



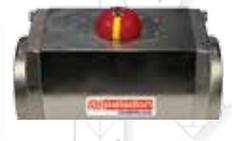
paladon
AMERICAS



RACK AND PINION ACTUATORS

PRODUCT FEATURES & BENEFITS

Country of Origin	Italy
Number of Sizes	16
Valve Mounting	ISO 5211 (i.e. F05, F07)
Accessories Mounting	Namur
Unique DLS Design	The double limit stop (DLS) adjustment, located outside of the pressurized body, are easy to adjust while in service. Secondly, this design uses the entire piston face and not the pinion to stop the valve. This displacement of energy over the largest surface in the actuator prevents premature failure to the pinion by preventing all side loading.
Spring Design	Patented encapsulated spring design is pre-compressed for safety end caps in double acting and spring return are the same dimensions, very simple to work with in the field with no special tools needed. This design saves the end user unnecessary weight, space, and cost.
Standard Bearing Material	Delrin which prevents water absorption, unlike seals made of Nylon
Bodies	Actuator bodies are made of extruded aluminum, providing a low friction smooth bores
Corrosion Protection	All bodies are anodized, polyester powder epoxy painted, stainless steel pinions available along with nickel impregnation
Serial Number	Every single actuator leaves the Paladon plant with a serial number that can be tracked. These serial numbers can be found on the actuator label and stamped into the actuator body.
Certifications	ISO 9001:2008, SIL3, GOST



PERFORMANCE DATA

Input Pressures

20-150 PSI, one of the only rack and pinion actuators designed for low air pressures

Torque Ranges (DA @ 80 PSI)

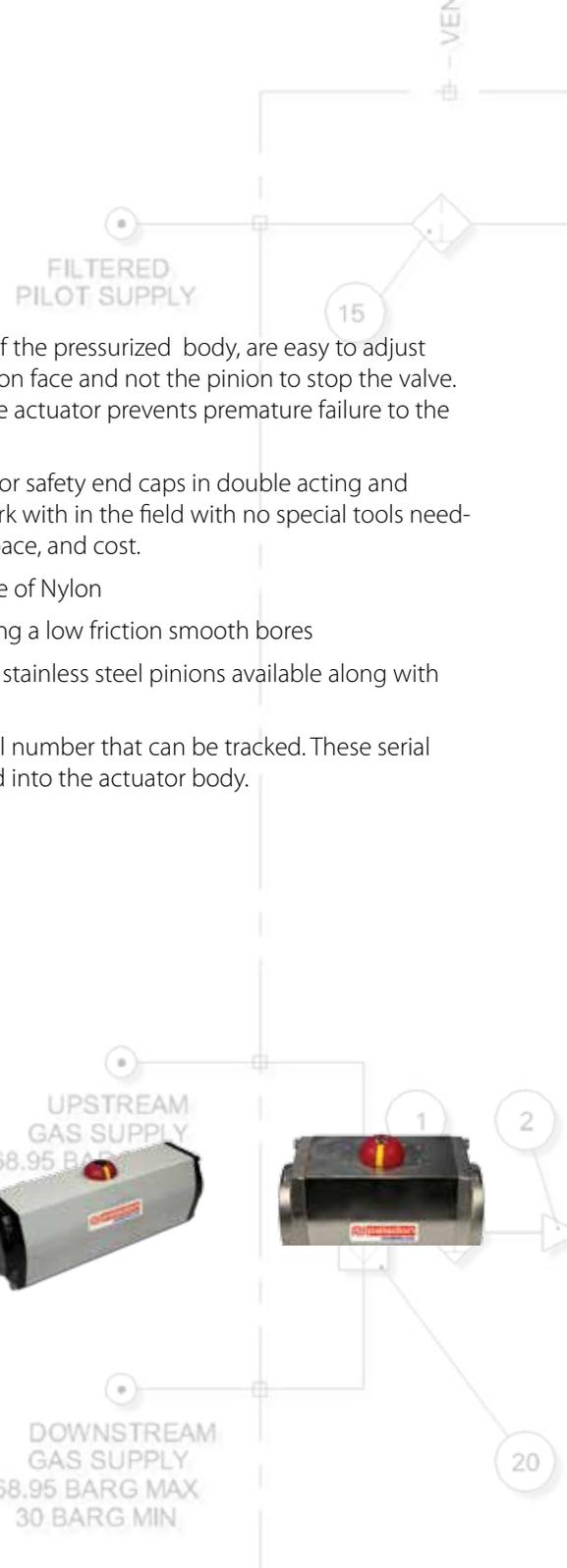
80 - 37,200 in/lbs. (RPI7500 goes up to 75,000 in/lbs.)

Temperature Range

Standard: -4 to +194°F

Hi-Temp: -15 to +320°F

Low-Temp: -40 to +194°F

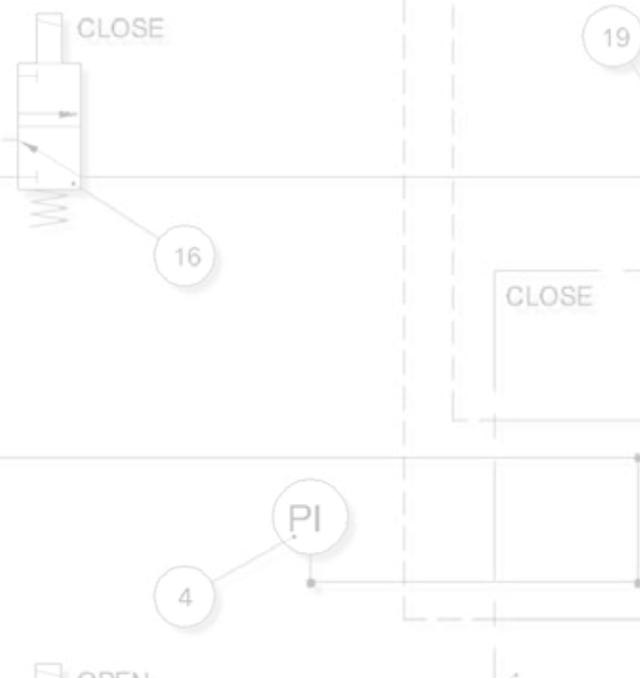


RPI SERIES ACTUATOR TORQUE CHART

SPRING-RETURN ACTUATORS													
MODEL NUMBER	K#	ALL		40		60		80		100		120	
		SPRING		AIR									
		START	END	END	START								
RPI10/11	2	56	38		11	18	35	42	60	67	85	92	110
	3	83	57				16	15	40	40	65	65	90
RPI20/21	3	83	57	15	42	65	92	115	142	165	192	215	242
	4	111	76		22	36	72	86	122	136	172	186	222
5	139	95		2	6	52	56	102	106	152	156	202	
RPI30/31	3	119	83	30	66	104	140	179	215	253	289	328	364
	4	159	111		38	64	112	139	187	213	261	288	336
	5	199	139		10	24	84	99	159	173	233	248	308
RPI52/53	3	232	156	28	103	158	233	287	363	417	493	547	623
	4	309	208		51	80	181	210	311	340	441	469	570
5	386	260			3	129	132	259	262	388	392	518	
RPI73/74	3	299	190	63	172	244	353	426	534	607	715	788	896
	4	398	253		108	145	290	326	471	507	652	688	833
	5	498	317		45	45	226	226	407	407	588	588	769
RPI103/104	3	400	284	107	223	361	477	615	731	869	985	1123	1239
	4	533	379		128	227	382	481	636	735	890	989	1144
5	667	473		33	93	287	347	541	601	795	855	1049	
RPI148	3	611	391	117	337	481	701	845	1065	1209	1429	1573	1793
	4	814	521		207	277	571	641	935	1005	1299	1369	1663
5	1018	651		76	73	440	437	804	801	1168	1165	1532	
RPI222	3	826	600	188	426	718	956	1247	1485	1777	2015	2306	2544
	4	1101	800		200	407	729	936	1259	1466	1789	1995	2318
5	1376	1000			84	495	614	1025	1144	1554	1673	2084	
RPI295	3	1222	775	234	681	962	1409	1689	2137	2417	2864	3145	3592
	4	1629	1033		423	554	1150	1282	1878	2010	2606	2738	3334
5	2036	1291		164	147	892	874	1620	1602	2348	2330	3075	
RPI470	3	1699	1022	371	1049	1407	2084	2443	3120	3478	4155	4514	5191
	4	2266	1363		708	840	1743	1876	2779	2911	3814	3947	4850
5	2832	1704		367	273	1402	1309	2438	2344	3473	3380	4509	
RPI586	3	2312	1578	573	1308	2016	2751	3459	4194	4902	5637	6345	7080
	4	3083	2104		781	1245	2224	2688	3667	4131	5111	5574	6554
5	3854	2630		255	473	1698	1916	3141	3359	4584	4802	6027	
RPI900	3	3376	2428	1101	2049	3340	4288	5579	6527	7818	8766	10057	11005
	4	4501	3238		1239	2214	3478	4453	5717	6692	7956	8931	10195
5	5627	4047		429	1088	2668	3327	4907	5566	7146	7805	9385	
RPI1213	3	4501	3238	1468	2731	4453	5716	7438	8701	10424	11686	13409	14672
	4	6001	4317		1651	2952	4636	5937	7621	8922	10606	11907	13591
5	7501	5397		571	1451	3556	4436	6541	7421	9526	10406	12511	
RPI2366	3	10249	6859	1394	4785	7217	10607	13040	16430	18862	22253	24685	28076
	4	13665	9145		2497	3798	8319	9621	14142	15444	19965	21267	25788
5	17081	11432		208	379	6031	6202	11854	12025	17677	17847	23499	
RPI2958	3	12811	7523	1742	7032	9021	14310	16299	21589	23577	28867	30856	36145
	4	17081	10030		4523	4748	11801	12026	19079	19304	26358	26583	33636
5	21351	12538		2013	474	9291	7752	16570	15030	23848	22309	31126	
6	25621	15045				6781	3477	14059	10755	21338	18034	28616	
RPI3720	2	8148	5119	11098	14127	20721	23750	30345	33374	39968	42997	49592	52621
	3	12222	7679	7022	11566	16645	21189	26269	30813	35892	40436	45516	50060
	4	16296	10239	2945	9004	12568	18628	22192	28251	31816	37875	41439	47498
	5	20370	12799		6442	8491	16066	18114	25689	27738	35313	37362	44936
	6	24443	15358		3880	4413	13503	14036	23127	23660	32750	33283	42374
	7	28517	17918		1317	333	10940	9957	20564	19580	30187	29204	39811
8	32591	20478				8377	5877	18000	15500	27624	25124	37247	

DOUBLE-ACTING ACTUATORS					
MODEL NUMBER	40	60	80	100	120
RPI10/11	50	75	100	125	150
RPI20/21	102	152	203	254	305
RPI30/31	151	227	302	378	453
RPI52/53	263	395	526	658	789
RPI73/74	367	551	734	918	1101
RPI103/104	516	774	1032	1290	1548
RPI148	740	1109	1479	1849	2219
RPI222	1109	1664	2218	2773	3327
RPI295	1479	2219	2958	3698	4437
RPI470	2071	3106	4142	5177	6213
RPI586	2933	4399	5865	7331	8798
RPI900	4550	6825	9100	11375	13650
RPI1213	6066	9099	12132	15165	18198
RPI2366	11833	17749	23665	29581	35498
RPI2958	14790	22186	29581	29581	44371
RPI3720	18625	27938	37250	37250	55875

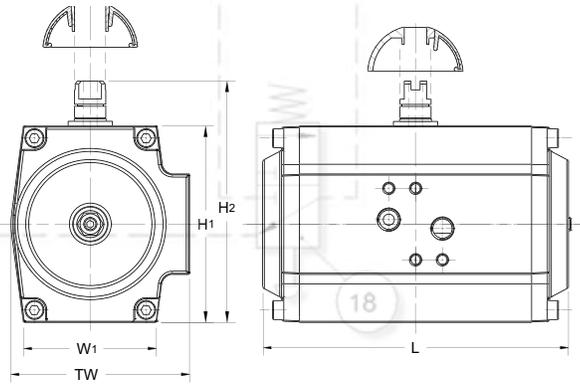
Torques and pressures are in P.S.I. and P.S.I.G. respectively



DIMENSIONS

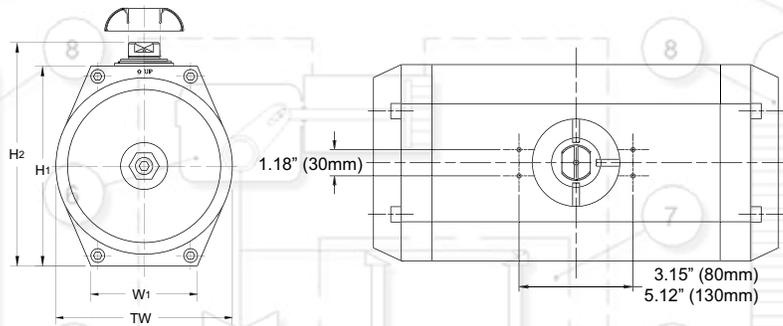
Model	W1	TW	L	H1	H2
RPI11	1.81	2.42	4.57	2.56	3.35
RPI21	1.97	2.70	5.23	2.91	3.70
RPI31	2.36	3.15	5.39	3.46	4.25
RPI53	2.56	3.64	6.34	3.94	4.72
RPI74	2.64	3.92	7.09	4.25	5.04
RPI104	2.76	4.35	8.23	4.61	5.39
RPI148	3.54	4.72	8.70	5.51	6.30
RPI222	3.54	4.72	11.46	5.51	6.30
RPI295	4.06	5.39	11.73	6.30	7.09
RPI470	4.33	6.77	13.07	7.80	8.58
RPI586	4.33	6.77	14.72	7.80	8.98
RPI900	5.31	8.82	16.61	10.04	11.22
RPI1213	5.31	8.82	18.27	10.04	11.22
RPI2366	6.30	10.71	23.74	11.89	13.07
RPI2958	6.30	10.71	26.89	11.89	13.07
RPI3720	6.30	14.17	26.89	14.17	15.35

Body Styles RPI11 Thru RPI104 Actuators



3.15" (80mm) - Fits Actuator Sizes RPI11-RPI470
 5.12" (130mm) - Fits Actuator Sizes RPI586-RPI3720

Body Styles RPI148 Thru RPI2958 Actuators



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TOTAL VALVE CONTROL

Rotary Actuators (Scotch Yoke)

PN & HY-Series pneumatic and hydraulic scotch-yoke actuators have been specifically designed to guarantee long cycle life in the most critical applications and extreme operating environments. A fabricated frame and all-steel construction coupled with an Ingress Protection rating of IP66 as standard result in lighter and more corrosion resistant actuators than traditional ones that employ castings. Available in double-acting (fail last) and spring-return configurations, PN & HY-Series actuators are suitable for on/off, modulating and ESD valve applications.

HIPPS

As oil and gas resources become harder to find, producers are forced to operate in environments of ever increasing severity and risk. A HIPPS is an independently instrumented protective device which acts as the last line of defense for protecting downstream operations from over pressurization. Typically certified to SIL 3, our turn-key HIPPS packages give producers the most dependable pressure protection devices available in the market today.

Gas-over-Oil & Direct Gas Systems

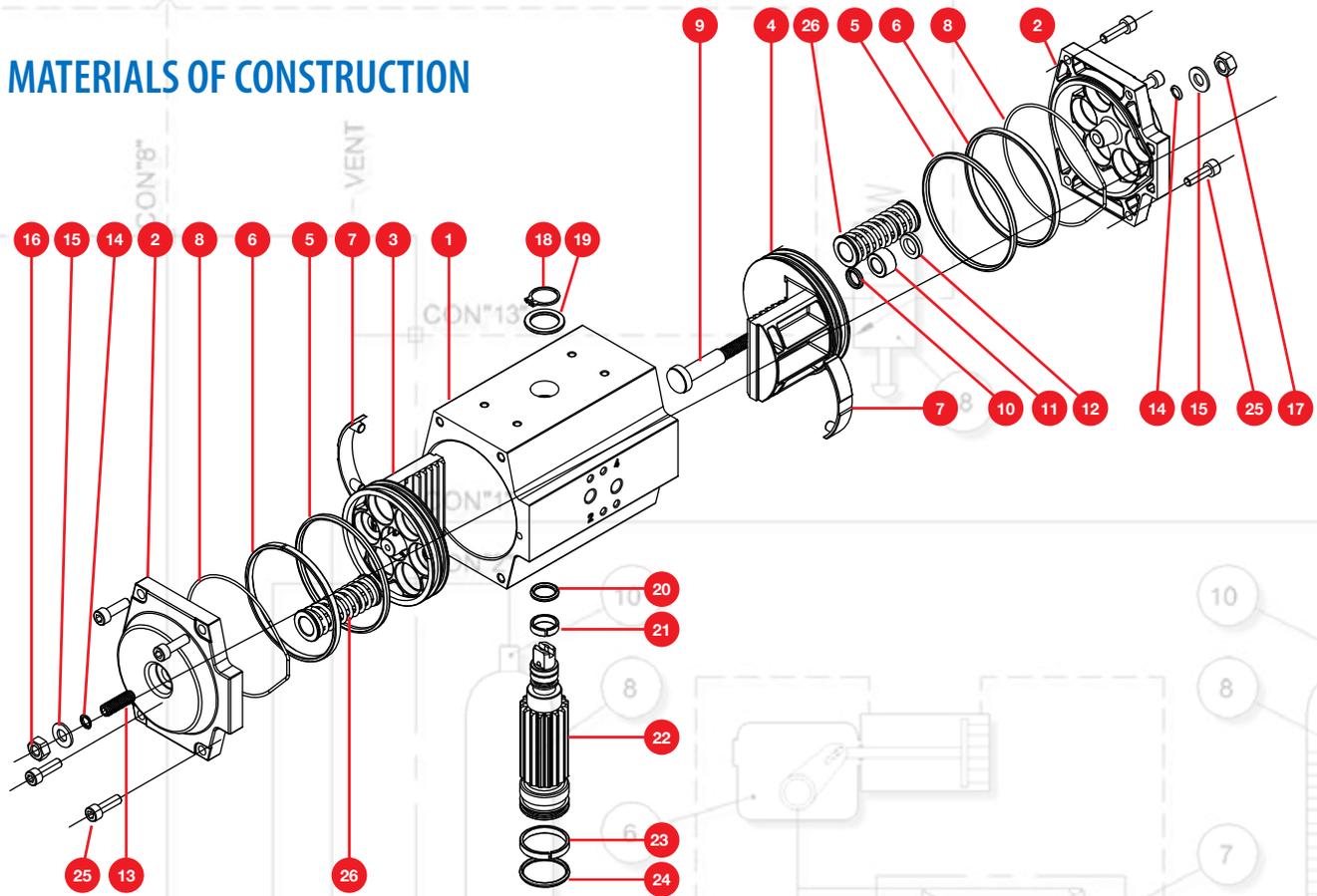
Typically used for on/off valve control in gas pipelines, these systems use the pressure in the pipelines to provide the motive power for the actuators. Suitable for operation of rotary or linear valves, they are available in either double-acting or spring-return configurations. A fully manifolded control system ensures reliable operation and the modular design permits quick and inexpensive field modifications to the control system logic.

Autonomous Shutdown Valves (ASV)

Designed primarily for operation of subsea PLEM valves used in CALM Buoy and similar tanker loading and offloading terminals, the ASV can also be employed in any land based or subsea applications where external power is limited or even unavailable. These systems offer operators increased environmental protection with lower OPEX than traditional technologies.



MATERIALS OF CONSTRUCTION



#	Part	Description
1	Actuator Body	Extruded aluminium alloy astm 6063 anodized 10681
2	Actuator End Cap	Die-cast aluminium alloy EN AC-46100 UNI EN 1706:1999
3	Piston	Die-cast aluminium alloy EN AC-46100 UNI EN 1706:1999
4	a Piston	Die-cast aluminium alloy EN AC-46100 UNI EN 1706:1999
5	Piston O-Ring	BUNA N Nitrile Rubber / Viton, Silicone Available.
6	Piston Guide Ring	Low friction acetalic resin Delrin
7	Piston Guide Bearing	Low friction acetalic resin Delrin
8	End Cap O-Ring	BUNA N Nitrile Rubber / Viton, Silicone Available.
9	DLS Travel Stop Shaft	Stainless steel AISI 304
10	DLS Travel Shaft Sealing O-Ring	BUNA N Nitrile Rubber / Viton, Silicone Available.
11	DLS Travel Shaft Bushing	PTFE (Teflon)
12	DLS Shaft Guide Washer	Alluminium alloy 11S Lega 2011 EN AW-2011 UNI EN 573-3
13	External Travel Stop Screw	Stainless steel AISI 304
14	External Travel Stop O-Ring	BUNA N Nitrile Rubber / Viton, Silicone Available.
15	External Travel O-Ring Washer	Stainless steel AISI 304
16	External Stop Nut	Stainless steel AISI 304
17	External DLS Stop Nut (gold)	Stainless steel AISI 304
18	Pinion Circlip	Stainless steel UNI 7435
19	Upper Pinion Bearing	Low friction acetalic resin Delrin
20	Upper Pinion O-Ring	BUNA N Nitrile Rubber / Viton, Silicone Available.
21	Upper Pinion Guide Bearing	Low friction acetalic resin Delrin
22	Pinion	Steel 11SMNPB37 electroless nickel plated / SS AISI 304 Available
23	Lower Pinion Guide Bearing	Low friction acetalic resin Delrin
24	Lower Pinion O-Ring	BUNA N Nitrile Rubber / Viton, Silicone Available.
25	End Cap Screws	Stainless steel AISI 304
26	Spring Cartridges	Steel DIN 17224 powder epoxy painted +PA6 GF 30% NATURAL

Call 855-725-2366 to find out more about Paladon - Total Valve Control.



PALADON SYSTEMS OVERVIEW

For over 30 years Paladon Systems has been supplying valve actuators and control systems on a global basis.

Since our inception in 1981 we have continuously developed our design, engineering, organizational, quality and management capabilities. Today we design and manufacture many valve automation technologies that lead the industry in terms of operational performance, reliability and environmental responsibility.

Our vast experience with supporting the Oil, Gas and Power industries with solutions for the most critical applications has resulted in product designs that offer unsurpassed quality and reliability across all industries and applications.

Holding ISO 9001 certification for over 20 years, today we hold accreditation and approvals from almost all the major institutes, engineering companies and end users.

Headquartered in England, we also have facilities and offices in Scotland, Italy, Russia, Malaysia and the US to support our growing global client base.

With over 10,000 actuators installed across the globe and a comprehensive suite of valve automation solutions backed by a dedicated team of field service engineers, we are **Total Valve Control**.



Paladon Americas is the newest addition to the worldwide family of Paladon Systems. With our multi-million dollar inventory and knowledgeable staff, centrally located in Houston, TX we are able to service your immediate automation needs. While providing the American market with automation solutions we strive to deliver exceptional quality actuators and cutting edge technology.

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