



SERIES	SIZE	MAX STROKE * in [mm]	MAX FORCE † lb [N]	MAJOR BENEFIT	INDUSTRY USE
CRS (Compact) pages 1-3 to 1-16 	12	3-1/4 [80]	26 [113]	<ul style="list-style-type: none"> • Compact • Optional shock pads extend cylinder life and minimize piston noise • Low profile 	<ul style="list-style-type: none"> • Material handling • Conveyors • Packaging • Assembly machines • General industrial automation
	16	3-1/4 [80]	47 [201]		
	20	4 [100]	73 [314]		
	25	4 [100]	114 [491]		
	32	4-1/2 [115]	187 [804]		
	40	4-1/2 [115]	292 [1257]		
	50	5 [125]	456 [1964]		
63	7 [175]	725 [3117]			
CTS pages 1-17 to 1-26 	12	2-1/2 [60]	26 [113]	<ul style="list-style-type: none"> • Compact • Hard chrome plated guide shafts for anti-rotation & increased side load capacity • Multiple mounting options 	<ul style="list-style-type: none"> • Material handling • Conveyors • Assembly machines • General industrial automation • Automotive
	16	2-3/4 [70]	47 [201]		
	20	3-3/8 [85]	73 [314]		
	25	3-3/8 [85]	114 [491]		
	32	3-5/8 [90]	187 [804]		
	40	3-7/8 [95]	292 [1257]		
	50	3-3/4 [95]	456 [1964]		
63	6 [150]	725 [3117]			
CV (ISO/VDMA) pages 1-27 to 1-48 	CVC20	[500]	73 [314]	<ul style="list-style-type: none"> • ISO/VDMA interchange for easy mounting • PTFE wear ring & built-in shock pads for long cylinder life • Rodlok® option for easy & dependable locking of piston 	<ul style="list-style-type: none"> • Automotive • Material handling • Assembly machines • General industrial automation
	CVC25	[500]	114 [491]		
	CVB20	[750]	73 [314]		
	CVB25	[750]	114 [491]		
	32	[1000]	187 [804]		
	40	[1000]	292 [1257]		
	50	[1000]	457 [1964]		
	63	[1000]	725 [3117]		
	80	[1000]	1169 [5027]		
100	[1000]	1826 [7854]			
AV, HV, A (NFPA) 3/4", 1", & 1-1/8" pages 1-49 to 1-62  tom thumb®	3/4" A, AV	12	66 [295]	<ul style="list-style-type: none"> • Long life design for low maintenance • Repairable construction for extended life and long term savings 	<ul style="list-style-type: none"> • Packaging • Assembly machines • Machine loading/unloading • General industrial automation
	1" A, AV	18	118 [524]		
	1-1/8" A, AV	18	149 [663]		
	3/4" HV	12	663 [2948]		
	1" HV	18	1178 [5240]		
	1-1/8" HV	18	1491 [6632]		
AV, HV (NFPA) 1-3/8" pages 1-63 to 1-74  tom thumb®	1-3/8" AV	24	223 [991]	<ul style="list-style-type: none"> • Long life design for low maintenance • Wide range of options for easy application and reduced design time 	<ul style="list-style-type: none"> • Packaging • Assembly machines • Machine loading/unloading • General industrial automation
	1-3/8" HV	24	2227 [9907]		

NOTES:

1) *Consult PHD for longer strokes.

2) †Maximum force is calculated at 150 psi [10.35 bar].



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TD (Air/Oil) pages 1-75 to 1-82 tom thumb®		3/4" TD	6	125 [557]	<ul style="list-style-type: none"> Precise speed control and smooth operation at low velocities Repairable construction for extended life and long term savings 	<ul style="list-style-type: none"> Packaging Assembly machines Machine loading/unloading General industrial automation
	1" TD	9	224 [997]			
	1-1/8" TD	9	282 [1253]			
	1-3/8" TD	12	416 [1850]			
	3/4" TD -X or -C	6	66 [295]			
	1" TD -X or -C	9	118 [524]			
	1-1/8" TD -X or -C	9	149 [663]			
1-3/8" TD -X or -C	12	223 [991]				
AV2, HV2, A2 (Back-to-Back) pages 1-83 to 1-90 tom thumb®		3/4" A2, AV2	6	66 [295]	<ul style="list-style-type: none"> Long life design for low maintenance Repairable construction for extended life and long term savings 	<ul style="list-style-type: none"> Packaging Assembly machines Machine loading/unloading General industrial automation
	1" A2, AV2	9	118 [524]			
	1-1/8" A2, AV2	9	149 [663]			
	1-3/8" AV2	12	223 [991]			
	3/4" HV2	6	663 [2948]			
	1" HV2	9	1178 [5240]			
	1-1/8" HV2	9	1491 [6632]			
1-3/8" HV2	12	2227 [9907]				
A3V, H3V, A3 (Three Position) pages 1-91 to 1-100 tom thumb®		3/4" A3, A3V	6	66 [295]	<ul style="list-style-type: none"> Long life design for low maintenance Repairable construction for extended life and long term savings 	<ul style="list-style-type: none"> Packaging Assembly machines Machine loading/unloading General industrial automation
	1" A3, A3V	9	118 [524]			
	1-1/8" A3, A3V	9	149 [663]			
	1-3/8" A3V	12	223 [991]			
	3/4" H3V	6	663 [2948]			
	1" H3V	9	1178 [5240]			
	1-1/8" H3V	9	1491 [6632]			
1-3/8" H3V	12	2227 [9907]				
NPG, NHG (Non-Rotating) pages 1-101 to 1-108 tom thumb®		1-1/8" NPG	18	149 [663]	<ul style="list-style-type: none"> Long life design for low maintenance Non-rotating rod, adjustable positions Repairable construction for extended life and long term savings 	<ul style="list-style-type: none"> Packaging Assembly machines Machine loading/unloading General industrial automation
	1-3/8" NPG	24	223 [991]			
	1-1/8" NHG	18	1491 [6632]			
	1-3/8" NHG	24	2227 [9907]			
AV, A, -O (Cleanroom) pages 1-109 to 1-110 tom thumb®		3/4" A, AV -O	12	66 [295]	<ul style="list-style-type: none"> Can be used in Class 100 Cleanroom applications Vacuum port and special bushings offer rod protection 	<ul style="list-style-type: none"> Class 100 cleanroom Food processing Medical Assembly machines Machine loading/unloading Semi-conductor
	1" A, AV -O	18	118 [524]			
	1-1/8" A, AV -O	18	149 [663]			
SFP Slide (Rodless Cylinder) pages 2-81 to 2-90		27	70.8 [1800]	132 [587]	<ul style="list-style-type: none"> Space saving design Smooth, precise movement High load capacity with very low deflection 	<ul style="list-style-type: none"> General automation Packaging Assembly machine builders Medical Semiconductor Optical Plastics Automotive
	40	133.8 [3400]	292 [1257]			

NOTES:
 1) *Maximum stroke (per cylinder 1 or 2) consult PHD for longer strokes.
 3) †Maximum force calculated at 150 psi [10.35 bar].

SEE THE PHD CLASSICS CATALOG FOR THE FOLLOWING PHD CYLINDERS:

- Series AS, AVS, & HVS Spherical Mount Cylinders
 - Series E Cylinder
 - Series NEAG and NEHG Cylinders (1-1/8" and 1-3/8" bores)
 - Series O Oval Cylinder
- Call 1-800-624-8511 for your free catalog.