

**NORDON CYLINDERS
ROD BUCKLE LOADS**

STD STROKE IN INCHES	6	8	12	16	18	20	24	30	36	48
STD STROKE IN MILLIMETERS	152	203	305	406	457	508	610	762	914	1219
EXTENDED OR OPEN CENTRE LENGTH IN MILLIMETERS	616	717	921	1124	1225	1327	1530	1835	2140	2749
ROD DIAMETER IN INCHES - MILLIMETERS	LOAD IN KILOGRAMS WHEN THE ROD WILL BUCKLE. WORKED OUT USING FEMALE CLEVIS MOUNTS BOTH ENDS.									
.75" - 19.1mm	3535	2604	1581	1061	893	761	572	398	293	177
1" - 25.4mm	11171	8231	4998	3354	2821	2405	1809	1258	925	560
1.25" - 31.75mm	27273	20095	12203	8189	6887	5873	4417	3071	2259	1368
1.5" - 38.1mm	56552	41669	25304	16980	14281	12178	9159	6369	4684	2837
1.75" - 44.45mm	104770	77196	46879	31459	26458	22562	16968	11799	8677	5256
2" - 50.8mm	178733	131693	79973	53667	45137	38490	28946	20129	14803	8966
2.25" - 57.15mm	286296	210946	128101	85964	72300	61653	46366	32242	23711	14362
2.5" - 63.5mm	436361	321516	195246	131023	110197	93969	70669	49142	36139	21890
3" - 76.2mm	904834	666695	404863	271689	228504	194854	146539	101901	74938	45391

LEVERAGE BY ARMS OR LINKAGES WILL ALSO HAVE TO BE CALCULATED WHEN USING THIS DATA

TUBE YEILD PRESSURES

TUBE BORE IN INCHES	1.5	2	2.5	3	3.5	4	5	5	6	8
TUBE BORE IN MILLIMETERS	38.1	50.8	63.5	76.2	88.9	101.6	127	127	152.4	203.2
TUBE WALL THICKNESS IN INCHES	0.187	0.187	0.187	0.25	0.25	0.25	0.25	0.375	0.375	0.5
WALL THICKNESS IN MILLIMETERS	4.75	4.75	4.75	6.35	6.35	6.35	6.35	9.53	9.53	12.70
YEILD PRESSURE IN PSI	14968	11816	9760	10714	9375	8333	6818	9783	8333	8333
YEILD PRESSURE IN BAR	1018	804	664	729	638	567	464	665	567	567

CYLINDER EXTEND FORCE

BORE DIAMETER IN INCHES	1.5	2	2.5	3	3.5	4	5	5	6	8
KG FORCE @ 68 Bar - 1000psi	803	1428	2231	3213	4373	5712	8925	8925	12852	22849
KG FORCE @ 102 Bar - 1500 psi	1205	2142	3347	4820	6560	8568	13388	13388	19279	34273
KG FORCE @ 136 Bar - 2000 psi	1607	2856	4463	6426	8747	11424	17851	17851	25705	45697
KG FORCE @ 170 Bar - 2500 psi	2008	3570	5578	8033	10933	14280	22313	22313	32131	57122
KG FORCE @ 204 Bar - 3000 psi	2410	4284	6694	9639	13120	17137	26776	26776	38557	68546

SAFETY FACTORS TO USE AS A GUIDE: LOW PRESSURE LOW SPEED 3 : 1 : STANDARD WORKING PRESSURE & SPEED 4 : 1 : HIGH SPEED HIGH PRESSURE 6 : 1: Max Cylinder Speed .4meters per sec

BORE TO ROD STEP DOWN YEILD AT 3 TO 1 FACTOR

BORE DIAMETER IN INCHES	1.5	2	2.5	3	3.5	4	5	5	6	8
ROD DIAMETER IN INCHES - MILLIMETERS	MAXIMUM RETRACTION PRESSURE IN BAR WITH 3 : 1 FACTOR APPLIED									
.75" OR 19.1mm - .625" STEPDOWN	228									
.875" OR 22.2mm - .625" STEPDOWN	262									
1" OR 25.4mm - 3/4" STEPDOWN	449	186								
1.25" OR 31.75 mm - 3/4" STEPDOWN		228								
1.25" OR 31.75 mm - 1" STEPDOWN			207	131						
1.5" OR 38.1mm - 1" STEPDOWN		552	248	145	100					
1.75" OR 44.45mm - 1.25" STEPDOWN			483	262	166	121				
2" OR 50.8mm - 1.5 STEPDOWN				449	269	186	104			
2.25" OR 57.15mm - 1.75" STEPDOWN					414	276	152			
2.5" OR 63.5mm - 2" STEPDOWN						414		262		
3" OR 76.1mm - 2.5" STEPDOWN								380	228	
3.5" OR 88.9mm - 3" STEPDOWN									380	
4" OR 101.2mm - 3.5" STEPDOWN									607	248

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THIS INFORMATION IS TO BE USED AS A GUIDE NO RESPONSIBILITY GIVEN

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