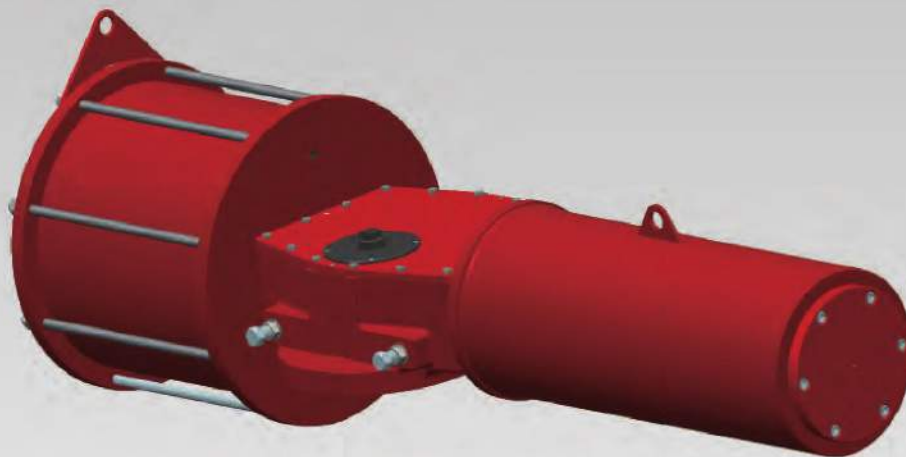


Valves, Actuators, Accessories >>>>>>>

Heavy – Duty Pneumatic Actuator HDP Series.



ANGIL 7-3, SANGDONG-RO GIMHAE-CITY GYEONGAM KOREA

Structural Features



- **Design and Construction**

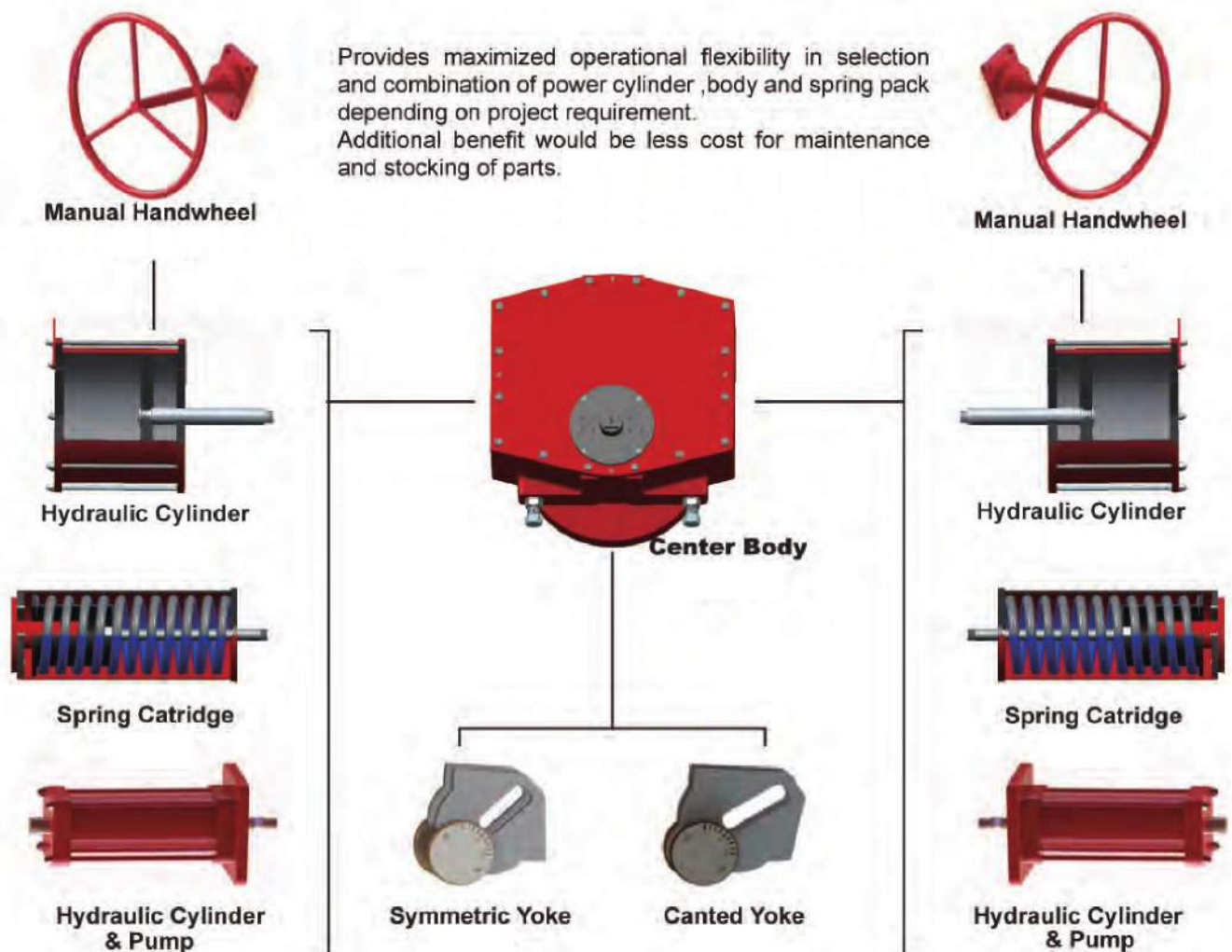
The HDP series of heavy duty scotch yoke actuators is designed suitable for general purpose of valves and damper automation and offer a wide range of torques enable to operate ball, butterfly, plug valves, dampers or any device that requires a quarter-turn operation for on-off or modulating service.

- *HDP01 series is the symmetrical design yoke that produces maximum torque at both ends of the 90 cycle providing travel stops. middle output torque is minimal. In line with the series of ball valve generates torque characteristics.*
- *HDP02 series is the canted design yoke that max produces torque . more in line with butterfly valve torque characteristics.*
- *Using technology of plating hard chroming, which can ensure longer working life.*
- *Pathway high-frequency quenching grinding treatment, sliding block using self-lubricating technology, which can ensure permanent usability.*
- *HDP series actuators come along with a complete line of controls and monitoring accessories including Manual Handwheel (jackscrew).hydraulic overrides, limit switches, solenoid valves, positioners and other controls accessories.*
- *Its modular design and construction provides maximized convenience during installation, maintenance and storage.*

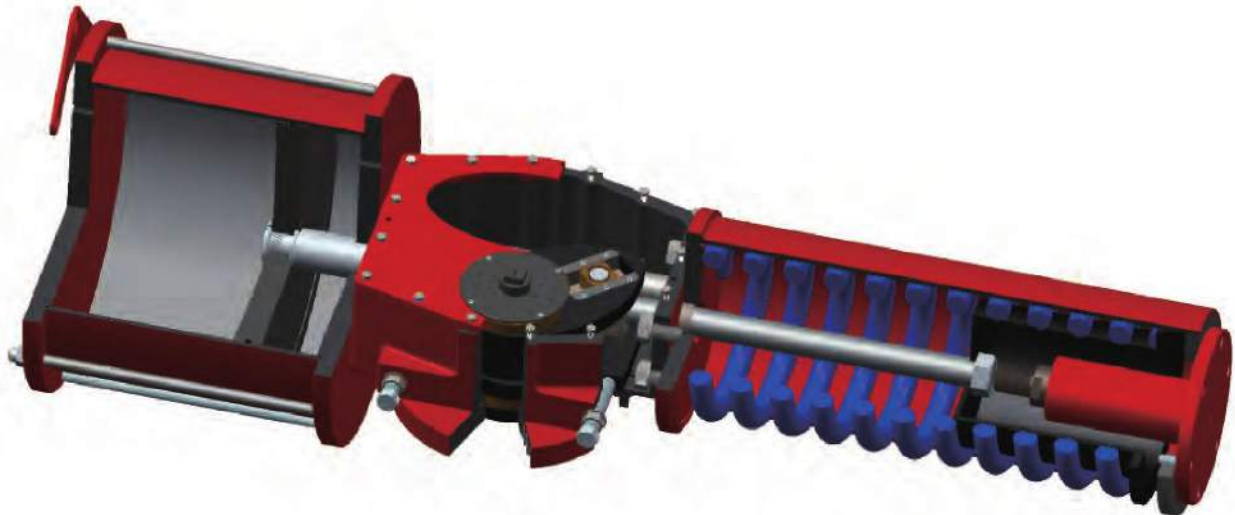
PERFORMANCE FEATURES

- HDP spring return actuator can provide 120000 n. m torque output, HDP double acting actuator can provide 240000 n. m torque output. The maximum working pressure is 10 bar.
- The size of the valve bottom connecting flange in accordance with ISO 5211 standard
- Two independent travel adjustment bolts, can be in the range of $\pm 6^\circ$ to regulate valve switch position.
- Standard Operating temperature: $-20^\circ\text{C} \sim +80^\circ\text{C}$
 High temperature: $-20^\circ\text{C} \sim +150^\circ\text{C}$
 Low temperature: $-40^\circ\text{C} \sim +80^\circ\text{C}$
- Comply with IP65 protection class.

MODULAR



CONSTRUCTION



Cylinder block

Using technology of plating hard chroming, which can ensure longer working life.



Standard NAMUR Mounting Dimension

For easy installation of accessories like limit switch box, positioners & etc.



Replceable Bearing

Orbital is treated by quenching and grinding with high frequency, and the slider using self-lubricating technology, which makes the stable performance and convenient replacement.



Travel Stop

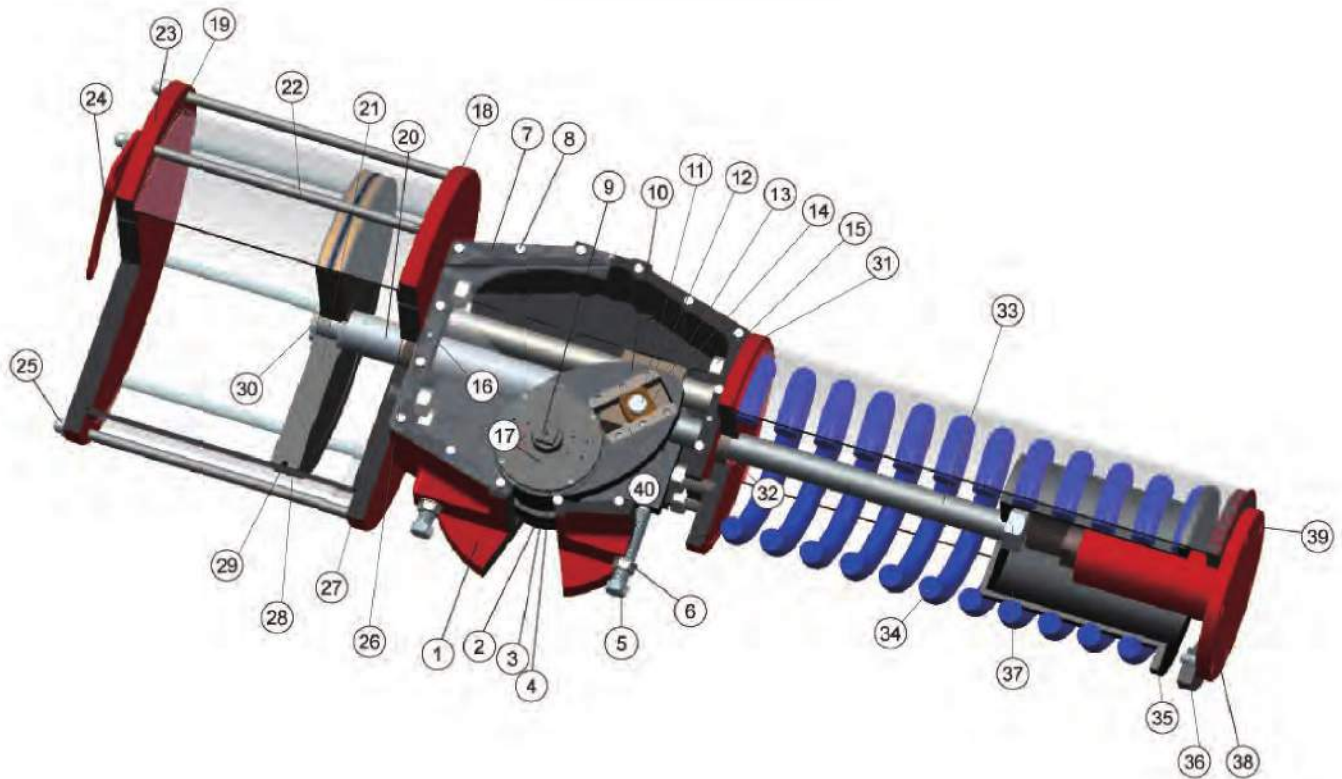
Two independent travel adjustment bolts, can be in the range of $\pm 6^\circ$ to regulate valve switch position.



Adaption

In order for direct mounting valve and actuator without separate coupler and bracket, bore diameter for valve shaft is increased, so that it can accept thicker diameter shaft rather than standard. Mounting flange as per ISO5211

MATERIALS

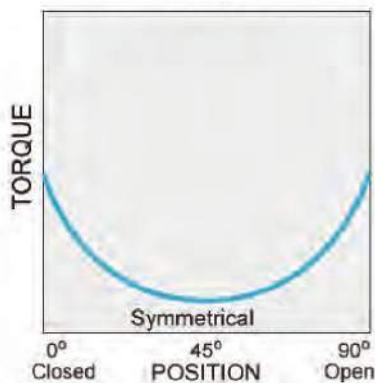


序号	DESCRIPTION	MATERIAL
1	BODY	DUCTILE IRON
2	LOWER BUSHING	LOWCARBON STEEL
3	BUSHING O-RING	NBR
4	UPPER BUSHING	LOWCARBON STEEL
5	STOPPER BOLT	ALLOY STEEL
6	STOPPER UNT	ALLOY STEEL
7	BODY COVER	ALLOY STEEL
8	BODY COVER BOLT	ALLOY STEEL
9	POSITION INDICATOR	ALLOY STEEL
10	YOKE	ALLOY STEEL
11	SNAP RING	ALLOY STEEL
12	SLIDE PIN	ALLOY STEEL
13	SLIDING BLOCK	ALLOY BRASS
14	SLIDE BLOCK	ALLOY STEEL
15	FRONT COVER BOLT	ALLOY STEEL
16	COVER FIXED PIN	ALLOY STEEL
17	THE MOUNTING PLATE	ALLOY STEEL
18	CYLINDER FRONT COVER	ALLOY STEEL
19	COVER O-RING-O	NBR _T
20	PISTON ROD	ALLOY STEEL

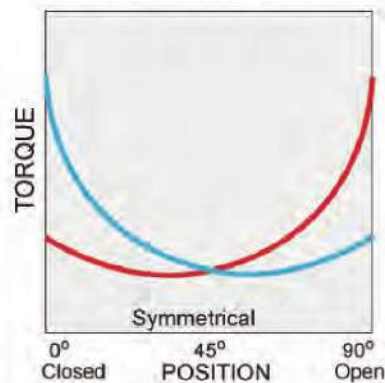
序号	DESCRIPTION	MATERIAL
21	PISTON	ALLOY STEEL
22	TIE BOLT	ALLOY STEEL
23	CYLINDER END COVER	ALLOY STEEL
24	LIFT PLATE	ALLOY STEEL
25	TIE BOLT NUT	ALLOY STEEL
26	FRONT COVER BUSHING	ALLOY STEEL
27	O-RING	NBR _T
28	BACK-UP RING	PTFE
29	PISTON O-RING	NBR
30	PISTON LOCK BOLT	ALLOY STEEL
31	SPRING CASE FRONT COVER	ALLOY STEEL
32	SPRING ROD GUIDE BUSHING	ALLOY STEEL
33	SPRING ROD	ALLOY STEEL
34	SPRING	ALLOY STEEL
35	SPRING RETAINER	ALLOY STEEL
36	SPRING CASE END COVER	ALLOY STEEL
37	SPRING ROD LOCK NUT	ALLOY STEEL
38	HYDRAULIC CYLINDER	ALLOY STEEL
39	COVER BOLT	ALLOY STEEL
40	ORBITAL MODULE	DUCTILE CAST IRON

SYMMETRIC TECHNICAL DATA

Double Acting Actuator



Spring Return Actuator



Symmetric Type



Torque Curve — Air Torque
— Spring Torque

Double Acting

Unit : Nm

MODEL	4.0 Bar			5.0 Bar			6.0 Bar			8.0 Bar		
	0°	R	90°	0°	R	90°	0°	R	90°	0°	R	90°
HDP01-D02-20	1,460	908	1,403	1,827	1135	1,755	2,193	1,362	2,106	2,924	1,816	2,807
HDP01-D02-25	2,284	1,419	2,226	2,855	1,773	2,783	3,426	2,128	3,339	4,568	2,837	4,452
HDP01-D02-30	3,289	2,043	3,231	4,111	2,554	4,039	4,934	3,064	4,847	6,578	4,086	6,462
HDP01-D02-35	4,477	2,781	4,419	5,596	3,476	5,524	6,715	4,171	6,628	8,954	5,561	8,838
HDP01-D03-35	5,419	3,366	5,262	6,774	4,208	6,577	8,129	5,049	7,893	10,839	6,732	10,524
HDP01-D03-38	6,388	3,968	6,231	7,985	4,960	7,788	9,582	5,952	9,346	12,777	7,936	12,461
HDP01-D03-43	8,180	5,081	8,022	10,225	6,351	10,028	12,270	7,621	12,034	16,360	10,162	16,045
HDP01-D04-43	10,492	6,517	10,217	13,115	8,146	12,772	15,738	9,775	15,326	20,984	13,033	20,435
HDP01-D04-48	13,074	8,120	12,799	16,342	10,150	15,999	19,610	12,180	19,199	26,147	16,241	25,599
HDP01-D04-53	15,939	9,900	15,665	19,924	12,375	19,581	23,909	14,850	23,497	31,878	19,800	31,330
HDP01-D05-53	19,586	12,165	19,143	24,483	15,207	23,928	29,379	18,248	28,714	39,173	24,331	38,285
HDP01-D05-58	23,456	14,569	23,013	29,320	18,211	28,766	35,184	21,854	34,519	46,912	29,138	46,025
HDP01-D05-63	27,675	17,189	27,231	34,593	21,486	34,039	41,512	25,784	40,847	55,349	34,378	54,462
HDP01-D06-63	34,546	21,457	33,682	43,182	26,821	42,102	51,818	32,185	50,523	69,091	42,914	67,364
HDP01-D06-68	40,247	24,998	39,383	50,308	31,247	49,228	60,370	37,497	59,074	80,493	49,996	78,766
HDP01-D06-73	46,383	28,809	45,519	57,978	36,011	56,899	69,574	43,214	68,278	92,765	57,618	91,038

SYMMETRIC TECHNICAL DATA

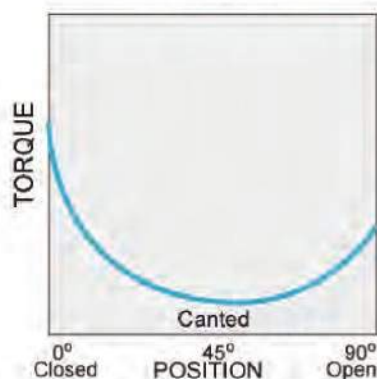
Spring Return

Unit : Nm

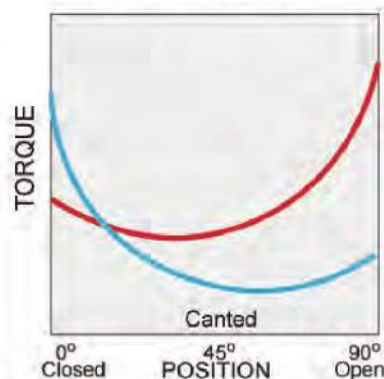
MODEL		Spring Torque			Air Torque : Air Supply Pressure											
					4 Bar			5 Bar			6 Bar			8 Bar		
		0°	R	90°	0°	R	90°	0°	R	90°	0°	R	90°	0°	R	90°
HDP01-S02-20	A	602	495	975	858	413	428	1,225	640	780	1,591	867	1,131			
	B	790	650	1,280				1,037	485	475	1,403	712	826	2,134	1,166	1,527
HDP01-S02-25	A	913	751	1,479	1,371	668	747	1,942	1,022	1,304	2,513	1,377	1,860			
	B	1,239	1,019	2,007				1,616	754	776	2,187	1,409	1,332	3,329	1,818	2,445
HDP01-S02-30	A	1,301	1,080	2,141	1,988	963	1,090	2,810	1,474	1,898	3,633	1,984	2,706			
	B	1,787	1,469	2,894				2,324	1,085	1,145	3,147	1,595	1,953	4,791	2,617	3,568
HDP01-S02-35	A	1,628	1,352	2,679	2,849	1,429	1,740	3,968	2,124	2,845	5,087	2,819	3,949			
	B	2,140	1,759	3,466				3,456	1,717	2,058	4,575	2,412	3,162	6,814	3,802	5,372
HDP01-S03-35	A	1,803	1,539	3,098	3,616	1,827	2,164	4,971	2,669	3,479	6,326	3,510	4,795			
	B	2,566	2,120	4,189				4,208	2,088	2,388	5,563	2,929	3,704	8,273	4,612	6,335
HDP01-S03-38	A	2,480	2,049	4,048	3,908	1,919	2,183	5,505	2,911	3,740	7,102	3,903	5,298			
	B	3,303	2,729	5,391				4,682	2,231	2,397	6,279	3,223	3,955	9,474	5,207	7,070
HDP01-S03-43	A	3,049	2,519	4,977	5,131	2,562	3,045	7,176	3,832	5,051	9,221	5,102	7,057			
	B	4,097	3,554	7,223				6,128	2,797	2,805	8,173	4,067	4,811	12,263	6,608	8,822
HDP01-S04-43	A	4,167	3,569	7,202	6,325	2,948	3,015	8,948	4,577	5,570	11,571	6,206	8,124			
	B	5,436	4,656	9,395				7,679	3,490	3,377	10,302	5,119	5,931	15,548	8,377	11,040
HDP01-S04-48	A	5,125	4,390	8,857	7,949	3,730	3,942	11,217	5,760	7,142	14,485	7,790	10,342			
	B	6,406	5,582	11,372				9,936	4,568	4,627	13,204	6,598	7,827	19,741	10,659	14,227
HDP01-S04-53	A	6,214	5,323	10,745	9,725	4,577	4,920	13,710	7,052	8,836	17,695	9,527	12,752			
	B	8,236	7,054	14,234				11,688	5,321	5,347	15,673	7,796	9,263	23,642	12,746	17,096
HDP01-S05-53	A	7,651	6,505	13,070	11,935	5,660	6,073	16,832	8,702	10,858	21,728	11,743	15,644			
	B	10,204	8,675	17,431				14,279	6,532	6,497	19,175	9,573	11,283	28,969	15,656	20,854
HDP01-S05-58	A	9,296	7,733	15,538	14,160	6,836	7,475	20,024	10,478	13,228	25,888	14,121	18,981			
	B	12,124	10,308	20,710				17,196	7,903	8,056	23,060	11,546	13,809	34,788	18,830	25,315
HDP01-S05-63	A	10,971	9,328	18,742	16,704	7,861	8,489	23,622	12,158	15,297	30,541	16,456	22,105			
	B	14,127	12,010	24,132				20,466	9,476	9,907	27,385	13,774	16,715	41,222	22,368	30,330
HDP01-S06-63	A	13,456	11,608	23,515	21,090	9,849	10,167	29,726	15,213	18,587	38,362	20,577	27,008			
	B	17,092	14,744	29,869				26,090	12,077	12,233	34,726	17,441	20,654	51,999	28,170	37,495
HDP01-S06-68	A	15,243	13,149	26,637	25,004	11,849	12,746	35,065	18,098	22,591	45,127	24,348	32,437			
	B	20,474	17,662	35,779				29,834	13,585	13,449	39,896	19,835	23,295	60,019	32,334	42,987
HDP01-S06-73	A	17,816	15,368	31,134	28,567	13,441	14,385	40,162	20,643	25,765	51,758	27,846	37,144			
	B	23,159	19,978	40,471				34,819	16,033	16,428	46,415	23,236	27,807	69,606	37,640	50,567

CANTED TECHNICAL DATA

Double Acting Actuator



Spring Return Actuator



Canted Type

倾斜式



Torque Curve — Air Torque
— Spring Torque

Double Acting

Unit : Nm

MODEL	4.0 Bar			5.0 Bar			6.0 Bar			8.0 Bar		
	0°	R	90°	0°	R	90°	0°	R	90°	0°	R	90°
HDP02-D02-20	1,836	908	1,279	2,295	1135	1,599	2,754	1,362	1,919	3,672	1,816	2,559
HDP02-D02-25	2,869	1,419	1,999	3,586	1,773	2,499	4,303	2,128	2,998	5,737	2,837	3,998
HDP02-D02-30	4,131	2,043	2,879	5,164	2,554	3,598	6,196	3,064	4,318	8,262	4,086	5,757
HDP02-D02-35	5,623	2,781	3,918	7,028	3,476	4,898	8,434	4,171	5,877	11,245	5,561	7,836
HDP02-D03-35	6,806	3,366	4,743	8,508	4,208	5,929	10,209	5,049	7,114	13,613	6,732	9,486
HDP02-D03-38	8,023	3,968	5,591	10,029	4,960	6,988	12,035	5,952	8,386	16,046	7,936	11,182
HDP02-D03-43	10,273	5,081	7,159	12,842	6,351	8,949	15,410	7,621	10,738	20,547	10,162	14,318
HDP02-D04-43	13,177	6,517	9,182	16,471	8,146	11,477	19,765	9,775	13,773	26,353	13,033	18,364
HDP02-D04-48	16,419	8,120	11,441	20,524	10,150	14,302	24,629	12,180	17,162	32,838	16,241	22,883
HDP02-D04-53	20,018	9,900	13,959	25,023	12,375	17,437	30,027	14,850	20,924	40,036	19,800	27,899
HDP02-D05-53	24,598	12,165	17,141	30,748	15,207	21,426	36,898	18,248	25,712	49,197	24,331	34,282
HDP02-D05-58	29,459	14,569	20,528	36,823	18,211	25,660	44,188	21,854	30,792	58,917	29,138	41,055
HDP02-D05-63	34,757	17,189	24,220	43,446	21,486	30,274	52,135	25,784	36,329	69,513	34,378	54,462
HDP02-D06-63	43,386	21,457	30,233	54,232	26,821	37,791	65,079	32,185	45,349	86,771	42,914	60,465
HDP02-D06-68	50,546	24,998	35,222	63,182	31,247	44,027	75,818	37,497	52,833	101,091	49,996	70,444
HDP02-D06-73	58,252	28,809	40,592	72,815	36,011	50,740	87,378	43,214	60,888	116,504	57,618	81,184

CANTED TECHNICAL DATA

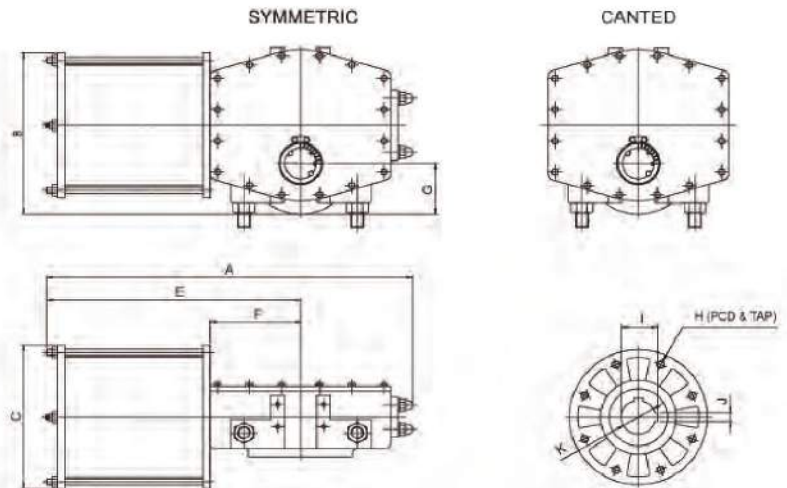
Spring Return

Unit : Nm

MODEL		Spring Torque			Air Torque : Air Supply Pressure											
					4 Bar			5 Bar			6 Bar			8 Bar		
		0°	R	90°	0°	R	90°	0°	R	90°	0°	R	90°	0°	R	90°
HDP02-S02-20	A	670	452	808	1,166	456	471	1,625	683	791	2,084	910	1,111			
	B	876	591	1,056				1,419	544	543	1,878	771	863	2,796	1,225	1,503
HDP02-S02-25	A	1,063	717	1,282	1,806	702	717	2,523	1,056	1,217	3,240	1,411	1,716			
	B	1,396	942	1,683				2,190	831	816	2,907	1,186	1,315	4,341	1,895	2,315
HDP02-S02-30	A	1,496	1,020	1,834	2,635	1,023	1,045	3,668	1,534	1,764	4,700	2,044	2,484			
	B	2,059	1,404	2,524				3,105	1,150	1,074	4,137	1,660	1,794	6,203	2,682	3,233
HDP02-S02-35	A	1,807	1,262	2,299	3,816	1,519	1,619	5,221	2,214	2,599	6,627	2,909	3,578			
	B	2,543	1,735	3,118				4,485	1,741	1,780	5,891	2,436	2,759	8,702	3,826	4,718
HDP02-S03-35	A	2,047	1,464	2,700	4,759	1,902	2,043	6,461	2,744	3,229	8,162	3,585	4,414			
	B	3,093	2,098	3,759				5,415	2,110	2,170	7,116	2,951	3,355	10,520	4,634	5,727
HDP02-S03-38	A	2,759	1,973	3,641	5,264	1,995	1,950	7,270	2,987	3,347	9,276	3,979	4,745			
	B	3,913	2,654	4,757				6,116	2,306	2,231	8,122	3,298	3,629	12,133	5,282	6,425
HDP02-S03-43	A	3,637	2,467	4,421	6,636	2,614	2,738	9,205	3,884	4,528	11,773	5,154	6,317			
	B	5,017	3,403	6,099				7,825	2,948	2,850	10,393	4,218	4,639	15,530	6,759	8,219
HDP02-S04-43	A	4,735	3,340	6,118	8,442	3,177	3,064	11,736	4,806	5,359	15,030	6,435	7,655			
	B	6,098	4,301	7,878				10,373	3,845	3,599	13,667	5,474	5,895	20,255	8,732	10,486
HDP02-S04-48	A	5,887	4,152	7,605	10,532	3,968	3,836	14,637	5,998	6,697	18,742	8,028	9,557			
	B	7,754	5,469	10,017				12,770	4,681	4,285	16,875	6,711	7,145	25,084	10,772	12,866
HDP02-S04-53	A	7,035	4,962	9,088	12,983	4,938	4,861	17,988	7,413	8,349	22,992	9,888	11,836			
	B	9,217	6,502	11,908				15,806	5,873	5,529	20,810	8,348	9,016	30,819	13,298	15,991
HDP02-S05-53	A	8,854	6,189	11,286	15,744	5,976	5,855	21,894	9,018	10,140	28,044	12,059	14,426			
	B	11,770	8,235	15,018				18,978	6,972	6,408	25,128	10,013	10,694	37,427	16,096	19,264
HDP02-S05-58	A	10,195	7,133	13,008	19,264	7,436	7,520	26,628	11,078	12,652	33,993	14,721	17,784			
	B	14,355	10,044	18,316				22,468	8,167	7,344	29,833	11,810	12,476	44,562	19,094	22,739
HDP02-S05-63	A	12,292	8,601	15,684	22,465	8,588	8,536	31,154	12,885	14,590	39,843	17,183	20,645			
	B	16,158	11,306	20,617				27,288	10,180	9,657	35,977	14,478	15,712	53,355	23,072	27,822
HDP02-S06-63	A	14,480	10,292	18,928	28,906	11,165	11,305	39,752	16,529	18,863	50,599	21,893	26,421			
	B	18,967	14,028	26,335				35,265	12,793	11,456	46,112	18,157	19,014	67,804	28,886	34,130
HDP02-S06-68	A	17,715	12,591	23,156	32,831	12,407	12,066	45,467	18,656	20,871	58,103	24,906	29,677			
	B	22,115	16,357	30,708				41,067	14,890	13,319	53,703	21,140	22,125	78,976	33,639	39,736
HDP02-S06-73	A	19,992	14,209	26,132	38,260	14,600	14,460	52,823	21,802	24,608	67,386	29,005	34,756			
	B	25,029	18,512	34,753				47,786	17,499	15,987	62,349	24,702	26,135	91,475	39,106	46,431

DIMENSION

DOUBLE ACTING



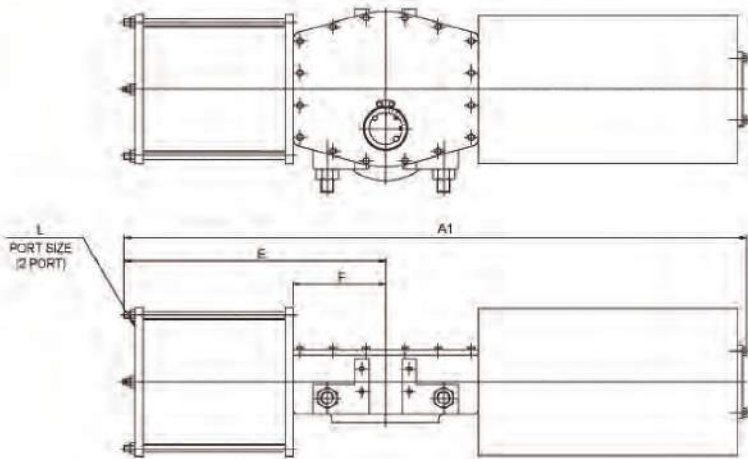
Symmetric IS Series Dimension

MODEL	A	A1		B	C	D	E
		4.2 Bar	5.6 Bar				
HDP01-02-20 (ISR)	755	1280	1280	370	272	48	516
HDP01-02-25 (ISR)	755	1280	1280	395	322	73	516
HDP01-02-30 (ISR)	755	1280	1280	420	373	98	516
HDP01-02-35 (ISR)	755	1280	1280	445	410	117	516
HDP01-03-35 (ISR)	935	1475	1475	490	410	92	653
HDP01-03-38 (ISR)	935	1475	1475	505	461	118	653
HDP01-03-43 (ISR)	935	1475	1475	530	512	143	653
HDP01-04-43 (ISR)	1105	1860	1860	640	514	128	763
HDP01-04-48 (ISR)	1105	1860	1860	657	564	153	763
HDP01-04-53 (ISR)	1105	1860	1860	682	625	184	763
HDP01-05-53 (ISR)	1310	2240	2240	710	625	157	904
HDP01-05-58 (ISR)	1310	2240	2240	732	675	183	904
HDP01-05-63 (ISR)	1310	2240	2240	760	730	210	904
HDP01-06-63 (ISR)	1610	2695	2695	830	745	192	1124
HDP01-06-68 (ISR)	1610	2695	2695	850	795	217	1124
HDP01-06-73 (ISR)	1610	2695	2695	875	847	243	1124

Canted IC Series Dimension

MODEL	A	A1		B	C	D	E
		4.2 Bar	5.6 Bar				
HDP02-02-20 (ICR)	800	1325	1325	370	272	48	516
HDP02-02-25 (ICR)	800	1325	1325	395	322	73	516
HDP02-02-30 (ICR)	800	1325	1325	420	373	98	516
HDP02-02-35 (ICR)	800	1325	1325	445	410	117	516
HDP02-03-35 (ICR)	985	1510	1510	490	410	92	653
HDP02-03-38 (ICR)	985	1510	1510	505	461	118	653
HDP02-03-43 (ICR)	985	1510	1510	530	512	143	653
HDP02-04-43 (ICR)	1215	1935	1935	640	514	128	763
HDP02-04-48 (ICR)	1215	1935	1935	657	564	153	763
HDP02-04-53 (ICR)	1215	1935	1935	682	625	184	763
HDP02-05-53 (ICR)	1435	2320	2320	710	625	157	904
HDP02-05-58 (ICR)	1435	2320	2320	732	675	183	904
HDP02-05-63 (ICR)	1435	2320	2320	760	730	210	904
HDP02-06-63 (ICR)	1710	2750	2750	830	745	192	1124
HDP02-06-68 (ICR)	1710	2750	2750	850	795	217	1124
HDP02-06-73 (ICR)	1710	2750	2750	875	847	243	1124

DIMENSION



SPRING RETURN



F	G	H		I	J	K		L
		PCD	TAP/DP			DIA	DP	
196	145	165	M20/25	54	14	50	156	1/2" NPT
196	145	165	M20/25	54	14	50	156	1/2" NPT
196	145	165	M20/25	54	14	50	156	1/2" NPT
196	145	165	M20/25	54	14	50	156	1/2" NPT
236	175	254	M16/27	80	20	75/80	204	1/2" NPT
236	175	254	M16/27	80	20	75/80	204	1/2" NPT
236	175	254	M16/27	80	20	75/80	204	1/2" NPT
287	190	298	M20/34	95.4	22	90/100	234	3/4" NPT
287	190	298	M20/34	95.4	22	90/100	234	3/4" NPT
287	190	298	M20/34	95.4	22	90/100	234	3/4" NPT
343	230	356	M30/43	117.4	32	120/110/130	279	3/4" NPT
343	230	356	M30/43	117.4	32	120/110/130	279	3/4" NPT
343	230	356	M30/43	117.4	32	120/110/130	279	3/4" NPT
415	260	406	M36/53	137.4	32	140/130/150	326	3/4" NPT
415	260	406	M36/53	137.4	32	140/130/150	326	3/4" NPT
415	260	406	M36/53	137.4	32	140/130/150	326	3/4" NPT

F	G	H		I	J	K		L
		PCD	TAP/DP			DIA	DP	
196	145	165	M20/25	54	14	50	156	1/2" NPT
196	145	165	M20/25	54	14	50	156	1/2" NPT
196	145	165	M20/25	54	14	50	156	1/2" NPT
196	145	165	M20/25	54	14	50	156	1/2" NPT
236	175	254	M16/27	80	20	75/80	204	1/2" NPT
236	175	254	M16/27	80	20	75/80	204	1/2" NPT
236	175	254	M16/27	80	20	75/80	204	1/2" NPT
295	205	298	M20/34	95.4	22	90/100	234	3/4" NPT
295	205	298	M20/34	95.4	22	90/100	234	3/4" NPT
295	205	298	M20/34	95.4	22	90/100	234	3/4" NPT
345	240	356	M30/43	117.4	32	120/110/130	279	3/4" NPT
345	240	356	M30/43	117.4	32	120/110/130	279	3/4" NPT
345	240	356	M30/43	117.4	32	120/110/130	279	3/4" NPT
415	260	406	M36/53	137.4	32	140/130/150	326	3/4" NPT
415	260	406	M36/53	137.4	32	140/130/150	326	3/4" NPT
415	260	406	M36/53	137.4	32	140/130/150	326	3/4" NPT



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