Technical Information

Force and Load Charts - All Cylinders (except ROV)

Piston Area		Bore 8	10	12	16	20	25	32	40	50	63	80	100	125
A	IN^2	0.078	0.122	0.175	0.311	0.487	0.761	1.246	1.947	3.043	4.831	7.791	12.174	19.021
B	IN^2	0.059	0.101	0.132	0.264	0.403	0.636	1.07	1.643	2.558	4.34	7.037	11.408	17.779
		Theoretical Forces lbf at ___PSI												
PSI	15	1.17	1.83	2.63	4.67	7.31	11.42	18.69	29.21	45.65	72.47	116.87	182.61	285.32
	30	2.34	3.66	5.25	9.33	14.61	22.83	37.38	58.41	91.29	144.93	233.73	365.22	570.63
	45	3.51	5.49	7.88	14.00	21.92	34.25	56.07	87.62	136.94	217.40	350.60	547.83	855.95
	60	4.68	7.32	10.50	18.66	29.22	45.66	74.76	116.82	182.58	289.86	467.46	730.44	1141.26
	75	5.85	9.15	13.13	23.33	36.53	57.08	93.45	146.03	228.23	362.33	584.33	913.05	1426.58
	90	7.02	10.98	15.75	27.99	43.83	68.49	112.14	175.23	273.87	434.79	701.19	1095.66	1711.89
	105	8.19	12.81	18.38	32.66	51.14	79.91	130.83	204.44	319.52	507.26	818.06	1278.27	1997.21
	120	9.36	14.64	21.00	37.32	58.44	91.32	149.52	233.64	365.16	579.72	934.92	1460.88	2282.52
	135	10.53	16.47	23.63	41.99	65.75	102.74	168.21	262.85	410.81	652.19	1051.79	1643.49	2567.84
	150	11.70	18.30	26.25	46.65	73.05	114.15	186.90	292.05	456.45	724.65	1168.65	1826.10	2853.15

Piston Area		Bore 8	10	12	16	20	25	32	40	50	63	80	100	125
A	CM^2	0.502	0.785	1.131	2.01	3.141	4.91	8.04	12.56	19.63	31.17	50.26	78.54	122.7
A	CM^2	0.38	0.65	0.85	1.70	2.60	4.10	6.90	10.60	16.50	28.00	45.40	73.60	114.7
		Theoretical Forces kN at___bar												
BAR	1	0.005	0.007	0.01	0.018	0.028	0.044	0.072	0.112	0.175	0.279	0.450	0.703	1.099
	2	0.009	0.014	0.02	0.036	0.056	0.088	0.144	0.225	0.351	0.558	0.900	1.407	2.199
	3	0.014	0.021	0.03	0.054	0.084	0.131	0.216	0.337	0.527	0.837	1.351	2.111	3.298
	4	0.018	0.028	0.04	0.072	0.112	0.175	0.288	0.450	0.703	1.117	1.801	2.814	4.398
	5	0.023	0.035	0.05	0.090	0.140	0.219	0.360	0.563	0.879	1.396	2.251	3.518	5.497
	6	0.027	0.042	0.06	0.108	0.168	0.263	0.432	0.675	1.055	1.675	2.702	4.222	6.597
	7	0.032	0.049	0.07	0.126	0.197	0.307	0.504	0.788	1.231	1.955	3.152	4.926	7.696
	8	0.036	0.056	0.08	0.144	0.225	0.351	0.576	0.900	1.407	2.234	3.603	5.629	8.796
	9	0.041	0.063	0.09	0.162	0.253	0.395	0.648	1.013	1.583	2.513	4.053	6.333	9.896
	10	0.045	0.070	0.10	0.180	0.281	0.439	0.720	1.125	1.759	2.793	4.503	7.037	10.995

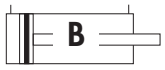
A* = PUSH- Piston area
B* = PULL- Piston area minus rod

The figures shown above relate to the piston area, PUSH. The forces for the piston area minus the rod are not shown in the chart shown above.

Technical Information

Force and Load Charts - ROV Oval Bore

Bore Ø	Piston Rod	Actuation		Theoretical Forces														
				Area	lbf at __ PSI						Area	da N at __ Bar						
				in^2	30	45	60	75	90	105	cm^2	2	3	4	5	6	7
8	4	Double Acting	A*	0.10	3.00	4.50	6.00	7.50	9.00	10.50	0.63	1.26	1.89	2.52	3.15	3.78	4.41
			B*	0.08	2.40	3.60	4.80	6.00	7.20	8.40	0.51	1.02	1.53	2.04	2.55	3.06	3.57
		Single Acting	A**	0.10	3.00	4.50	6.00	7.50	9.00	10.50	0.63	0.63	1.13	1.77	2.52	3.15	3.78
			B**	0.08	2.40	3.60	4.80	6.00	7.20	8.40	0.51	0.42	0.93	1.44	1.95	2.46	2.97
10	4	Double Acting	A*	0.16	4.80	7.20	9.60	12.00	14.40	16.80	1.00	2.00	3.00	4.00	5.00	6.00	7.00
			B*	0.14	4.20	6.30	8.40	10.50	12.60	14.70	0.88	1.76	2.64	3.52	4.40	5.28	6.16
		Single Acting	A**	0.16	4.80	7.20	9.60	12.00	14.40	16.80	1.00	1.25	2.37	3.63	4.12	5.00	6.12
			B**	0.14	4.20	6.30	8.40	10.50	12.60	14.70	0.88	0.91	1.79	2.67	3.55	4.43	5.31
12	6	Double Acting	A*	0.23	6.90	10.35	13.80	17.25	20.70	24.15	1.50	3.00	4.50	6.00	7.50	9.00	10.50
			B*	0.19	5.70	8.55	11.40	14.25	17.10	19.95	1.23	2.46	3.69	4.92	6.15	7.38	8.61
		Single Acting	A**	0.23	6.90	10.35	13.80	17.25	20.70	24.15	1.50	2.44	4.08	5.40	6.88	8.37	10.12
			B**	0.19	5.70	8.55	11.40	14.25	17.10	19.95	1.23	1.61	2.84	4.07	5.30	6.53	7.76
16	6	Double Acting	A*	0.31	9.30	13.95	18.60	23.25	27.90	32.55	2.00	4.00	6.00	8.00	10.00	12.00	14.00
			B*	0.28	8.40	12.60	16.80	21.00	25.20	29.40	1.83	3.46	5.20	6.90	8.70	10.40	12.10
		Single Acting	A**	0.31	9.30	13.95	18.60	23.25	27.90	32.55	2.00	3.50	5.00	7.40	8.20	9.10	12.00
			B**	0.27	8.10	12.15	16.20	20.25	24.30	28.35	1.73	1.51	3.25	4.95	6.75	8.45	10.15
20	8	Double Acting	A*	0.59	17.70	26.55	35.40	44.25	53.10	61.95	3.80	7.60	11.40	15.20	19.00	22.80	26.60
			B*	0.51	15.30	22.95	30.60	38.25	45.90	53.55	3.30	6.60	9.90	13.20	16.50	19.80	23.10
		Single Acting	A**	0.59	17.70	26.55	35.40	44.25	53.10	61.95	3.80	4.63	8.78	4.63	15.98	19.52	24.15
			B**	0.51	15.30	22.95	30.60	38.25	45.90	53.55	3.30	3.70	5.88	10.30	13.60	16.90	20.20
25	10	Double Acting	A*	0.67	20.10	30.15	40.20	50.25	60.30	70.35	4.30	8.60	12.90	17.20	21.50	25.80	30.10
			B*	0.55	16.50	24.75	33.00	41.25	49.50	57.75	3.52	7.04	10.56	14.08	17.60	21.12	24.64
		Single Acting	A**	0.67	20.10	30.15	40.20	50.25	60.30	70.35	4.30	6.40	11.70	16.20	21.50	26.30	31.20
			B**	0.55	16.50	24.75	33.00	41.25	49.50	57.75	3.52	4.14	7.66	11.18	14.70	18.22	21.74

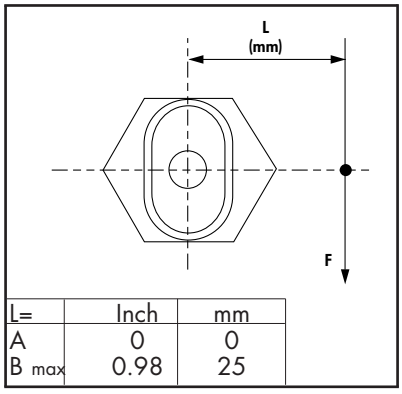


A* = PUSH- Piston Area
B* = PULL- Piston Area minus Rod
A** = PUSH- Piston Area
B** = PULL- Piston Area minus Rod & Spring

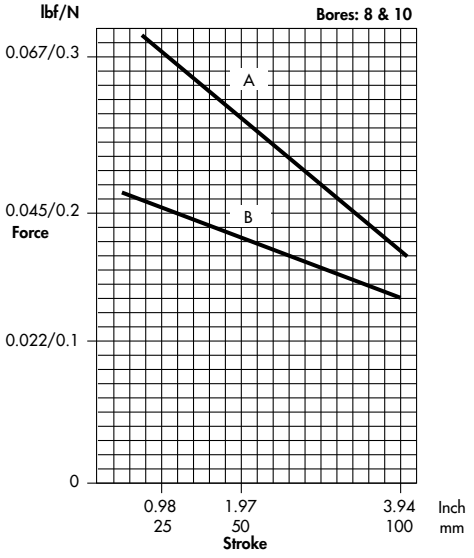
Force and Load Charts - ROV Oval Bore

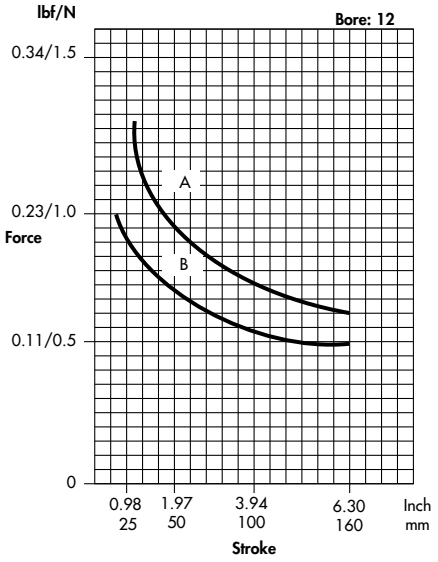
For correct cylinder selection at full rod extension, Force "F" should be below the load curve on the appropriate cylinder chart.

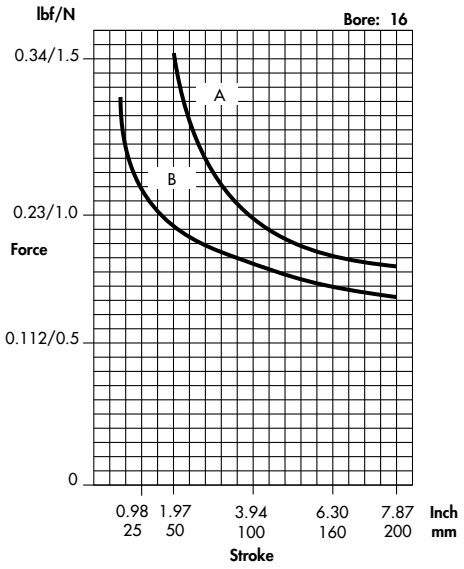
LATERAL LOAD OFFSET

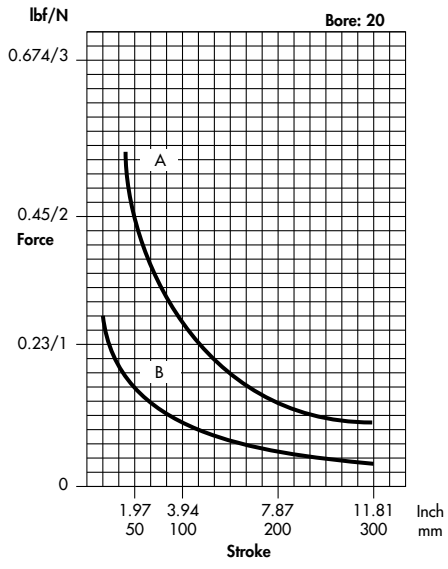


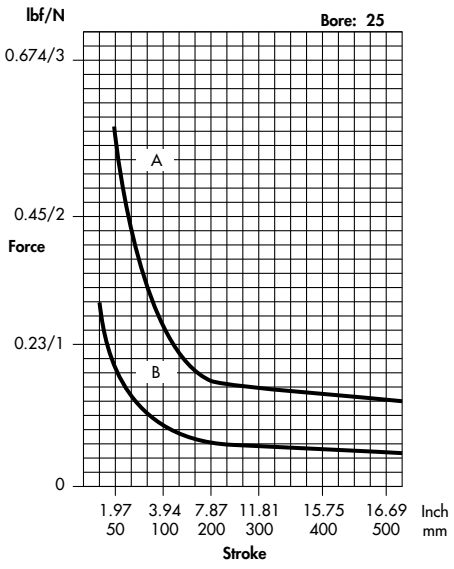
L=	Inch	mm
A	0	0
B max	0.98	25





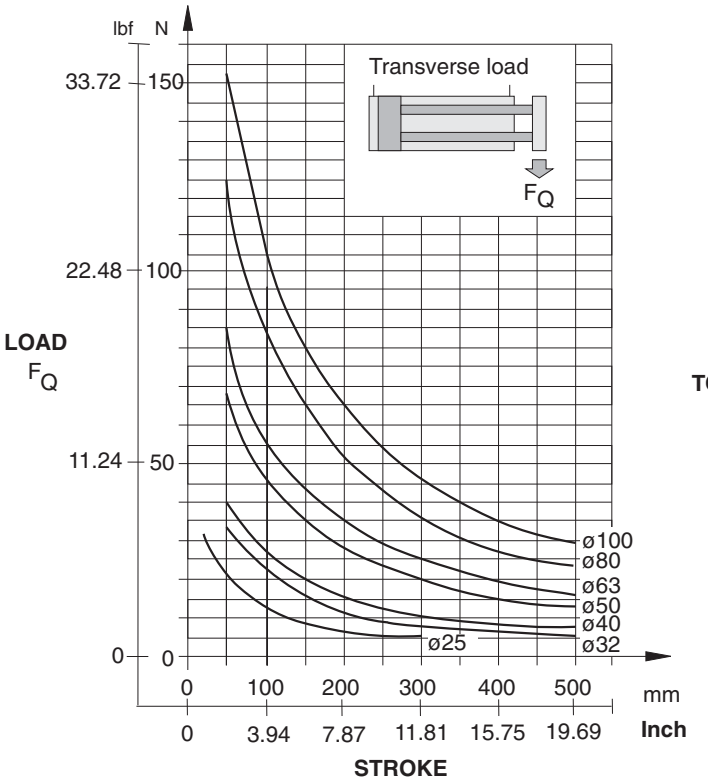




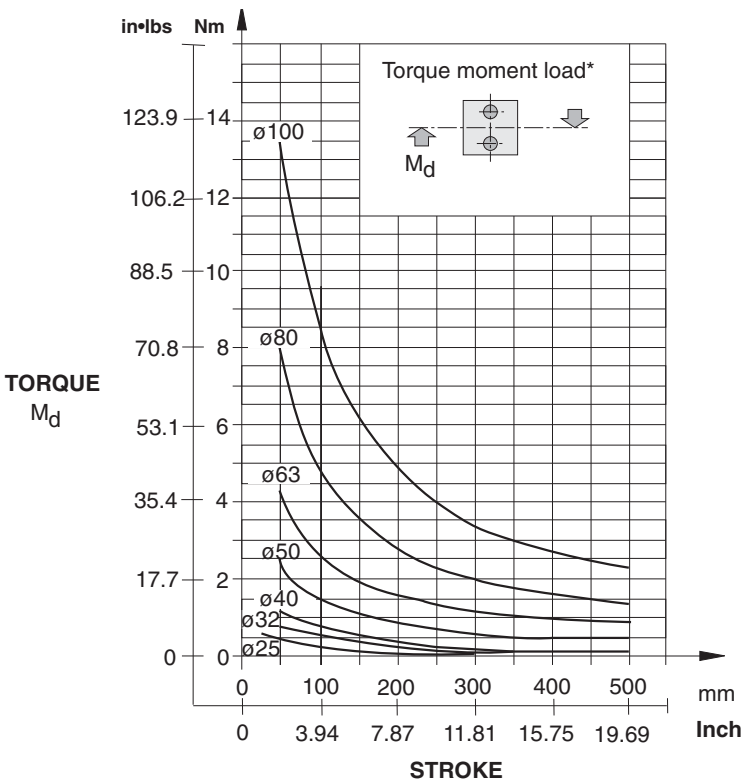


Force and Load Charts - AZV Twin Rod

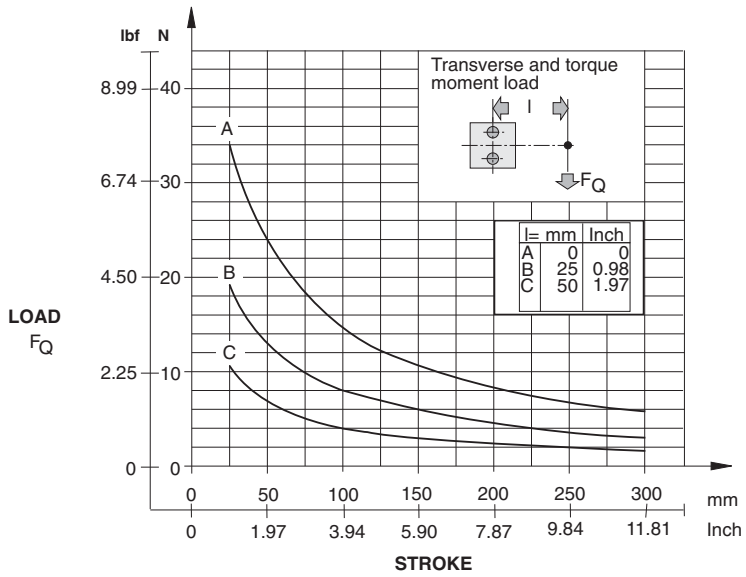
Traverse Load Ø25-100mm



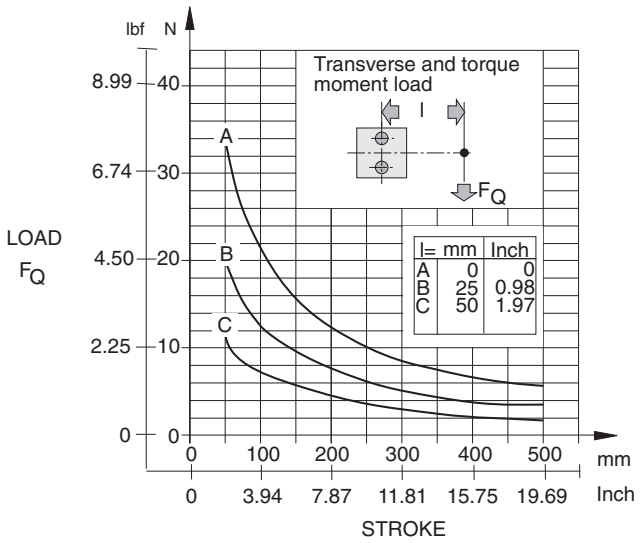
Torque Load Ø25-100mm



Side Load Ø25mm

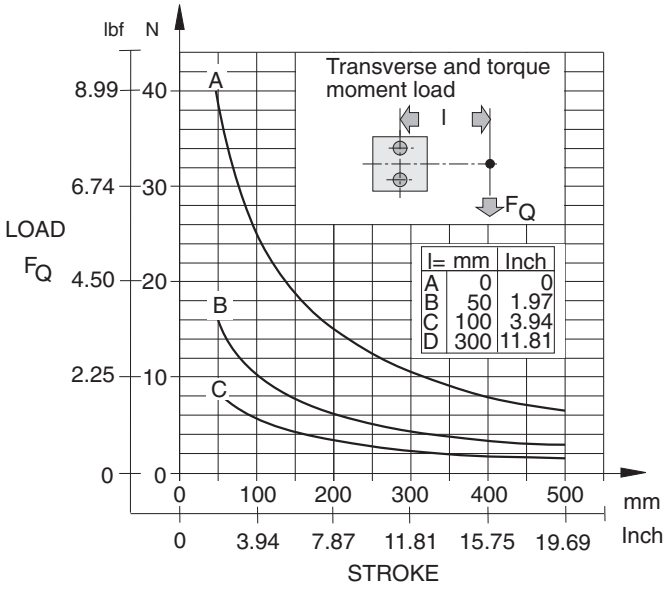


Side Load Ø32mm

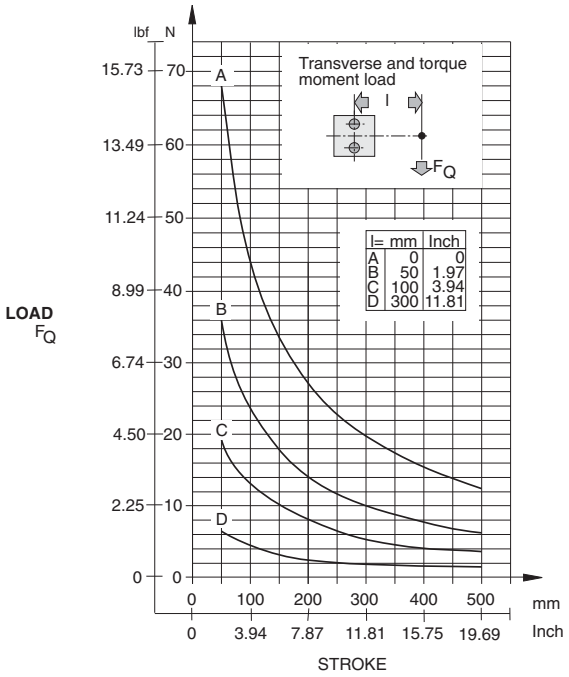


Force and Load Charts - AZV Twin Rod

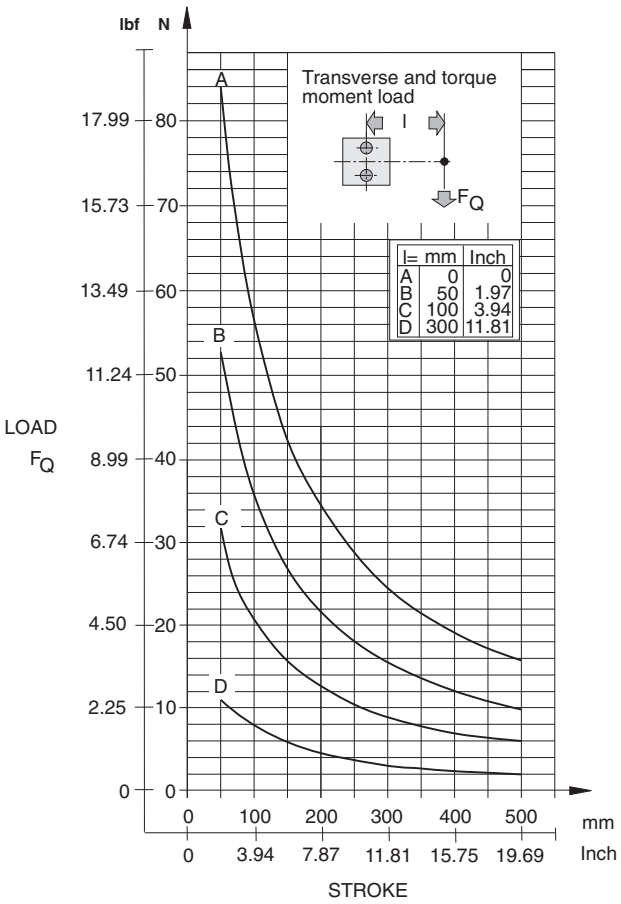
Side Load Ø40mm



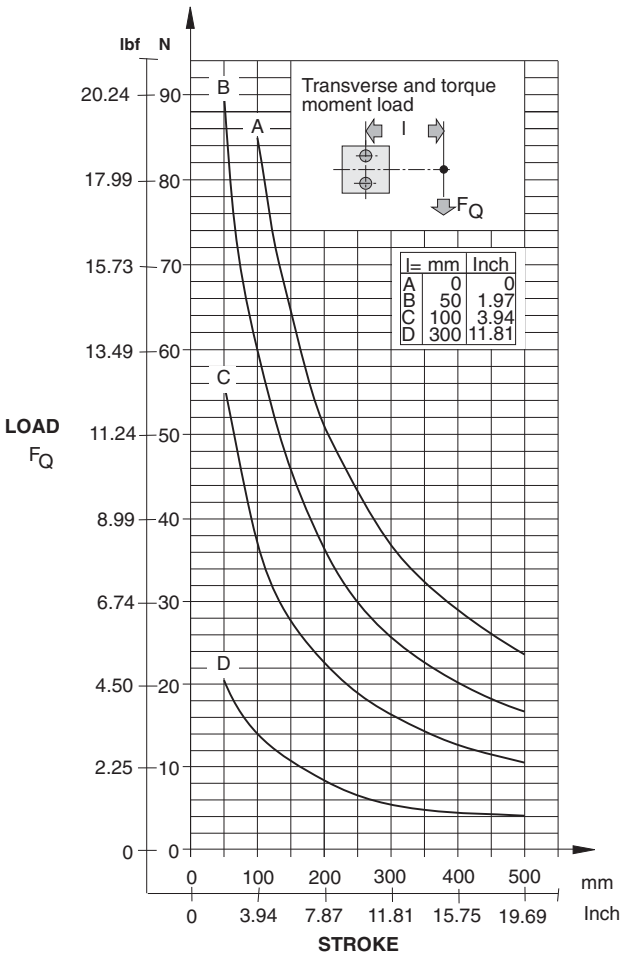
Side Load Ø50mm



Side Load Ø63mm

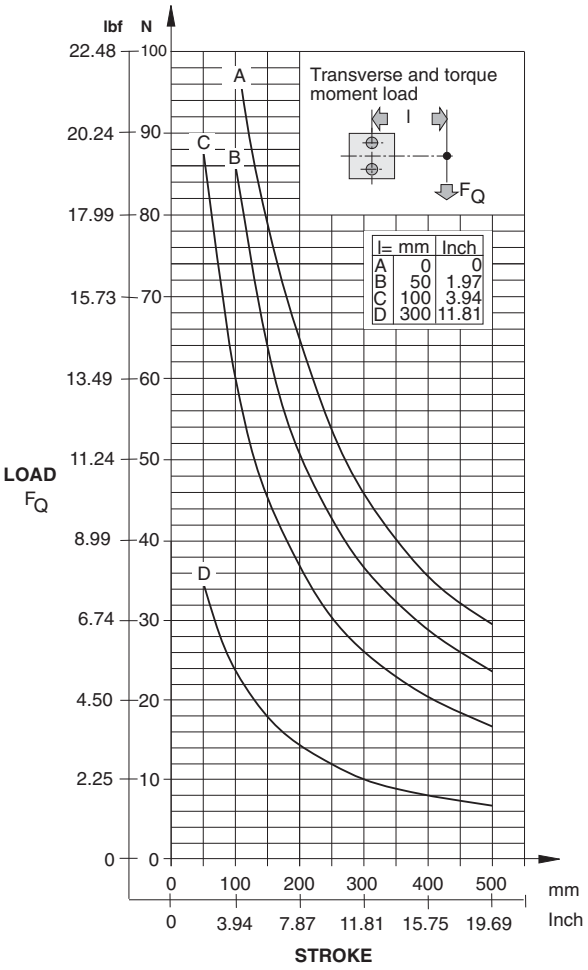


Side Load Ø80mm

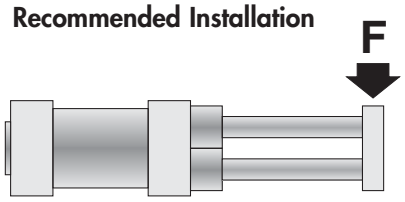


Force and Load Charts - AZV Twin Rod

Side Load Ø100mm



Recommended Installation



Cylinders should be mounted with the rods in the vertical orientation for optimum performance..