



ATI LINEAR PNEUMATIC ACTUATOR THRUST CHART

Scope of Supplement

This supplement is intended to assist those who are involved with the sizing, installation, operation and maintenance of ATI Products. This supplement may be used only in conjunction with a relevant ATI Installation, Operation & Maintenance Manual (IOM) and with any other applicable manuals and supplements that apply to a Product.

Applicable Product

This publication is intended as a guide for all common ATI linear pneumatic actuators. The thrust values in this guide are a general guide for new actuators and for installed actuators that are maintained per relevant procedures for the condition of service.

Company Contact

For any questions or clarification, or for details on your nearest ATI Authorized Representative, contact ATI.

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Reference Documents

This IOM Supplement is referenced in the following standard IOM's and may be referenced in additional documents.

- IOM 1001 ATI Pneumatic Spring-Return Extend (SRE) Actuator
- IOM 1002 ATI Pneumatic Spring-Return Retract (SRR) Actuator
- IOM 1003 ATI Pneumatic Double-Acting (DA) Actuator

Safety Warnings

THIS SUPPLEMENT IS NOT A COMPLETE INSTALLATION, OPERATION AND MAINTENANCE MANUAL (IOM). USERS MUST FOLLOW INSTRUCTIONS AND GUIDELINES OF A COMPLETE IOM TO PREVENT PERSONAL INJURY, PROPERTY DAMAGE, AND DAMAGE TO THE PRODUCT.

DO NOT INSTALL, OPERATE, OR MAINTAIN AN ATI PRODUCT UNLESS TRAINED AND QUALIFIED IN PRODUCT AND ACCESSORY INSTALLATION, OPERATION AND MAINTENANCE.

Revision Record

Rev #	Issue Date	Description	Reviewed By & Date	Approved By & Date
A	7/01/2015	Initial Release based on ATI chart published in online Knowledge Center.	DGR/DAR	DPL
B	9/29/2016	Add metric charts	DAR	DPL



Linear Pneumatic Actuator Thrust Charts

Imperial measurements: lbf Thrust @ Bore Size & psi Supply Pressure

Bore Size *	lbf Thrust @ Supply Pressure							
	40 psi		60 psi		80 psi		100 psi	
	Extend	Retract	Extend	Retract	Extend	Retract	Extend	Retract
4	478	448	716	672	955	895	1194	1119
5	746	716	1119	1074	1492	1433	1865	1791
6	1074	1045	1612	1567	2149	2089	2686	2611
7	1462	1433	2194	2149	2925	2865	3656	3581
8	1910	1819	2865	2728	3820	3637	4775	4547
10	2985	2893	4477	4340	5969	5786	7461	7233
12	4298	4206	6447	6309	8595	8413	10744	10516
14	5850	5663	8774	8495	11699	11326	14624	14158
16	7640	7454	11461	11181	15281	14908	19101	18635
18	9670	9483	14505	14225	19340	18967	24175	23708
20	11938	11669	17907	17504	23876	23339	29845	29174
22	14445	14176	21668	21265	28890	28353	36113	35441
24	17191	16825	25786	25238	34382	33650	42977	42063
26	20175	19810	30263	29715	40351	39619	50438	49524
28	23399	23033	35098	34549	46797	46066	58496	57582
30	26861	26495	40291	39743	53721	52990	67152	66238
32	30561	29957	45842	44936	61123	59914	76404	74893
34	34501	33897	51751	50845	69002	67793	86252	84742
36	38679	38075	58019	57112	77359	76150	96698	95187
38	43096	42492	64645	63738	86193	84984	107741	106230
40	47752	47148	71628	70722	95504	94296	119381	117870
42	52647	52042	78970	78064	105294	104085	131617	130106
44	57780	57176	86670	85764	115560	114352	144450	142940

* Bore Size denotes actuator nominal cylinder diameter.

All models accommodate multiple valve stems.

Consult factory for supply pressure under 40 psi, over 100 psi, or for applications with stroke length > bore size.

Maximum Allowable Working Pressure is 150 psi. For thrust at other than charted pressure, Thrust = (Supply pressure/100) x (Thrust at 100psi).



Metric measurements: kN Thrust @ Bore Size & bar Supply Pressure

Bore Size *	kN Thrust @ Supply Pressure							
	4 bar		5.5 bar		6.5 bar		7 bar	
	Extend	Retract	Extend	Retract	Extend	Retract	Extend	Retract
4	3.1	2.9	4.2	4.0	5.0	4.7	5.4	5.1
5	4.8	4.6	6.6	6.4	7.8	7.5	8	8
6	6.9	6.7	9.5	9.3	11	11	12	12
7	9.4	9.2	13	13	15	15	17	16
8	12	12	17	16	20	19	22	21
10	19	19	26	26	31	30	34	33
12	28	27	38	37	45	44	49	47
14	38	37	52	50	61	59	66	64
16	49	48	68	66	80	78	86	84
18	62	61	86	84	101	99	109	107
20	77	75	106	104	125	122	135	132
22	93	91	128	126	151	149	163	160
24	111	109	152	149	180	176	194	190
26	130	128	179	176	212	208	228	224
28	151	149	208	204	245	241	264	260
30	173	171	238	235	282	278	303	299
32	197	193	271	266	320	314	345	338
34	223	219	306	301	362	355	390	383
36	250	246	343	338	406	399	437	430
38	278	274	382	377	452	445	487	480
40	308	304	424	418	501	494	539	532
42	340	336	467	462	552	546	594	588
44	373	369	513	507	606	599	652	646

* Bore Size denotes actuator nominal cylinder diameter.

All models accommodate multiple valve stems.

Consult factory for supply pressure under 3 bar, over 7 bar, or for applications with stroke length > bore size.

Maximum Allowable Working Pressure is 10.3 bar. For thrust at other than charted pressure, Thrust = (Supply pressure/7) x (Thrust at 7 bar).



Metric measurements: kg Thrust @ Bore Size & kPa Supply Pressure

Bore Size *	kg Thrust @ Supply Pressure							
	400 kPa		550 kPa		650 kPa		700 kPa	
	Extend	Retract	Extend	Retract	Extend	Retract	Extend	Retract
4	314	295	432	405	510	479	550	515
5	491	471	675	648	798	766	859	825
6	707	687	972	945	1149	1117	1237	1203
7	962	942	1323	1296	1563	1531	1684	1649
8	1257	1196	1728	1645	2042	1944	2199	2094
10	1963	1903	2700	2617	3191	3093	3436	3331
12	2827	2767	3888	3805	4594	4497	4948	4843
14	3848	3726	5291	5123	6253	6054	6735	6520
16	5026	4904	6911	6743	8168	7968	8796	8581
18	6361	6239	8747	8578	10337	10138	11133	10918
20	7854	7677	10799	10556	12762	12475	13744	13435
22	9503	9326	13067	12824	15442	15155	16630	16321
24	11309	11069	15550	15220	18378	17987	19791	19370
26	13273	13032	18250	17919	21568	21177	23227	22806
28	15393	15153	21166	20835	25014	24623	26938	26517
30	17671	17430	24297	23967	28715	28324	30924	30503
32	20105	19708	27645	27098	32671	32025	35184	34489
34	22697	22300	31209	30662	36883	36237	39720	39024
36	25446	25048	34988	34441	41350	40704	44530	43835
38	28352	27954	38984	38437	46072	45426	49616	48920
40	31415	31017	43195	42649	51049	50403	54976	54280
42	34635	34237	47623	47076	56281	55635	60611	59915
44	38012	37614	52266	51720	61769	61123	66521	65825

* Bore Size denotes actuator nominal cylinder diameter.

All models accommodate multiple valve stems.

Consult factory for supply pressure under 300 kPa, over 700 kPa, or for applications with stroke length > bore size.

Maximum Allowable Working Pressure is 1,034 kPa. For thrust at other than charted pressure, Thrust = (Supply pressure/700) x (Thrust at 700 kPa).