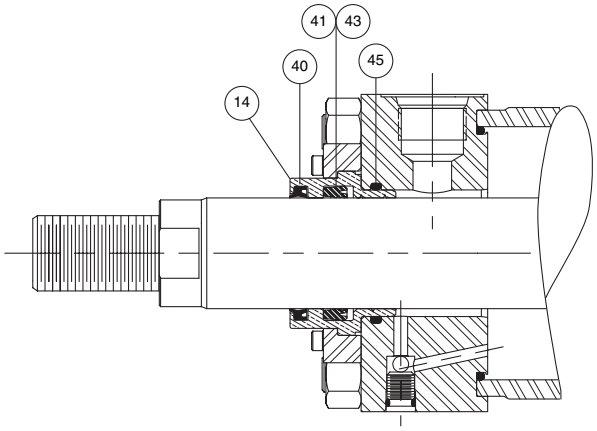
Rod Gland and Rod Seal Kits for 2HD & 3HD Option Cylinders

Rod Dia.	Class 1 Polyurethane & Buna-N		Class 5 Fluorocarbon		Retainer Screw Torque Inch Lbs.
	Rod Gland Kits (Contains: 1 Each Sym. #14, 40, 41, & 45)	Rod Seal Kits (Contains: 1 Each Sym. #40, 41, & 45)	Rod Gland Kits (Contains: 1 Each Sym. #14, 40, 41, 43*, 45)	Rod Seal Kits (Contains: 1 Each Sym. #40, 41, 43*, & 45)	
5/8	RG2HDL0061	RK2HDL0061	RG2HDL0065	RK2HDL0065	24
1	RG2HDL0101	RK2HDL0101	RG2HDL0105	RK2HDL0105	24
1 3/8	RG2HDL0131	RK2HDL0131	RG2HDL0135	RK2HDL0135	24
1 3/4	RG2HDL0171	RK2HDL0171	RG2HDL0175	RK2HDL0175	24
2	RG2HDL0201	RK2HDL0201	RG2HDL0205	RK2HDL0205	120
2 1/2	RG2HDL0251	RK2HDL0251	RG2HDL0255	RK2HDL0255	120
3	RG2HDL0301	RK2HDL0301	RG2HDL0305	RK2HDL0305	240
3 1/2	RG2HDL0351	RK2HDL0351	RG2HDL0355	RK2HDL0355	240
4	RG2HDL0401	RK2HDL0401	RG2HDL0405	RK2HDL0405	240
4 1/2	RG2HDL0451	RK2HDL0451	RG2HDL0455	RK2HDL0455	240
5	RG2HDL0501	RK2HDL0501	RG2HDL0505	RK2HDL0505	240
5 1/2	RG2HDL0551	RK2HDL0551	RG2HDL0555	RK2HDL0555	240

* Item 43 not required for 5/8" and 1" rod diameter.

Bore Size	Tie Rod Nut Torque Foot Lbs.
1 1/2	18
2	45
2 1/2	45
3 1/4	120
4	130
5	310
6	525
7	800
8	1168

Symbol Number	Description
14	Rod Gland
40	Rod Wiperseal
41	Rod Seal
43	Rod Seal Back-up Washer
45	Gland to Head O-Ring



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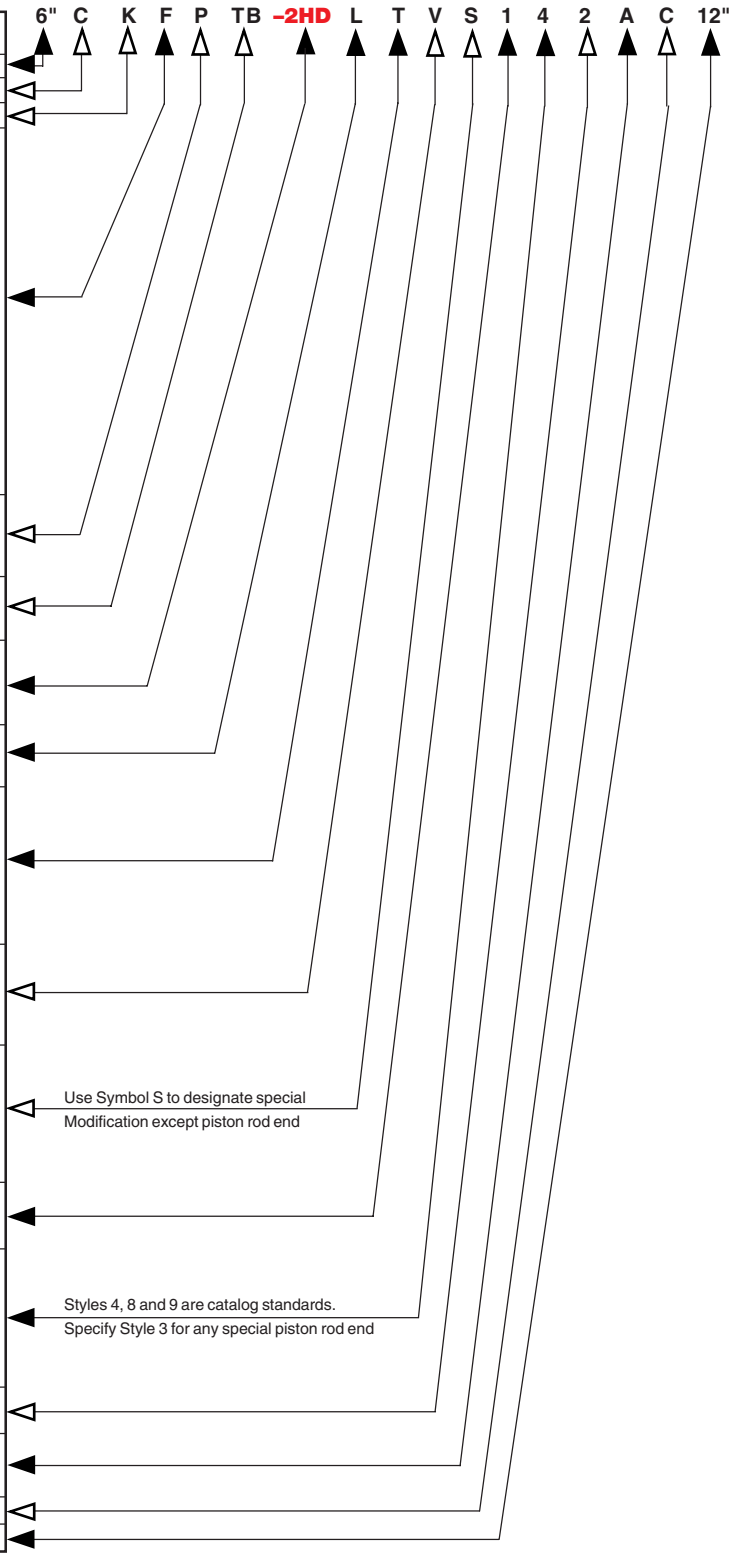
How to Order Bolt-On Gland for Series 2H & 3H Cylinders

Parker Series 2H cylinders can be completely and accurately described by a model number consisting of coded symbols. To develop a model number, select only those symbols that represent the cylinder required, and place them in the sequence indicated below.

Feature	Description	Symbol
Bore*	Specify in inches	
Cushion-Head	Used **only** if cushion required	C
Double-Rod	Used **only** if double-rod cylinder is required	K
Mounting* Style	Head Tie Rods Extended	TB
	Cap Tie Rods Extended	TC
	Both End Tie Rods Extended	TD
	Head Rectangular Flange	J
	Head Square Flange	JB
	Head Rectangular	JJ
	Cap Rectangular Flange	H
	Cap Square Flange	HB
	Cap Rectangular	HH
	Side Lugs	C†
	Centerline Lugs	E
	Side Tapped	F†
	Side End Angles	CB
	Side End Lugs	G†
	Cap Fixed Clevis	BB
	Head Trunnion	D
	Cap Trunnion	DB
	Intermediate Fixed Trunnion‡	DD
	Spherical Bearing	SB
Mounting Modifications	Used **only** for Thrust Key (Styles C,F,G, & CB)	P
	Used **only** for Manifold Port O-Ring Seal (Style C)	M
Combination Mounting Style	Any Practical Mounting Style Listed Above	As listed above
Series*	2H Cylinder with Jewel Gland	**–2H**
	2H Cylinder with Bolt-On Gland	**–2HD**
	3H Cylinder with Jewel Gland	**–3H**
	3H Cylinder with Bolt-On Gland	**–3HD**
Piston	Ring packed piston standard	C
	Used **only** for Lipseal® Piston	L
	Used **only** for Hi-Load Piston	K
Ports*	SAE Straight Thread O-Ring Port (Standard)	T
	Used **only** for NPTF (Dry Seal Pipe Thread)	U
	Used **only** for BSP (Parallel Thread ISO 228)	R
	Used **only** for SAE Flange Ports (3000 psi)	P
	Used **only** for BSPT (Taper Thread)	B
	Used **only** for Metric Thread	G
	Used **only** for Metric Thread per ISO 6149	Y
Common Modifications	High Water Content Fluid	J
	Nut Retained Piston	F
	Fluorocarbon Seals	V
	Water Service	W
	EPR Seals	X
Special Modifications	Used **only** if Special Modifications are required: Oversize Ports, Port Position Change, Special Seals, Stop Tube•, Stroke Adjuster, Tie Rod Supports	S
Piston Rod* Number	Select Rod Number	1 through 0
Piston* Rod End	Select:	
	Style 4 Small Male	4
	Style 7 Female Thread for Spherical Rod Eye	7
	Style 8 Intermediate Male	8
	Style 9 Short Female	9
	Style 55 Rod End for Flange Coupling	55
	Style 3 Special (Specify)	3
Piston Rod Alternate Thds.	Used **only** for stud two times longer than standard.	2
Piston Rod* Threads	UNF Standard	A
	BSF (British Fine)	W
	Metric	M
Cushion-Cap	Used **only** if cushion required	C
Stroke* •	Specify in inches	–



*Required for Basic Cylinder Model Number
•In case of Stop Tube, call out Gross Stroke Length

†Cylinders with these mounting styles should have a minimum stroke length equal to or greater than their bore size.

Dark Arrows Indicate Basic Minimum Model Number
‡Specify XI dimension

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