EHA / EHAS HIGH PRESSURE ELECTRO-HYDRAULIC ACTUATORS

SCOTCH YOKE DESIGN

Double-acting and spring return electro-hydraulic solutions for on-off valves on heavy duty service, suitable for high pressure supply. Models available for output torques to 60,000 Nm.

FEATURES

- Manifold build reduces risk of oil leakages, eliminating potential leak paths, improving reliability and vibration resistance
- Easy setting and maintenance
- Accumulator ensures instantaneous response to commands. Redundant accumulators are available on request
- Poppet type solenoid valves guarantee tight shutoff with improved energy saving
- Double relief valve and hydraulic filters improve reliability, durability and safety while providing protection to motor and system
- Limit switch box and PST options available
- Critical parts manufactured from 316 stainless steel as a standard to prevent corrosion
  - 316 L stainless steel cabinet and oil tank as standard
  - 316 / 316L stainless steel tubing and fittings
- Hydraulic manual local control as standard
- Local and remote operation as standard.
- Low power consumption
- Low numbers of components involved (reduced fail capability)

GENERAL APPLICATIONS

EHA / EHAS electro-hydraulic actuators use a self-contained power unit to provide operation and control of ¼" turn valves in on-off applications when the primary power source (instrument air or hydraulic supply) is unavailable.

TECHNICAL DATA

Design pressure:	EHA/EHAS 190 barg maximum
Supply medium:	Hydraulic oil
Output torque:	EHA Double acting torque to 60,000 Nm EHAS Spring starting torque up to 35,000 Nm EHAS spring ending torque up to 25,800 Nm
Ambient temperature	
Standard range:	-20° C to +55° C (-4°F to + 131°F)
Motor	
Motor power:	0.25 KW
Motor voltage:	3-phase 400 V AC 50 Hz or 60 Hz (single phase and DC available on request)

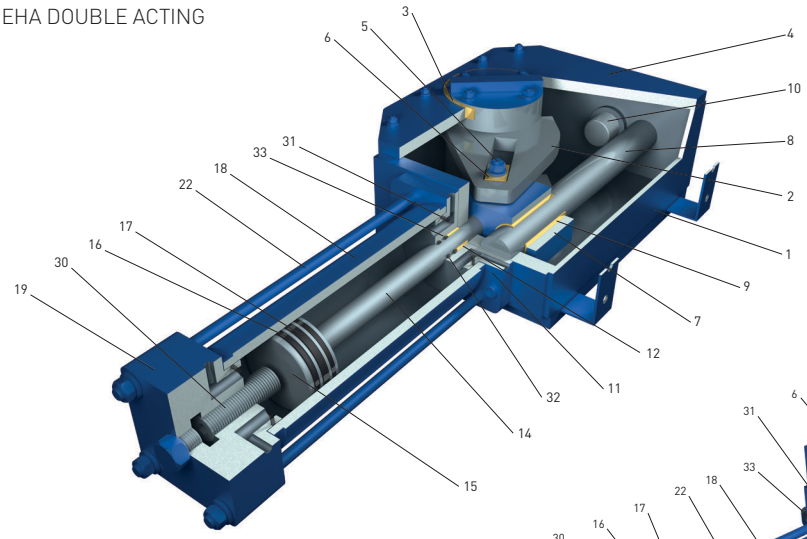
APPROVALS

Actuators
Safety integrity level
Suitable for use in SIL2 applications
Area classification
(ATEX) – Ex d IIB T4
Enclosure standards
(IEC 60529) - IP65
Pressure equipment directive
2014/68/EU
Machinery directive
2006/42/EC

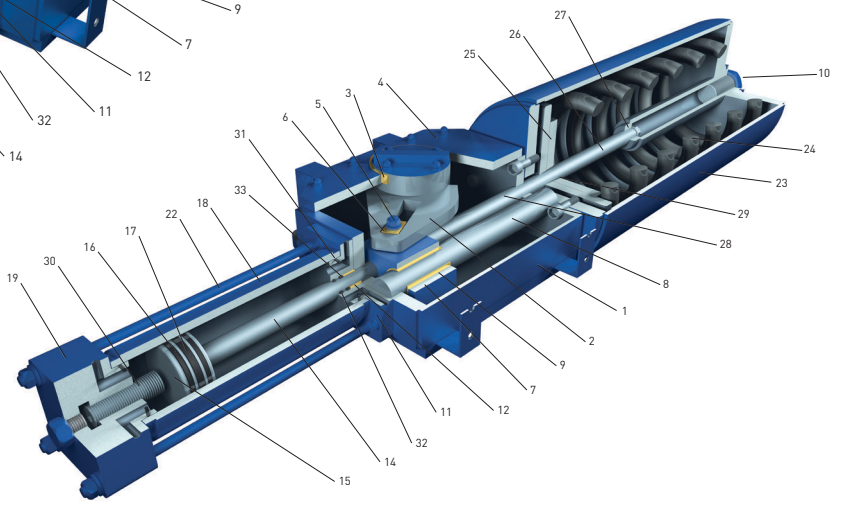
EHA / EHAS HIGH PRESSURE ELECTRO-HYDRAULIC ACTUATORS

SCOTCH YOKE DESIGN

EHA DOUBLE ACTING



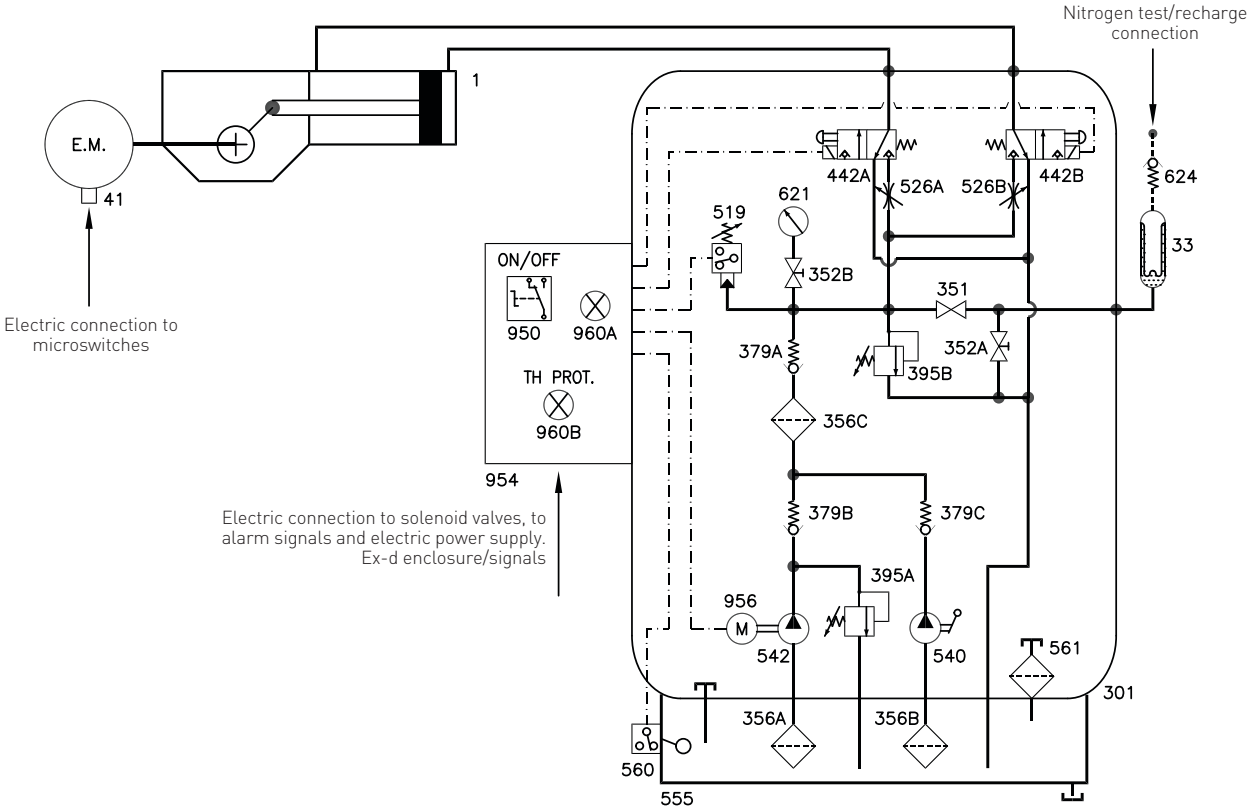
EHAS SPRING RETURN



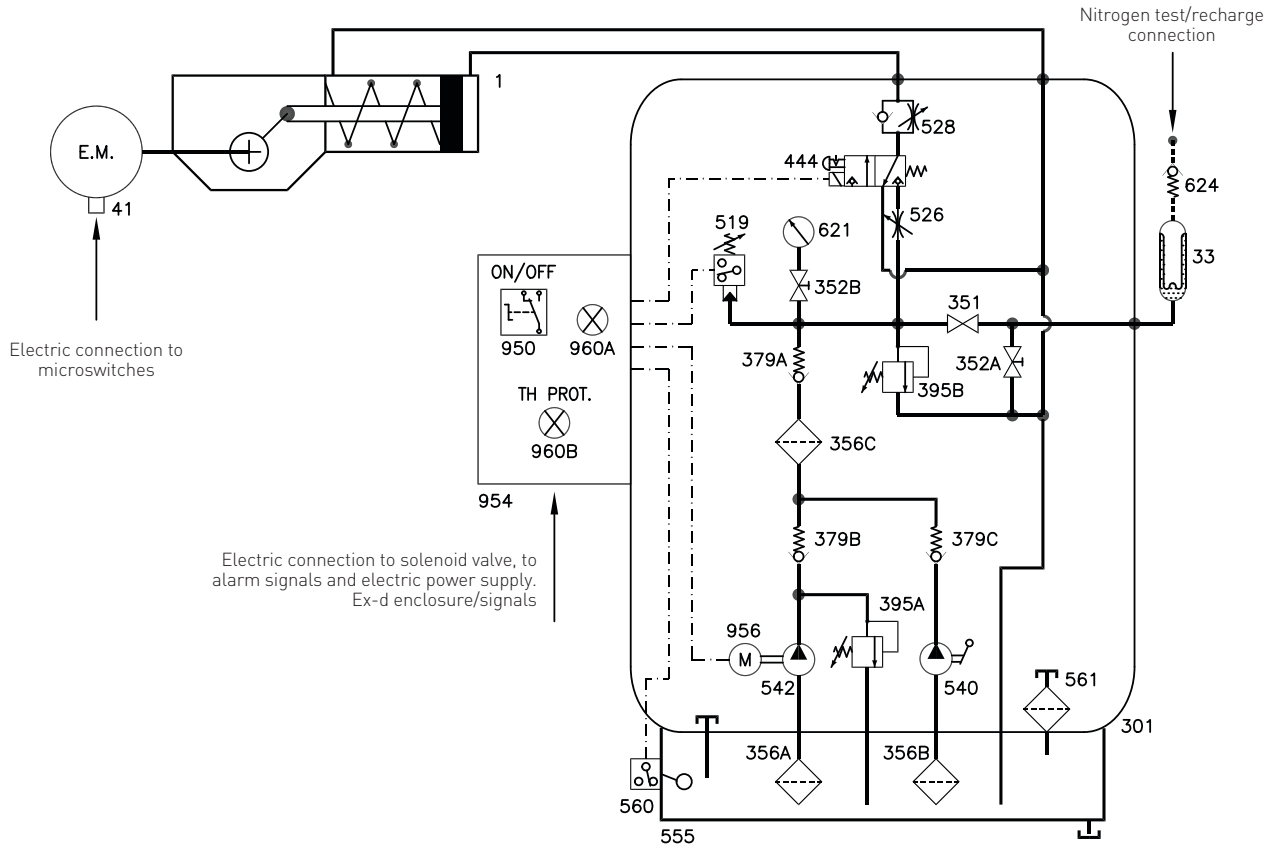
MATERIALS

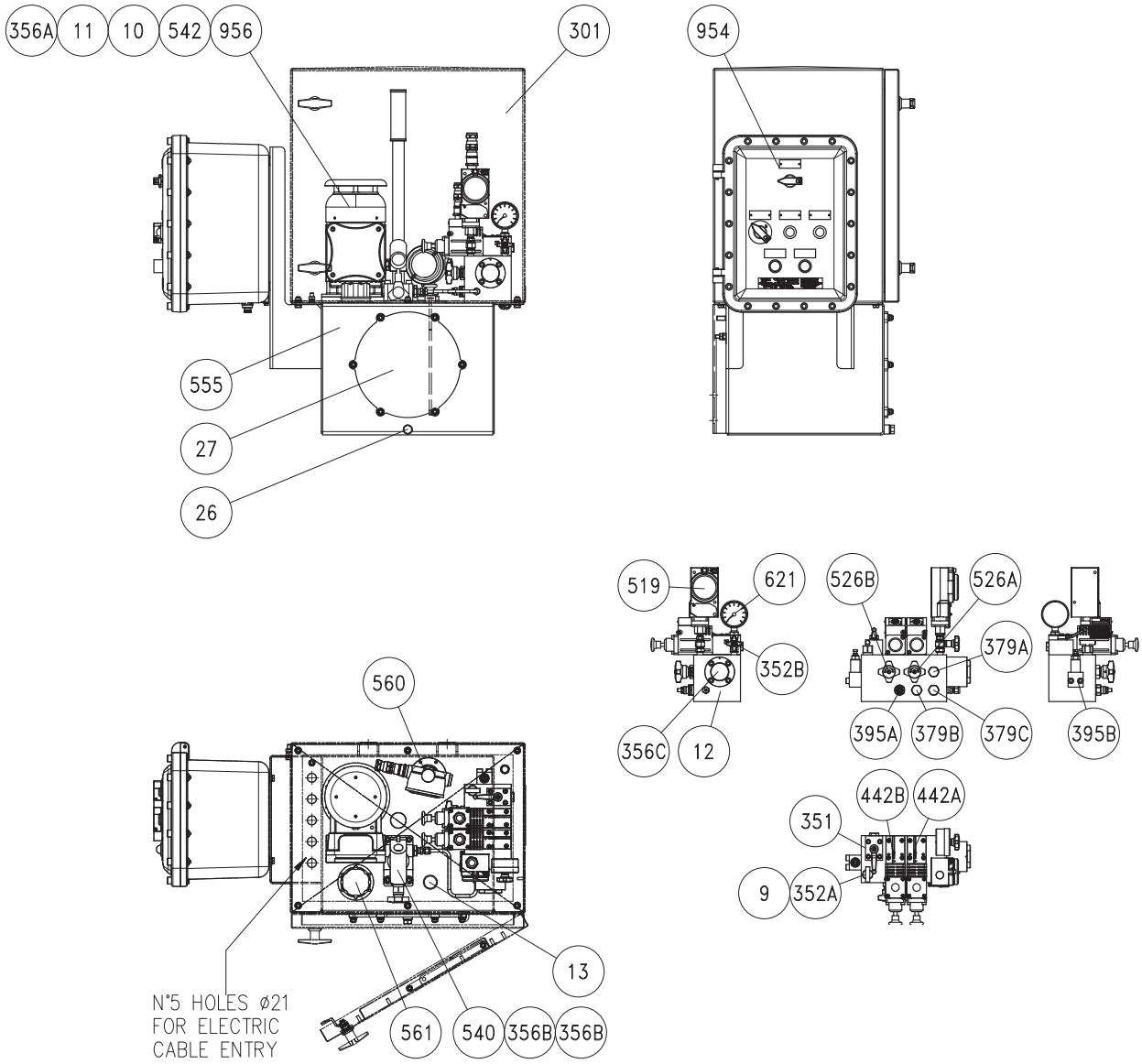
Part		Material
1	Housing	Carbon steel
2	Yoke	Carbon steel
3	Yoke bushing	Bronze
4	Cover	Carbon steel
5	Guide block pin	Alloy steel
6	Sliding block	Bronze
7	Guide block	Carbon steel
8	Guide bar	Alloy steel (hard chrome plated)
9	Guide block bushing	Steel + bronze + PTFE
10	Travel stop screw	Carbon steel
11	Cylinder head flange	Carbon steel
12	Piston rod bushing	Steel + bronze + PTFE
13	Piston rod seal	NBR rubber
14	Piston rod	Alloy steel (hard chrome plated)
15	Piston	Carbon steel
16	Piston guide sliding ring	PTFE + graphite
17	Piston seal O-ring	PTFE + NBR rubber
18	Cylinder tube	Carbon steel (ENP)
19	Cylinder end flange	Carbon steel
20	Cylinder seal O-ring	NBR rubber
21	Sealing washer	PVC
22	Tie rod	Alloy steel
23	Spring container	Carbon steel
24	Spring	Carbon steel
25	Spring thrust flange	Carbon steel
26	Guide rod	Alloy steel (hard chrome plated)
27	Guide rod bushing	Steel + bronze + PTFE
28	Container rod	Alloy steel (hard chrome plated)
29	Container rod bushing	Steel + bronze + PTFE
30	Stop setting screw	Carbon steel
31	Back-up ring	NBR rubber
32	Piston rod seal ring	PTFE + graphite + NBR
33	O-ring	NBR rubber

EHA HYDRAULIC DIAGRAM



EHAS HYDRAULIC DIAGRAM





COMPONENTS

Part			Quantity
956		Electric motor (ATEX)	1
954		Electric control panel	1
621		Pressure gauge	1
561		Oil pouring plug with filter	1
560		Electric level switch	1
555		Oil tank	1
542		Hydraulic rotating pump	1
540		Hand pump	1
526		Bidirectional flow regulator	2
519		Electric pressure switch	1
442	A B	3/2 n.c. Poppet type sov	2
395	B	Relief valve PED/CE	1
395	A B	Relief valve	1
379	A B C	Check valve	3

Part			Quantity
356	C	Hydraulic filter	1
356	B	Hydraulic filter	1
356	A	Hydraulic filter	1
352	B	Needle valve	1
352	A	Needle valve	1
351		Stop valve	1
301		Cabinet	1
286		Dust excluder	1
27		Inspection hatch	1
26		Discharge plug	1
13		Visual level rod	1
12		Manifold	1
11		Elastic joint	1
10		Flange	1
9		Flow restrictor	1

Standard configuration for quick delivery:
NPT electrical cable connections
Accumulator with one stroke
Tubing in imperial size
Hydraulic components in carbon steel
24 V DC solenoid valve
RAL 5010 System 01 paint with level C4 protection
Valve actuator coupling (factory standard drawing)
400 V (50/60Hz) 3 Phase Motor

EHA DOUBLE ACTING ELECTRO-HYDRAULIC ACTUATOR

OUTPUT TORQUES (NM) AND TECHNICAL DATA - CANTED YOKE DESIGN - ONE OIL STROKE

EHA DOUBLE ACTING ELECTRO-HYDRAULIC ACTUATOR

		Operating supply pressure									
		130		175		Oil	Acc.		Recharging	Stroking time	
Model	Position	OP	CL	OP	CL	Strokes	volume (l)	Accumulators	time (min)	(OP/CL)* (s)	Motor type
0.9C-45-1S	0°	3549	3157	4785	4257	1	5.0	1	1.5	2.3	3 phase 400V 50Hz
	45°	1387	1112	1870	1500						
	90°	2000	1541	2697	2078						
0.9C-50-1S	0°	4386	4085	5911	5507	1	5.0	1	1.5	3.0	3 phase 400V 50Hz
	45°	1714	1439	2310	1941						
	90°	2472	1994	3331	2688						
0.9C-60-1S	0°	6325	5797	8522	7811	1	5.0	1	1.5	3.8	3 phase 400V 50Hz
	45°	2472	2043	3331	2753						
	90°	3565	2830	4803	3814						
1.5C-50-1S	0°	5546	5165	7475	6963	1	5.0	1	1.5	3.8	3 phase 400V 50Hz
	45°	2167	1820	2921	2454						
	90°	3126	2522	4213	3400						
1.5C-60-1S	0°	7998	7331	10776	9878	1	9.1	1	2.5	4.5	3 phase 400V 50Hz
	45°	3126	2584	4212	3481						
	90°	4508	3579	6073	4823						
1.5C-70-1S	0°	10895	9866	14676	13290	1	9.1	1	2.7	6.8	3 phase 400V 50Hz
	45°	4259	3477	5736	4684						
	90°	6141	4817	8272	6489						
3C-60-1S	0°	13239	12134	17836	16350	1	9.1	1	2.7	7.5	3 phase 400V 50Hz
	45°	5175	4277	6972	5763						
	90°	7462	5924	10053	7983						
3C-70-1S	0°	18034	16329	24291	21998	1	18.2	1	5.5	9.8	3 phase 400V 50Hz
	45°	7049	5755	9495	7753						
	90°	10164	7972	13691	10740						
6C-70-1S	0°	21084	19091	28399	25718	1	18.2	1	5.5	11.3	3 phase 400V 50Hz
	45°	8241	6729	11101	9064						
	90°	11883	9321	16006	12556						
6C-85-1S	0°	31088	26843	41874	36163	1	33.5	1	10.0	16.5	3 phase 400V 50Hz
	45°	12152	9461	16368	12746						
	90°	17522	13106	23602	17656						
6C-90-1S	0°	34853	31021	46946	41791	1	33.5	1	10.0	18.8	3 phase 400V 50Hz
	45°	13623	10934	18350	14730						
	90°	19644	15146	26460	20404						
6C-95-1S	0°	38833	35439	52307	47740	1	33.5	1	10.0	21.0	3 phase 400V 50Hz
	45°	15179	12491	20446	16827						
	90°	21888	17302	29482	23309						

* Opening or closing time

** The last two digits in the model name indicate the number of strokes

EHA DOUBLE ACTING ELECTRO-HYDRAULIC ACTUATOR

OUTPUT TORQUES (NM) AND TECHNICAL DATA - CANTED YOKE DESIGN - THREE OIL STROKES

EHA DOUBLE ACTING ELECTRO-HYDRAULIC ACTUATOR

		Operating supply pressure									
		130		175			Acc. volume		Recharging	Stroking time	
Model	Position	OP	CL	OP	CL	Oil Strokes	(l)	Accumulators	time (min)	(OP/CL)* (s)	Motor type
0.9C-45-3S	0°	3549	3157	4785	4257	3	9.1	1	2.7	2.3	3 phase 400V 50Hz
	45°	1387	1112	1870	1500						
	90°	2000	1541	2697	2078						
0.9C-50-3S	0°	4386	4085	5911	5507	3	18.2	1	5.5	3.0	3 phase 400V 50Hz
	45°	1714	1439	2310	1941						
	90°	2472	1994	3331	2688						
0.9C-60-3S	0°	6325	5797	8522	7811	3	18.2	1	5.5	3.8	3 phase 400V 50Hz
	45°	2472	2043	3331	2753						
	90°	3565	2830	4803	3814						
1.5C-50-3S	0°	5546	5165	7475	6963	3	18.2	1	5.5	3.8	3 phase 400V 50Hz
	45°	2167	1820	2921	2454						
	90°	3126	2522	4213	3400						
1.5C-60-3S	0°	7998	7331	10776	9878	3	18.2	1	5.5	4.5	3 phase 400V 50Hz
	45°	3126	2584	4212	3481						
	90°	4508	3579	6073	4823						
1.5C-70-3S	0°	10895	9866	14676	13290	3	33.5	1	10.0	6.8	3 phase 400V 50Hz
	45°	4259	3477	5736	4684						
	90°	6141	4817	8272	6489						
3C-60-3S	0°	13239	12134	17836	16350	3	33.5	1	10.0	7.5	3 phase 400V 50Hz
	45°	5175	4277	6972	5763						
	90°	7462	5924	10053	7983						
3C-70-3S	0°	18034	16329	24291	21998	3	33.5	1	10.0	9.8	3 phase 400V 50Hz
	45°	7049	5755	9495	7753						
	90°	10164	7972	13691	10740						
6C-70-3S	0°	21084	19091	28399	25718	3	50.0	1	15.0	11.3	3 phase 400V 50Hz
	45°	8241	6729	11101	9064						
	90°	11883	9321	16006	12556						
6C-85-3S	0°	31088	26843	41874	36163	3	33.5	2	20.0	16.5	3 phase 400V 50Hz
	45°	12152	9461	16368	12746						
	90°	17522	13106	23602	17656						
6C-90-3S	0°	34853	31021	46946	41791	3	33.5	2	20.0	18.8	3 phase 400V 50Hz
	45°	13623	10934	18350	14730						
	90°	19644	15146	26460	20404						
6C-95-3S	0°	38833	35439	52307	47740	3	50.0	2	28.0	21.0	3 phase 400V 50Hz
	45°	15179	12491	20446	16827						
	90°	21888	17302	29482	23309						

* Opening or closing time

** The last two digits in the model name indicate the number of strokes

EHA DOUBLE ACTING ELECTRO-HYDRAULIC ACTUATOR

OUTPUT TORQUES (NM) AND TECHNICAL DATA - SYMMETRIC YOKE DESIGN - ONE OIL STROKE

EHA DOUBLE ACTING ELECTRO-HYDRAULIC ACTUATOR

		Operating supply pressure									
		130		175			Acc.volume		Recharging	Stroke time	
Model	Position	OP	CL	OP	CL	Oil Strokes	(l)	Accumulators	time (min)	(OP/CL)* (s)	Motor type
0.9S-45-1S	0°	2228	2001	3003	2698	1	5.0	1	1.5	2.3	3 phase 400V 50Hz
	45°	1412	1133	1904	1529						
	90°	2548	1857	3435	2504						
0.9S-50-1S	0°	2752	2589	3710	3490	1	5.0	1	1.5	3.0	3 phase 400V 50Hz
	45°	1745	1467	2352	1977						
	90°	3148	2403	4243	3239						
0.9S-60-1S	0°	3970	3674	5348	4951	1	5.0	1	1.5	3.8	3 phase 400V 50Hz
	45°	2517	2082	3391	2805						
	90°	4540	3410	6117	4595						
0.9S-70-1S	0°	5408	4945	7284	6662	1	9.1	1	2.7	5.3	3 phase 400V 50Hz
	45°	3429	2801	4619	3774						
	90°	6185	4589	8331	6182						
1.5S-50-1S	0°	3776	3552	5089	4788	1	5.0	1	1.5	3.0	3 phase 400V 50Hz
	45°	2209	1849	2977	2493						
	90°	3643	2780	4910	3748						
1.5S-60-1S	0°	5446	5041	7337	6793	1	9.1	1	2.5	4.5	3 phase 400V 50Hz
	45°	3186	2624	4292	3536						
	90°	5254	3946	7079	5317						
1.5S-70-1S	0°	7419	6784	9993	9139	1	9.1	1	2.7	6.0	3 phase 400V 50Hz
	45°	4340	3532	5846	4758						
	90°	7157	5311	9641	7154						
1.5S-85-1S	0°	10939	9539	14734	12851	1	18.2	1	5.5	9.0	3 phase 400V 50Hz
	45°	6399	4966	8619	6691						
	90°	10554	7467	14216	10060						
3S-60-1S	0°	8897	8235	11986	11097	1	9.1	1	2.7	6.8	3 phase 400V 50Hz
	45°	5276	4349	7108	5860						
	90°	8832	6633	11898	8938						
3S-70-1S	0°	12119	11083	16324	14930	1	18.2	1	5.5	9.8	3 phase 400V 50Hz
	45°	7186	5853	9680	7885						
	90°	12030	8926	16204	12025						
3S-85-1S	0°	17870	15583	24070	20993	1	18.2	1	5.5	14.3	3 phase 400V 50Hz
	45°	10597	8230	14273	11087						
	90°	17739	12551	23893	16909						
3S-90-1S	0°	20034	18009	26985	24261	1	18.2	1	5.5	15.8	3 phase 400V 50Hz
	45°	11880	9511	16002	12813						
	90°	19887	14505	26787	19540						
6S-70-1S	0°	14143	12934	19051	17424	1	18.2	1	5.5	11.3	3 phase 400V 50Hz
	45°	8402	6844	11318	9220						
	90°	14094	10457	18983	14087						
6S-85-1S	0°	20855	18186	28090	24500	1	18.2	1	5.5	15.8	3 phase 400V 50Hz
	45°	12389	9623	16688	12964						
	90°	20781	14704	27991	19809						
6S-90-1S	0°	23380	21016	31492	28313	1	33.5	1	10.0	18.0	3 phase 400V 50Hz
	45°	13890	11121	18709	14982						
	90°	23298	16992	31381	22892						
6S-95-1S	0°	26050	24009	35089	32343	1	33.5	1	10.0	20.3	3 phase 400V 50Hz
	45°	15476	12705	20845	17115						
	90°	25958	19412	34965	26151						
6S-110-1S	0°	34953	31069	47071	41845	1	33.5	1	10.0	27.0	3 phase 400V 50Hz
	45°	20765	16440	27964	22143						
	90°	34830	25120	46905	33833						

* Opening and closing time

** The last two digits in the model name indicate the number of strokes

EHA DOUBLE ACTING ELECTRO-HYDRAULIC ACTUATOR

OUTPUT TORQUES (NM) AND TECHNICAL DATA - SYMMETRIC YOKE DESIGN - THREE OIL STROKES

EHA DOUBLE ACTING ELECTRO-HYDRAULIC ACTUATOR

		Operating supply pressure									
		130		175		Oil	Acc.volume		Recharging	Stroke time	
Model	Position	OP	CL	OP	CL	Strokes	(l)	Accumulators	time (min)	(OP/CL)* (s)	Motor type
0.9S-45-3S	0°	2228	2001	3003	2698	3	9.1	1	2.7	2.3	3 phase 400V 50Hz
	45°	1412	1133	1904	1529						
	90°	2548	1857	3435	2504						
0.9S-50-3S	0°	2752	2589	3710	3490	3	18.2	1	5.5	3.0	3 phase 400V 50Hz
	45°	1745	1467	2352	1977						
	90°	3148	2403	4243	3239						
0.9S-60-3S	0°	3970	3674	5348	4951	3	18.2	1	5.5	3.8	3 phase 400V 50Hz
	45°	2517	2082	3391	2805						
	90°	4540	3410	6117	4595						
0.9S-70-3S	0°	5408	4945	7284	6662	3	18.2	1	5.5	5.3	3 phase 400V 50Hz
	45°	3429	2801	4619	3774						
	90°	6185	4589	8331	6182						
1.5S-50-3S	0°	3776	3552	5089	4788	3	18.2	1	5.5	3.0	3 phase 400V 50Hz
	45°	2209	1849	2977	2493						
	90°	3643	2780	4910	3748						
1.5S-60-3S	0°	5446	5041	7337	6793	3	18.2	1	5.5	4.5	3 phase 400V 50Hz
	45°	3186	2624	4292	3536						
	90°	5254	3946	7079	5317						
1.5S-70-3S	0°	7419	6784	9993	9139	3	33.5	1	10.0	6.0	3 phase 400V 50Hz
	45°	4340	3532	5846	4758						
	90°	7157	5311	9641	7154						
1.5S-85-3S	0°	10939	9539	14734	12851	3	33.5	1	10.0	9.0	3 phase 400V 50Hz
	45°	6399	4966	8619	6691						
	90°	10554	7467	14216	10060						
3S-60-3S	0°	8897	8235	11986	11097	3	33.5	1	10.0	6.8	3 phase 400V 50Hz
	45°	5276	4349	7108	5860						
	90°	8832	6633	11898	8938						
3S-70-3S	0°	12119	11083	16324	14930	3	33.5	1	10.0	9.8	3 phase 400V 50Hz
	45°	7186	5853	9680	7885						
	90°	12030	8926	16204	12025						
3S-85-3S	0°	17870	15583	24070	20993	3	50.0	1	15.0	14.3	3 phase 400V 50Hz
	45°	10597	8230	14273	11087						
	90°	17739	12551	23893	16909						
3S-90-3S	0°	20034	18009	26985	24261	3	33.5	2	19.0	15.8	3 phase 400V 50Hz
	45°	11880	9511	16002	12813						
	90°	19887	14505	26787	19540						
6S-70-3S	0°	14143	12934	19051	17424	3	50.0	1	15.0	11.3	3 phase 400V 50Hz
	45°	8402	6844	11318	9220						
	90°	14094	10457	18983	14087						
6S-85-3S	0°	20855	18186	28090	24500	3	33.5	2	19.0	15.8	3 phase 400V 50Hz
	45°	12389	9623	16688	12964						
	90°	20781	14704	27991	19809						
6S-90-3S	0°	23380	21016	31492	28313	3	33.5	2	20.0	18.0	3 phase 400V 50Hz
	45°	13890	11121	18709	14982						
	90°	23298	16992	31381	22892						
6S-95-3S	0°	26050	24009	35089	32343	3	50.0	2	28.0	20.3	3 phase 400V 50Hz
	45°	15476	12705	20845	17115						
	90°	25958	19412	34965	26151						
6S-110-3S	0°	34953	31069	47071	41845	3	50.0	2	30.0	27.0	3 phase 400V 50Hz
	45°	20765	16440	27964	22143						
	90°	34830	25120	46905	33833						

* Opening and closing time

** The last two digits in the model name indicate the number of strokes

EHAS SPRING RETURN ELECTRO-HYDRAULIC ACTUATOR

OUTPUT TORQUES (NM) AND TECHNICAL DATA - CANTED YOKE DESIGN - SPRING TO CLOSE - ONE OIL STROKE

EHAS SPRING RETURN ELECTRO-HYDRAULIC ACTUATOR

				Operating supply pressure (bar g)											
				130			175								
Model	BTC	RTC	ETC	BTO	RTO	ETO	BTO	RTO	ETO	Oil Strokes	Acc. volume (l)	Accu-mula-tors	Recharging time (min)	Stroke time (OP/CL)* [s]	Motor type
0.9C-0200-40-CL-1S	1003	589	1072	1715	430	467	2691	822	1017	1	5.0	1	1.5	2.3	3 phase 400V 50 Hz
0.9C-0200-45-CL-1S	1002	588	1070	2462	731	888	3698	1218	1584	1	5.0	1	1.5	2.3	3 phase 400V 50 Hz
0.9C-0200-50-CL-1S	1002	587	1069	3298	1061	1359	4823	1660	2219	1	5.0	1	1.5	3.0	3 phase 400V 50 Hz
0.9C-0200-60-CL-1S	1002	588	1070	5238	1823	2452	7434	2683	3690	1	5.0	1	1.5	3.8	3 phase 400V 50 Hz
0.9C-0250-40-CL-1S	1197	732	1469	1320	244	244	2296	665	794	1	5.0	1	1.5	2.3	3 phase 400V 50 Hz
0.9C-0250-45-CL-1S	1196	731	1467	2067	573	665	3302	1063	1362	1	5.0	1	1.5	2.3	3 phase 400V 50 Hz
0.9C-0250-50-CL-1S	1196	731	1465	2903	906	1136	4428	1505	1996	1	5.0	1	1.5	3.0	3 phase 400V 50 Hz
0.9C-0250-60-CL-1S	1196	731	1466	4843	1668	2230	7039	2528	3468	1	5.0	1	1.5	3.8	3 phase 400V 50 Hz
0.9C-0350-50-CL-1S	1889	1114	2053	2318	383	383	3843	1069	1243	1	5.0	1	1.5	3.0	3 phase 400V 50 Hz
0.9C-0350-60-CL-1S	1890	1114	2054	4257	1235	1477	6454	2103	2715	1	5.0	1	1.5	3.8	3 phase 400V 50 Hz
0.9C-0400-60-CL-1S	2226	1363	2742	3572	960	1090	5769	1833	2328	1	5.0	1	1.5	3.8	3 phase 400V 50 Hz
0.9C-0400-70-CL-1S	2225	1363	2742	5863	1871	2382	8853	3045	4067	1	9.1	1	2.7	5.3	3 phase 400V 50 Hz
0.9C-0700-70-CL-1S	3139	1886	3630	4979	1264	1384	7968	2461	3069	1	9.1	1	2.7	5.3	3 phase 400V 50 Hz
1.5C-1200-85-CL-1S	6707	3954	7280	8773	1665	1665	14347	4076	4807	1	18.2	1	5.4	9.0	3 phase 400V 50 Hz
3C-2000-85-CL-1S	9884	5966	11613	14957	3737	4047	24184	7439	9247	1	18.2	1	5.4	15.0	3 phase 400V 50 Hz
6C-2500-85-CL-1S	14109	8635	17339	13739	1873	1873	24525	6833	7953	1	33.5	1	10.0	16.5	3 phase 400V 50 Hz
6C-2500-95-CL-1S	14099	8628	17319	21484	5602	6239	34958	10978	13833	1	33.5	1	10.0	21.0	3 phase 400V 50 Hz
6C-2500-110-CL-1S	14104	8632	17330	34756	10898	13719	52820	18000	23901	1	33.5	1	10.0	27.8	3 phase 400V 50 Hz
6C-3800-95-CL-1S	19025	11990	25767	13071	663	663	26544	7214	8258	1	33.5	1	10.0	21.0	3 phase 400V 50 Hz
6C-3800-110-CL-1S	19030	11994	25778	26343	7132	8144	44407	14304	18325	1	33.5	1	10.0	27.8	3 phase 400V 50 Hz

* Opening and closing time

** The last two digits in the model name indicate the number of strokes

NOTE

BTO: Brake to open
RTO: Running to open
ETO: End to open
BTC: Brake to close
RTC: Running to close
ETC : End to close

EHAS SPRING RETURN ELECTRO-HYDRAULIC ACTUATOR

OUTPUT TORQUES (NM) AND TECHNICAL DATA - CANTED YOKE DESIGN - SPRING TO CLOSE - TWO OIL STROKES

EHAS SPRING RETURN ELECTRO-HYDRAULIC ACTUATOR

				Operating supply pressure (bar g)											
				130			175								
Model	BTC	RTC	ETC	BTO	RTO	ETO	BTO	RTO	ETO	Oil Strokes	Acc.volume (l)	Accu-mula-tors	Recharging time (min)	Stroke time (OP/CL)* [s]	Motor type
0.9C-0200-40-CL-2S	1003	589	1072	1715	430	467	2691	822	1017	2	9.1	1	2.5	2.3	3 phase 400V 50 Hz
0.9C-0200-45-CL-2S	1002	588	1070	2462	731	888	3698	1218	1584	2	9.1	1	2.5	2.3	3 phase 400V 50 Hz
0.9C-0200-50-CL-2S	1002	587	1069	3298	1061	1359	4823	1660	2219	2	9.1	1	2.7	3.0	3 phase 400V 50 Hz
0.9C-0200-60-CL-2S	1002	588	1070	5238	1823	2452	7434	2683	3690	2	9.1	1	2.7	3.8	3 phase 400V 50 Hz
0.9C-0250-40-CL-2S	1197	732	1469	1320	244	244	2296	665	794	2	9.1	1	2.5	2.3	3 phase 400V 50 Hz
0.9C-0250-45-CL-2S	1196	731	1467	2067	573	665	3302	1063	1362	2	9.1	1	2.5	2.3	3 phase 400V 50 Hz
0.9C-0250-50-CL-2S	1196	731	1465	2903	906	1136	4428	1505	1996	2	9.1	1	2.7	3.0	3 phase 400V 50 Hz
0.9C-0250-60-CL-2S	1196	731	1466	4843	1668	2230	7039	2528	3468	2	9.1	1	2.7	3.8	3 phase 400V 50 Hz
0.9C-0350-50-CL-2S	1889	1114	2053	2318	383	383	3843	1069	1243	2	9.1	1	2.7	3.0	3 phase 400V 50 Hz
0.9C-0350-60-CL-2S	1890	1114	2054	4257	1235	1477	6454	2103	2715	2	9.1	1	2.7	3.8	3 phase 400V 50 Hz
0.9C-0400-60-CL-2S	2226	1363	2742	3572	960	1090	5769	1833	2328	2	9.1	1	2.7	3.8	3 phase 400V 50 Hz
0.9C-0400-70-CL-2S	2225	1363	2742	5863	1871	2382	8853	3045	4067	2	18.2	1	5.5	5.3	3 phase 400V 50 Hz
0.9C-0700-70-CL-2S	3139	1886	3630	4979	1264	1384	7968	2461	3069	2	18.2	1	5.5	5.3	3 phase 400V 50 Hz
1.5C-1200-85-CL-2S	6707	3954	7280	8773	1665	1665	14347	4076	4807	2	33.5	1	10.0	9.0	3 phase 400V 50 Hz
3C-2000-85-CL-2S	9884	5966	11613	14957	3737	4047	24184	7439	9247	2	50.0	1	14.0	15.0	3 phase 400V 50 Hz
6C-2500-85-CL-2S	14109	8635	17339	13739	1873	1873	24525	6833	7953	2	50.0	1	15.0	16.5	3 phase 400V 50 Hz
6C-2500-95-CL-2S	14099	8628	17319	21484	5602	6239	34958	10978	13833	2	50.0	1	15.0	21.0	3 phase 400V 50 Hz
6C-2500-110-CL-2S	14104	8632	17330	34756	10898	13719	52820	18000	23901	2	33.5	2	20.0	27.8	3 phase 400V 50 Hz
6C-3800-95-CL-2S	19025	11990	25767	13071	663	663	26544	7214	8258	2	50.0	1	15.0	21.0	3 phase 400V 50 Hz
6C-3800-110-CL-2S	19030	11994	25778	26343	7132	8144	44407	14304	18325	2	33.5	2	20.0	27.8	3 phase 400V 50 Hz

* Opening or closing time

** The last two digits in the model name indicate the number of strokes

NOTE

BTO: Brake to open
RTO: Running to open
ETO: End to open
BTC: Brake to close
RTC: Running to close
ETC : End to close

EHAS SPRING RETURN ELECTRO-HYDRAULIC ACTUATOR

OUTPUT TORQUES (NM) AND TECHNICAL DATA - CANTED YOKE DESIGN - SPRING TO OPEN - ONE OIL STROKE

EHAS SPRING RETURN ELECTRO-HYDRAULIC ACTUATOR

				Operating supply pressure (bar g)											
				130			175								
Model	BTO	RTO	ETO	BTC	RTC	ETC	BTC	RTC	ETC	Oil Strokes	Acc. volume (l)	Accu-mula-tors	Recharging time [min]	Stroke time (OP/CL)* [s]	Motor type
0.9C-0200-40-OP-1S	1794	463	512	913	521	887	1442	911	1970	1	5.0	1	1.5	2.3	3 phase 400V 50 Hz
0.9C-0200-45-OP-1S	1793	462	511	1318	821	1716	1987	1307	3087	1	5.0	1	1.5	2.3	3 phase 400V 50 Hz
0.9C-0200-50-OP-1S	1791	461	510	1771	1150	2644	2597	1749	4337	1	5.0	1	1.5	3.0	3 phase 400V 50 Hz
0.9C-0200-60-OP-1S	1792	462	510	2822	1912	4797	4012	2772	7234	1	5.0	1	1.5	3.8	3 phase 400V 50 Hz
0.9C-0250-40-OP-1S	2152	607	713	699	358	448	1228	755	1532	1	5.0	1	1.5	2.3	3 phase 400V 50 Hz
0.9C-0250-45-OP-1S	2150	606	712	1104	663	1278	1773	1152	2649	1	5.0	1	1.5	2.3	3 phase 400V 50 Hz
0.9C-0250-50-OP-1S	2149	606	711	1557	995	2206	2383	1594	3898	1	5.0	1	1.5	3.0	3 phase 400V 50 Hz
0.9C-0250-60-OP-1S	2150	606	712	2608	1757	4358	3798	2617	6796	1	5.0	1	1.5	3.8	3 phase 400V 50 Hz
0.9C-0350-50-OP-1S	3381	882	983	1226	611	695	2052	1235	2387	1	5.0	1	1.5	3.0	3 phase 400V 50 Hz
0.9C-0350-60-OP-1S	3382	882	983	2277	1401	2847	3467	2267	5285	1	5.0	1	1.5	3.8	3 phase 400V 50 Hz
0.9C-0350-70-OP-1S	3381	882	983	3518	2304	5390	5138	3478	8707	1	9.1	1	2.7	5.3	3 phase 400V 50 Hz
0.9C-0400-60-OP-1S	4001	1133	1332	1906	1126	2087	3096	1998	4524	1	5.0	1	1.5	3.8	3 phase 400V 50 Hz
0.9C-0400-70-OP-1S	4001	1132	1332	3147	2035	4629	4767	3209	7947	1	9.1	1	2.7	5.3	3 phase 400V 50 Hz
0.9C-0700-70-OP-1S	5630	1529	1751	2652	1523	2632	4272	2715	5949	1	9.1	1	2.7	5.3	3 phase 400V 50 Hz
1.5C-1100-85-OP-1S	10237	2376	2459	5734	3216	5226	8754	5453	11413	1	18.2	1	5.4	9.0	3 phase 400V 50 Hz
1.5C-1200-85-OP-1S	11925	3098	3442	4693	2434	3156	7714	4700	9342	1	18.2	1	5.4	9.0	3 phase 400V 50 Hz
3C-2000-85-OP-1S	17575	4805	5522	8060	4609	7877	13059	8291	18116	1	18.2	1	5.4	15.0	3 phase 400V 50 Hz
3C-2000-95-OP-1S	17560	4799	5514	11649	7263	15229	17894	11803	28019	1	33.5	1	10.0	18.0	3 phase 400V 50 Hz
6C-2500-85-OP-1S	25066	7050	8258	7433	3592	3666	13277	8021	15637	1	33.5	1	10.0	16.5	3 phase 400V 50 Hz
6C-2500-95-OP-1S	25048	7043	8248	11630	6797	12262	18930	12152	27214	1	33.5	1	10.0	21.0	3 phase 400V 50 Hz
6C-2500-110-OP-1S	25058	7047	8253	18821	12073	26990	28609	19172	47038	1	33.5	1	10.0	27.8	3 phase 400V 50 Hz
6C-3800-95-OP-1S	34005	10196	12463	7067	1275	1275	14367	8570	16228	1	33.5	1	10.0	21.0	3 phase 400V 50 Hz
6C-3800-110-OP-1S	34015	10200	12468	14258	8489	16004	24046	15642	36051	1	33.5	1	10.0	27.8	3 phase 400V 50 Hz
6C-3800-125-OP-1S	33991	10190	12455	22483	14507	32850	35122	23669	58737	1	50.0	1	14.9	36.0	3 phase 400V 50 Hz

* Opening or closing time

** The last two digits in the model name indicate the number of strokes

NOTE

BTO: Brake to open
RTO: Running to open
ETO: End to open
BTC: Brake to close
RTC: Running to close
ETC : End to close

EHAS SPRING RETURN ELECTRO-HYDRAULIC ACTUATOR

OUTPUT TORQUES (NM) AND TECHNICAL DATA - CANTED YOKE DESIGN - SPRING TO OPEN - TWO OIL STROKES

EHAS SPRING RETURN ELECTRO-HYDRAULIC ACTUATOR

				Operating supply pressure (bar g)											
				130			175					Accu-			
Model	BTO	RTO	ETO	BTC	RTC	ETC	BTC	RTC	ETC	Oil strokes	Acc.volume (l)	mula-tors	Recharging time [min]	Stroke time (OP/CL)* [s]	Motor type
0.9C-0200-40-OP-2S	1794	463	512	913	521	887	1442	911	1970	2	9.1	1	2.5	2.3	3 phase 400V 50 Hz
0.9C-0200-45-OP-2S	1793	462	511	1318	821	1716	1987	1307	3087	2	9.1	1	2.5	2.3	3 phase 400V 50 Hz
0.9C-0200-50-OP-2S	1791	461	510	1771	1150	2644	2597	1749	4337	2	9.1	1	2.7	3.0	3 phase 400V 50 Hz
0.9C-0200-60-OP-2S	1792	462	510	2822	1912	4797	4012	2772	7234	2	9.1	1	2.7	3.8	3 phase 400V 50 Hz
0.9C-0250-40-OP-2S	2152	607	713	699	358	448	1228	755	1532	2	9.1	1	2.5	2.3	3 phase 400V 50 Hz
0.9C-0250-45-OP-2S	2150	606	712	1104	663	1278	1773	1152	2649	2	9.1	1	2.5	2.3	3 phase 400V 50 Hz
0.9C-0250-50-OP-2S	2149	606	711	1557	995	2206	2383	1594	3898	2	9.1	1	2.7	3.0	3 phase 400V 50 Hz
0.9C-0250-60-OP-2S	2150	606	712	2608	1757	4358	3798	2617	6796	2	9.1	1	2.7	3.8	3 phase 400V 50 Hz
0.9C-0350-50-OP-2S	3381	882	983	1226	611	695	2052	1235	2387	2	9.1	1	2.7	3.0	3 phase 400V 50 Hz
0.9C-0350-60-OP-2S	3382	882	983	2277	1401	2847	3467	2267	5285	2	9.1	1	2.7	3.8	3 phase 400V 50 Hz
0.9C-0350-70-OP-2S	3381	882	983	3518	2304	5390	5138	3478	8707	2	18.2	1	5.5	5.3	3 phase 400V 50 Hz
0.9C-0400-60-OP-2S	4001	1133	1332	1906	1126	2087	3096	1998	4524	2	9.1	1	2.7	3.8	3 phase 400V 50 Hz
0.9C-0400-70-OP-2S	4001	1132	1332	3147	2035	4629	4767	3209	7947	2	18.2	1	5.5	5.3	3 phase 400V 50 Hz
0.9C-0700-70-OP-2S	5630	1529	1751	2652	1523	2632	4272	2715	5949	2	18.2	1	5.5	5.3	3 phase 400V 50 Hz
1.5C-1100-85-OP-2S	10237	2376	2459	5734	3216	5226	8754	5453	11413	2	33.5	1	10.0	9.0	3 phase 400V 50 Hz
1.5C-1200-85-OP-2S	11925	3098	3442	4693	2434	3156	7714	4700	9342	2	33.5	1	10.0	9.0	3 phase 400V 50 Hz
3C-2000-85-OP-2S	17575	4805	5522	8060	4609	7877	13059	8291	18116	2	50.0	1	14.0	15.0	3 phase 400V 50 Hz
3C-2000-95-OP-2S	17560	4799	5514	11649	7263	15229	17894	11803	28019	2	50.0	1	15.0	18.0	3 phase 400V 50 Hz
6C-2500-85-OP-2S	25066	7050	8258	7433	3592	3666	13277	8021	15637	2	50.0	1	15.0	16.5	3 phase 400V 50 Hz
6C-2500-95-OP-2S	25048	7043	8248	11630	6797	12262	18930	12152	27214	2	50.0	1	15.0	21.0	3 phase 400V 50 Hz
6C-2500-110-OP-2S	25058	7047	8253	18821	12073	26990	28609	19172	47038	2	33.5	2	20.0	27.8	3 phase 400V 50 Hz
6C-3800-95-OP-2S	34005	10196	12463	7067	1275	1275	14367	8570	16228	2	50.0	1	15.0	21.0	3 phase 400V 50 Hz
6C-3800-110-OP-2S	34015	10200	12468	14258	8489	16004	24046	15642	36051	2	33.5	2	20.0	27.8	3 phase 400V 50 Hz
6C-3800-125-OP-2S	33991	10190	12455	22483	14507	32850	35122	23669	58737	2	50.0	2	30.0	36.0	3 phase 400V 50 Hz

* Opening or closing time

** The last two digits in the model name indicate the number of strokes

NOTE

BTO: Brake to open
RTO: Running to open
ETO: End to open
BTC: Brake to close
RTC: Running to close
ETC : End to close

EHAS SPRING RETURN ELECTRO-HYDRAULIC ACTUATOR

OUTPUT TORQUES (NM) AND TECHNICAL DATA - SYMMETRIC YOKE DESIGN - SPRING TO CLOSE - ONE OIL STROKE

EHAS SPRING RETURN ELECTRO-HYDRAULIC ACTUATOR

				Operating supply pressure (bar g)											
				130			175					Accu-			
Model	BTC	RTC	ETC	BTO	RTO	ETO	BTO	RTO	ETO	Oil Strokes	Acc. volume (l)	mula-tors	Recharging time [min]	Stroke time (OP/CL)* [s]	Motor type
0.9S-0200-45-CL-1S	1239	573	738	1486	769	1091	2261	1265	1978	1	5.0	1	1.5	2.3	3 phase 400V 50 Hz
0.9S-0200-50-CL-1S	1238	573	737	2011	1105	1691	2968	1715	2786	1	5.0	1	1.5	3.0	3 phase 400V 50 Hz
0.9S-0200-60-CL-1S	1238	573	738	3228	1881	3083	4607	2756	4660	1	5.0	1	1.5	3.8	3 phase 400V 50 Hz
0.9S-0250-40-CL-1S	1473	720	991	769	271	271	1382	702	971	1	5.0	1	1.5	1.5	3 phase 400V 50 Hz
0.9S-0250-45-CL-1S	1472	719	990	1238	608	807	2013	1107	1694	1	5.0	1	1.5	2.3	3 phase 400V 50 Hz
0.9S-0250-50-CL-1S	1471	719	989	1763	947	1407	2720	1558	2502	1	5.0	1	1.5	3.0	3 phase 400V 50 Hz
0.9S-0250-60-CL-1S	1472	719	989	2980	1723	2800	4359	2598	4376	1	5.0	1	1.5	3.8	3 phase 400V 50 Hz
0.9S-0250-70-CL-1S	1471	719	989	4418	2636	4444	6294	3827	6590	1	9.1	1	2.7	5.3	3 phase 400V 50 Hz
0.9S-0350-50-CL-1S	2334	1088	1413	1344	413	413	2301	1134	1508	1	5.0	1	1.5	3.0	3 phase 400V 50 Hz
0.9S-0350-60-CL-1S	2335	1089	1414	2561	1302	1805	3940	2187	3382	1	5.0	1	1.5	3.8	3 phase 400V 50 Hz
0.9S-0350-70-CL-1S	2334	1089	1414	3999	2224	3450	5876	3419	5596	1	9.1	1	2.7	5.3	3 phase 400V 50 Hz
0.9S-0400-60-CL-1S	2739	1342	1850	2131	1023	1313	3510	1912	2890	1	5.0	1	1.5	3.8	3 phase 400V 50 Hz
0.9S-0400-70-CL-1S	2739	1341	1850	3569	1950	2958	5446	3145	5104	1	9.1	1	2.7	5.3	3 phase 400V 50 Hz
0.9S-0700-70-CL-1S	3872	1849	2474	2954	1357	1645	4830	2575	3791	1	9.1	1	2.7	5.3	3 phase 400V 50 Hz
0.9S-0700-85-CL-1S	3866	1846	2467	5520	3017	4580	8287	4780	7745	1	9.1	1	2.7	7.5	3 phase 400V 50 Hz
1.5S-1100-85-CL-1S	6308	3093	3770	7193	2849	3248	10988	5139	6910	1	18.2	1	5.4	9.0	3 phase 400V 50 Hz
1.5S-1100-95-CL-1S	6303	3089	3763	9918	4501	5878	14659	7311	10452	1	18.2	1	5.4	11.3	3 phase 400V 50 Hz
1.5S-1200-85-CL-1S	7315	3798	5096	5885	2021	2021	9680	4373	5683	1	18.2	1	5.4	9.0	3 phase 400V 50 Hz
1.5S-1200-95-CL-1S	7309	3794	5089	8610	3730	4650	13351	6551	9224	1	18.2	1	5.4	11.3	3 phase 400V 50 Hz
3S-2000-85-CL-1S	11011	5779	8067	9868	4101	4832	16068	7867	10987	1	18.2	1	5.4	14.3	3 phase 400V 50 Hz
3S-2000-95-CL-1S	11002	5773	8056	14320	6816	9252	22065	11453	16940	1	33.5	1	10.0	17.3	3 phase 400V 50 Hz
6S-2500-85-CL-1S	15774	8400	12019	8949	2257	2257	16185	7341	9467	1	33.5	1	10.0	15.8	3 phase 400V 50 Hz
6S-2500-95-CL-1S	15763	8393	12005	14144	6090	7434	23183	11565	16441	1	33.5	1	10.0	20.3	3 phase 400V 50 Hz
6S-2500-110-CL-1S	15769	8397	12012	23047	11484	16306	35165	18727	28381	1	33.5	1	10.0	27.0	3 phase 400V 50 Hz
6S-2500-125-CL-1S	15755	8388	11995	33230	17572	26453	48879	26895	42046	1	50.0	1	14.9	34.5	3 phase 400V 50 Hz
6S-2500-135-CL-1S	15745	8381	11982	40741	22050	33937	58993	32912	52125	1	50.0	1	14.9	39.8	3 phase 400V 50 Hz
6S-3800-95-CL-1S	21285	11760	17771	8459	823	823	17497	7781	9830	1	33.5	1	10.0	20.3	3 phase 400V 50 Hz
6S-3800-110-CL-1S	21291	11764	17778	17362	7698	9695	29480	15008	21770	1	33.5	1	10.0	27.0	3 phase 400V 50 Hz
6S-3800-125-CL-1S	21277	11754	17760	27545	13849	19842	43193	23196	35435	1	50.0	1	14.9	34.5	3 phase 400V 50 Hz
6S-3800-135-CL-1S	21266	11747	17747	35055	18342	27326	53308	29219	45514	1	50.0	1	14.9	39.8	3 phase 400V 50 Hz

* Opening or closing time

** The last two digits in the model name indicates the number of strokes

NOTE

BTO: Brake to open
RTO: Running to open
ETO: End to open
BTC: Brake to close
RTC: Running to close
ETC : End to close

EHAS SPRING RETURN ELECTRO-HYDRAULIC ACTUATOR

OUTPUT TORQUES (NM) AND TECHNICAL DATA - SYMMETRIC YOKE DESIGN - SPRING TO CLOSE - TWO OIL STROKES

EHAS SPRING RETURN ELECTRO-HYDRAULIC ACTUATOR

				Operating supply pressure (bar g)											
				130			175								
Model	BTC	RTC	ETC	BTO	RTO	ETO	BTO	RTO	ETO	Oil Strokes	Acc.volume (l)	Accu-mula-tors	Recharging time [min]	Stroke time (OP/CL)* [s]	Motor type
0.9S-0200-40-CL-2S	1240	574	739	1017	463	554	1630	861	1255	2	5.0	1	1.5	1.5	3 phase 400V 50 Hz
0.9S-0200-45-CL-2S	1239	573	738	1486	769	1091	2261	1265	1978	2	9.1	1	2.5	2.3	3 phase 400V 50 Hz
0.9S-0200-50-CL-2S	1238	573	737	2011	1105	1691	2968	1715	2786	2	9.1	1	2.7	3.0	3 phase 400V 50 Hz
0.9S-0200-60-CL-2S	1238	573	738	3228	1881	3083	4607	2756	4660	2	9.1	1	2.7	3.8	3 phase 400V 50 Hz
0.9S-0250-40-CL-2S	1473	720	991	769	271	271	1382	702	971	2	5.0	1	1.5	1.5	3 phase 400V 50 Hz
0.9S-0250-45-CL-2S	1472	719	990	1238	608	807	2013	1107	1694	2	9.1	1	2.5	2.3	3 phase 400V 50 Hz
0.9S-0250-50-CL-2S	1471	719	989	1763	947	1407	2720	1558	2502	2	9.1	1	2.7	3.0	3 phase 400V 50 Hz
0.9S-0250-60-CL-2S	1472	719	989	2980	1723	2800	4359	2598	4376	2	9.1	1	2.7	3.8	3 phase 400V 50 Hz
0.9S-0250-70-CL-2S	1471	719	989	4418	2636	4444	6294	3827	6590	2	18.2	1	5.5	5.3	3 phase 400V 50 Hz
0.9S-0350-50-CL-2S	2334	1088	1413	1344	413	413	2301	1134	1508	2	9.1	1	2.7	3.0	3 phase 400V 50 Hz
0.9S-0350-60-CL-2S	2335	1089	1414	2561	1302	1805	3940	2187	3382	2	9.1	1	2.7	3.8	3 phase 400V 50 Hz
0.9S-0350-70-CL-2S	2334	1089	1414	3999	2224	3450	5876	3419	5596	2	18.2	1	5.5	5.3	3 phase 400V 50 Hz
0.9S-0400-60-CL-2S	2739	1342	1850	2131	1023	1313	3510	1912	2890	2	9.1	1	2.7	3.8	3 phase 400V 50 Hz
0.9S-0400-70-CL-2S	2739	1341	1850	3569	1950	2958	5446	3145	5104	2	18.2	1	5.5	5.3	3 phase 400V 50 Hz
0.9S-0700-70-CL-2S	3872	1849	2474	2954	1357	1645	4830	2575	3791	2	18.2	1	5.5	5.3	3 phase 400V 50 Hz
0.9S-0700-85-CL-2S	3866	1846	2467	5520	3017	4580	8287	4780	7745	2	18.2	1	5.5	7.5	3 phase 400V 50 Hz
1.5S-1100-85-CL-2S	6308	3093	3770	7193	2849	3248	10988	5139	6910	2	33.5	1	10.0	9.0	3 phase 400V 50 Hz
1.5S-1100-95-CL-2S	6303	3089	3763	9918	4501	5878	14659	7311	10452	2	33.5	1	10.0	11.3	3 phase 400V 50 Hz
1.5S-1200-85-CL-2S	7315	3798	5096	5885	2021	2021	9680	4373	5683	2	33.5	1	10.0	9.0	3 phase 400V 50 Hz
1.5S-1200-95-CL-2S	7309	3794	5089	8610	3730	4650	13351	6551	9224	2	33.5	1	10.0	11.3	3 phase 400V 50 Hz
3S-2000-85-CL-2S	11011	5779	8067	9868	4101	4832	16068	7867	10987	2	33.5	1	10.0	14.3	3 phase 400V 50 Hz
3S-2000-95-CL-2S	11002	5773	8056	14320	6816	9252	22065	11453	16940	2	50.0	1	15.0	17.3	3 phase 400V 50 Hz
6S-2500-85-CL-2S	15774	8400	12019	8949	2257	2257	16185	7341	9467	2	50.0	1	14.0	15.8	3 phase 400V 50 Hz
6S-2500-95-CL-2S	15763	8393	12005	14144	6090	7434	23183	11565	16441	2	50.0	1	15.0	20.3	3 phase 400V 50 Hz
6S-2500-110-CL-2S	15769	8397	12012	23047	11484	16306	35165	18727	28381	2	33.5	2	20.0	27.0	3 phase 400V 50 Hz
6S-2500-125-CL-2S	15755	8388	11995	33230	17572	26453	48879	26895	42046	2	50.0	2	30.0	34.5	3 phase 400V 50 Hz
6S-2500-135-CL-2S	15745	8381	11982	40741	22050	33937	58993	32912	52125	2	50.0	2	30.0	39.8	3 phase 400V 50 Hz
6S-3800-95-CL-2S	21285	11760	17771	8459	823	823	17497	7781	9830	2	50.0	1	15.0	20.3	3 phase 400V 50 Hz
6S-3800-110-CL-2S	21291	11764	17778	17362	7698	9695	29480	15008	21770	2	33.5	2	20.0	27.0	3 phase 400V 50 Hz
6S-3800-125-CL-2S	21277	11754	17760	27545	13849	19842	43193	23196	35435	2	50.0	2	30.0	34.5	3 phase 400V 50 Hz
6S-3800-135-CL-2S	21266	11747	17747	35055	18342	27326	53308	29219	45514	2	50.0	2	30.0	39.8	3 phase 400V 50 Hz

* Opening or closing time

** The last two digits in the model name indicate the number of strokes

NOTE

BTO: Brake to open
RTO: Running to open
ETO: End to open
BTC: Brake to close
RTC: Running to close
ETC : End to close

EHAS SPRING RETURN ELECTRO-HYDRAULIC ACTUATOR

OUTPUT TORQUES (NM) AND TECHNICAL DATA - SYMMETRIC YOKE DESIGN - SPRING TO OPEN - ONE OIL STROKE

EHAS SPRING RETURN ELECTRO-HYDRAULIC ACTUATOR

				Operating supply pressure (bar g)											
				130			175								
Model	BTO	RTO	ETO	BTC	RTC	ETC	BTC	RTC	ETC	Oil Strokes	Acc.volume (l)	Accu-mula-tors	Recharging time [min]	Stroke time (OP/CL)* [s]	Motor type
0.9S-0200-40-OP-1S	1072	500	618	1137	509	628	1774	906	1315	1	5.0	1	1.5	1.5	3 phase 400V 50 Hz
0.9S-0200-45-OP-1S	1071	499	617	1625	814	1154	2431	1311	2023	1	5.0	1	1.5	2.3	3 phase 400V 50 Hz
0.9S-0200-50-OP-1S	1071	499	616	2170	1151	1742	3166	1761	2815	1	5.0	1	1.5	3.0	3 phase 400V 50 Hz
0.9S-0200-60-OP-1S	1071	499	616	3437	1927	3107	4870	2803	4652	1	5.0	1	1.5	3.8	3 phase 400V 50 Hz
0.9S-0250-40-OP-1S	1297	647	875	879	341	350	1516	747	1037	1	5.0	1	1.5	1.5	3 phase 400V 50 Hz
0.9S-0250-45-OP-1S	1296	646	873	1367	654	876	2173	1152	1745	1	5.0	1	1.5	2.3	3 phase 400V 50 Hz
0.9S-0250-50-OP-1S	1295	646	872	1912	992	1464	2908	1603	2537	1	5.0	1	1.5	3.0	3 phase 400V 50 Hz
0.9S-0250-60-OP-1S	1296	646	873	3179	1769	2829	4613	2646	4374	1	5.0	1	1.5	3.8	3 phase 400V 50 Hz
0.9S-0250-70-OP-1S	1295	646	873	4674	2683	4440	6626	3876	6543	1	9.1	1	2.7	5.3	3 phase 400V 50 Hz
0.9S-0350-50-OP-1S	2022	950	1188	1546	564	564	2542	1218	1637	1	5.0	1	1.5	3.0	3 phase 400V 50 Hz
0.9S-0350-60-OP-1S	2022	951	1189	2812	1387	1929	4246	2271	3474	1	5.0	1	1.5	3.8	3 phase 400V 50 Hz
0.9S-0350-70-OP-1S	2022	951	1188	4308	2309	3540	6259	3505	5643	1	9.1	1	2.7	5.3	3 phase 400V 50 Hz
0.9S-0400-60-OP-1S	2411	1205	1634	2365	1108	1447	3799	1996	2992	1	5.0	1	1.5	3.8	3 phase 400V 50 Hz
0.9S-0400-70-OP-1S	2411	1205	1633	3860	2034	3058	5812	3231	5161	1	9.1	1	2.7	5.3	3 phase 400V 50 Hz
0.9S-0700-60-OP-1S	3379	1638	2132	1806	248	248	3240	1452	1793	1	5.0	1	1.5	3.8	3 phase 400V 50 Hz
0.9S-0700-70-OP-1S	3379	1637	2131	3302	1491	1860	5253	2706	3963	1	9.1	1	2.7	5.3	3 phase 400V 50 Hz
0.9S-0700-85-OP-1S	3373	1633	2125	5971	3148	4736	8848	4913	7837	1	9.1	1	2.7	7.5	3 phase 400V 50 Hz
1.5S-1100-85-OP-1S	6890	2660	2956	6248	3051	3693	9578	5318	7947	1	18.2	1	5.4	9.0	3 phase 400V 50 Hz
1.5S-1100-95-OP-1S	6884	2656	2950	8639	4686	6748	12799	7474	12062	1	18.2	1	5.4	11.3	3 phase 400V 50 Hz
1.5S-1200-85-OP-1S	8039	3384	4100	5102	2244	2270	8432	4556	6524	1	18.2	1	5.4	9.0	3 phase 400V 50 Hz
1.5S-1200-95-OP-1S	8033	3380	4093	7493	3920	5324	11653	6719	10638	1	18.2	1	5.4	11.3	3 phase 400V 50 Hz
3S-2000-85-OP-1S	11645	5195	6596	8985	4414	5552	14582	8150	12501	1	18.2	1	5.4	14.3	3 phase 400V 50 Hz
3S-2000-95-OP-1S	11635	5189	6586	13004	7106	10542	19996	11715	19222	1	33.5	1	10.0	17.3	3 phase 400V 50 Hz
6S-2500-85-OP-1S	16573	7577	9854	8308	2784	2784	14865	7795	10894	1	33.5	1	10.0	15.8	3 phase 400V 50 Hz
6S-2500-95-OP-1S	16561	7570	9842	13016	6556	8607	21207	11991	18737	1	33.5	1	10.0	20.3	3 phase 400V 50 Hz
6S-2500-110-OP-1S	16567	7573	9848	21084	11910	18586	32065	19117	32168	1	33.5	1	10.0	27.0	3 phase 400V 50 Hz
6S-2500-125-OP-1S	16551	7564	9833	30312	17967	29999	44492	27264	47537	1	50.0	1	14.9	34.5	3 phase 400V 50 Hz
6S-2500-135-OP-1S	16540	7557	9821	37118	22429	38417	53658	33274	58874	1	50.0	1	14.9	39.8	3 phase 400V 50 Hz
6S-3800-95-OP-1S	22532	10836	14846	7895	1210	1210	16086	8307	11341	1	33.5	1	10.0	20.3	3 phase 400V 50 Hz
6S-3800-110-OP-1S	22538	10840	14853	15963	8225	11189	26945	15486	24771	1	33.5	1	10.0	27.0	3 phase 400V 50 Hz
6S-3800-125-OP-1S	22522	10830	14837	25191	14334	22602	39372	23637	40140	1	50.0	1	14.9	34.5	3 phase 400V 50 Hz
6S-3800-135-OP-1S	22511	10823	14826	31997	18802	31020	48538	29646	51477	1	50.0	1	14.9	39.8	3 phase 400V 50 Hz

* Opening or closing time

** The last two digits in the model name indicate the number of strokes

NOTE

BTO: Brake to open
RTO: Running to open
ETO: End to open
BTC: Brake to close
RTC: Running to close
ETC : End to close

EHAS SPRING RETURN ELECTRO-HYDRAULIC ACTUATOR

OUTPUT TORQUES (NM) AND TECHNICAL DATA - SYMMETRIC YOKE DESIGN - SPRING TO OPEN - TWO OIL STROKES

EHAS SPRING RETURN ELECTRO-HYDRAULIC ACTUATOR

				Operating supply pressure (bar g)											
				130			175								
Model	BTO	RTO	ETO	BTC	RTC	ETC	BTC	RTC	ETC	Oil Strokes	Acc. volume (l)	Accu-mula-tors	Recharging time [min]	Stroke time (OP/CL)* [s]	Motor type
0.9S-0200-40-OP-2S	1072	500	618	1137	509	628	1774	906	1315	2	5.0	1	1.5	1.5	3 phase 400V 50 Hz
0.9S-0200-45-OP-2S	1071	499	617	1625	814	1154	2431	1311	2023	2	9.1	1	2.5	2.3	3 phase 400V 50 Hz
0.9S-0200-50-OP-2S	1071	499	616	2170	1151	1742	3166	1761	2815	2	9.1	1	2.7	3.0	3 phase 400V 50 Hz
0.9S-0200-60-OP-2S	1071	499	616	3437	1927	3107	4870	2803	4652	2	9.1	1	2.7	3.8	3 phase 400V 50 Hz
0.9S-0250-40-OP-2S	1297	647	875	879	341	350	1516	747	1037	2	5.0	1	1.5	1.5	3 phase 400V 50 Hz
0.9S-0250-45-OP-2S	1296	646	873	1367	654	876	2173	1152	1745	2	9.1	1	2.5	2.3	3 phase 400V 50 Hz
0.9S-0250-50-OP-2S	1295	646	872	1912	992	1464	2908	1603	2537	2	9.1	1	2.7	3.0	3 phase 400V 50 Hz
0.9S-0250-60-OP-2S	1296	646	873	3179	1769	2829	4613	2646	4374	2	9.1	1	2.7	3.8	3 phase 400V 50 Hz
0.9S-0250-70-OP-2S	1295	646	873	4674	2683	4440	6626	3876	6543	2	18.2	1	5.5	5.3	3 phase 400V 50 Hz
0.9S-0350-50-OP-2S	2022	950	1188	1546	564	564	2542	1218	1637	2	9.1	1	2.7	3.0	3 phase 400V 50 Hz
0.9S-0350-60-OP-2S	2022	951	1189	2812	1387	1929	4246	2271	3474	2	9.1	1	2.7	3.8	3 phase 400V 50 Hz
0.9S-0350-70-OP-2S	2022	951	1188	4308	2309	3540	6259	3505	5643	2	18.2	1	5.5	5.3	3 phase 400V 50 Hz
0.9S-0400-60-OP-2S	2411	1205	1634	2365	1108	1447	3799	1996	2992	2	9.1	1	2.7	3.8	3 phase 400V 50 Hz
0.9S-0400-70-OP-2S	2411	1205	1633	3860	2034	3058	5812	3231	5161	2	18.2	1	5.5	5.3	3 phase 400V 50 Hz
0.9S-0700-60-OP-2S	3379	1638	2132	1806	248	248	3240	1452	1793	2	9.1	1	2.7	3.8	3 phase 400V 50 Hz
0.9S-0700-70-OP-2S	3379	1637	2131	3302	1491	1860	5253	2706	3963	2	18.2	1	5.5	5.3	3 phase 400V 50 Hz
0.9S-0700-85-OP-2S	3373	1633	2125	5971	3148	4736	8848	4913	7837	2	18.2	1	5.5	7.5	3 phase 400V 50 Hz
1.5S-1100-85-OP-2S	6890	2660	2956	6248	3051	3693	9578	5318	7947	2	33.5	1	10.0	9.0	3 phase 400V 50 Hz
1.5S-1100-95-OP-2S	6884	2656	2950	8639	4686	6748	12799	7474	12062	2	33.5	1	10.0	11.3	3 phase 400V 50 Hz
1.5S-1200-85-OP-2S	8039	3384	4100	5102	2244	2270	8432	4556	6524	2	33.5	1	10.0	9.0	3 phase 400V 50 Hz
1.5S-1200-95-OP-2S	8033	3380	4093	7493	3920	5324	11653	6719	10638	2	33.5	1	10.0	11.3	3 phase 400V 50 Hz
3S-2000-85-OP-2S	11645	5195	6596	8985	4414	5552	14582	8150	12501	2	33.5	1	10.0	14.3	3 phase 400V 50 Hz
3S-2000-95-OP-2S	11635	5189	6586	13004	7106	10542	19996	11715	19222	2	50.0	1	15.0	17.3	3 phase 400V 50 Hz
6S-2500-85-OP-2S	16573	7577	9854	8308	2784	2784	14865	7795	10894	2	50.0	1	14.0	15.8	3 phase 400V 50 Hz
6S-2500-95-OP-2S	16561	7570	9842	13016	6556	8607	21207	11991	18737	2	50.0	1	15.0	20.3	3 phase 400V 50 Hz
6S-2500-110-OP-2S	16567	7573	9848	21084	11910	18586	32065	19117	32168	2	33.5	2	20.0	27.0	3 phase 400V 50 Hz
6S-2500-125-OP-2S	16551	7564	9833	30312	17967	29999	44492	27264	47537	2	50.0	2	30.0	34.5	3 phase 400V 50 Hz
6S-2500-135-OP-2S	16540	7557	9821	37118	22429	38417	53658	33274	58874	2	50.0	2	30.0	39.8	3 phase 400V 50 Hz
6S-3800-95-OP-2S	22532	10836	14846	7895	1210	1210	16086	8307	11341	2	50.0	1	15.0	20.3	3 phase 400V 50 Hz
6S-3800-110-OP-2S	22538	10840	14853	15963	8225	11189	26945	15486	24771	2	33.5	2	20.0	27.0	3 phase 400V 50 Hz
6S-3800-125-OP-2S	22522	10830	14837	25191	14334	22602	39372	23637	40140	2	50.0	2	30.0	34.5	3 phase 400V 50 Hz
6S-3800-135-OP-2S	22511	10823	14826	31997	18802	31020	48538	29646	51477	2	50.0	2	30.0	39.8	3 phase 400V 50 Hz

* Opening or closing time

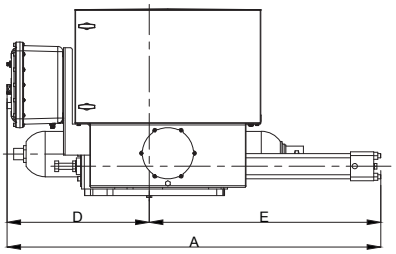
** The last two digits in the model name indicate the number of strokes

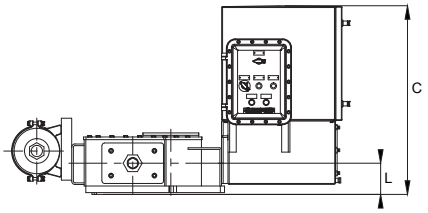
NOTE

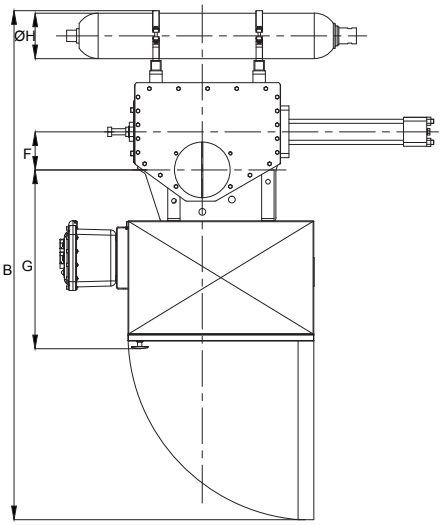
BTO: Brake to open
RTO: Running to open
ETO: End to open
BTC: Brake to close
RTC: Running to close
ETC : End to close

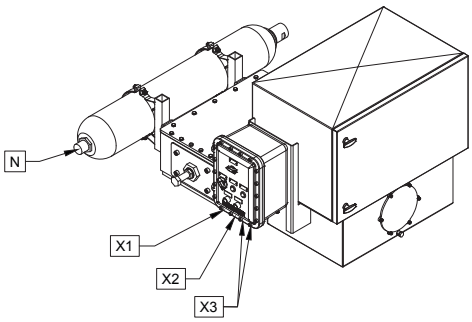
EHA DOUBLE ACTING ELECTRO-HYDRAULIC ACTUATOR

DIMENSIONS







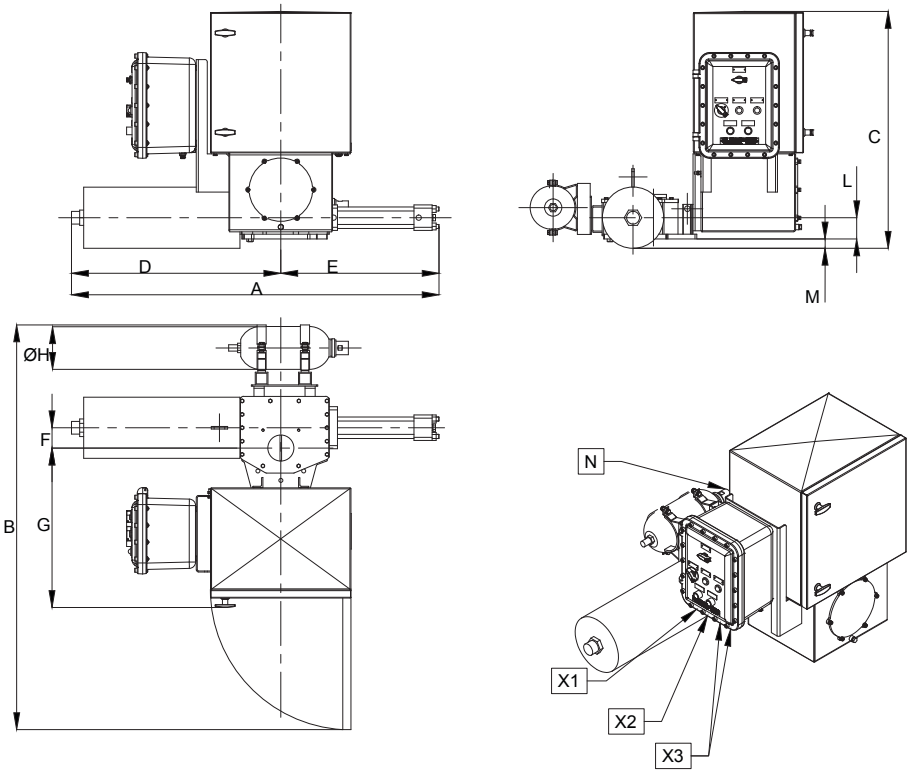


EHA DOUBLE ACTING ELECTRO- HYDRAULIC ACTUATOR

Model	A	B	C	D	E	F	G	ØH	L	X 1 Electric connection	X 2 Electric connection	X 3 Electric connection	N Hydraulic connection	Weight (Kg)
0.9-45	1198	1588	904	604	594	80	625	168	95	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	287
0.9-50	1198	1588	904	604	594	80	625	168	95	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	286
0.9-60	1224	1588	904	604	620	80	625	168	95	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	290
0.9-70	1302	1644	904	604	698	80	625	220	95	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	329
1.5-50	1349	1638	904	604	745	100	645	168	111	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	332
1.5-60	1349	1695	904	604	745	100	645	220	111	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	359
1.5-70	1339	1695	904	604	735	100	645	220	111	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	368
1.5-85	1336	1695	904	604	732	100	645	220	111	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	395
3-60	1737	2349	895	779	958	160	851	220	117	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	516
3-70	1753	2341	895	779	974	160	851	220	117	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	547
3-85	1751	2341	895	779	972	160	851	220	117	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	550
3-90	1851	2341	895	779	1072	160	851	220	117	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	613
6-70	1771	2464	914	688	1083	185	865	220	151	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	710
6-85	1770	2464	914	688	1082	185	865	220	151	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	713
6-90	1809	2464	914	689	1121	185	865	220	151	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	770
6-95	1809	2464	914	689	1121	185	865	220	151	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	767
6-110	1856	2464	914	689	1167	185	865	220	151	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	790

EHAS SPRING RETURN ELECTRO-HYDRAULIC ACTUATOR

DIMENSIONS - SPRING TO CLOSE

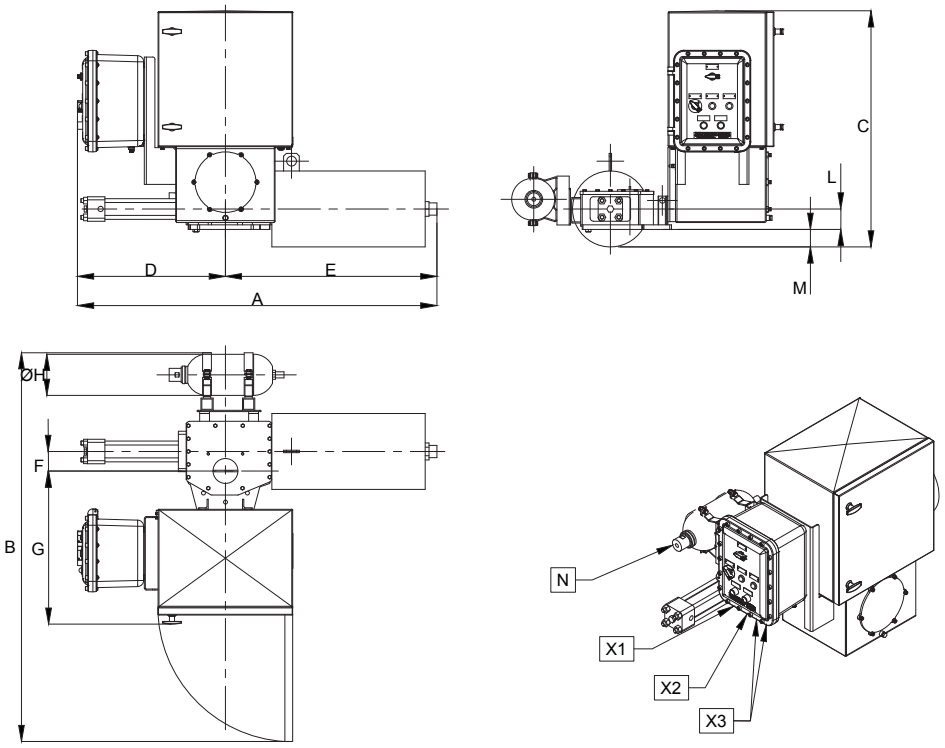


EHAS SPRING RETURN ELECTRO-HYDRAULIC ACTUATOR

Model	A	B	C	D	E	F	G	ØH	L	M	ØS	X 1 Electric connection	X 2 Electric connection	X 3 Electric connection	N Hydraulic connection	Weight (Kg)
0.9-0200-40-CL	1414	1588	930	820	594	80	625	168	84	37	240	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	346
0.9-0200-45-CL	1414	1588	930	820	594	80	625	168	84	37	240	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	346
0.9-0200-50-CL	1414	1588	930	820	594	80	625	168	84	37	240	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	345
0.9-0200-60-CL	1440	1588	930	820	620	80	625	168	84	37	240	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	348
0.9-0250-40-CL	1343	1588	930	749	594	80	625	168	84	37	240	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	342
0.9-0250-45-CL	1343	1588	930	749	594	80	625	168	84	37	240	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	342
0.9-0250-50-CL	1343	1588	930	749	594	80	625	168	84	37	240	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	341
0.9-0250-60-CL	1369	1588	930	749	620	80	625	168	84	37	240	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	344
0.9-0250-70-CL	1447	1644	930	749	698	80	625	220	84	37	240	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	383
0.9-0350-50-CL	1467	1588	965	873	594	80	625	168	84	72	310	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	386
0.9-0350-60-CL	1493	1588	965	873	620	80	625	168	84	72	310	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	389
0.9-0350-70-CL	1571	1644	965	873	698	80	625	220	84	72	310	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	428
0.9-0400-60-CL	1427	1588	965	807	620	80	625	168	84	72	310	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	387
0.9-0400-70-CL	1505	1644	965	807	698	80	625	220	84	72	310	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	426
0.9-0700-70-CL	1532	1644	965	834	698	80	625	220	84	72	310	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	446
0.9-0700-85-CL	1529	1644	965	834	695	80	625	220	84	72	310	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	448
1.5-1100-85-CL	1676	1690	978	944	732	100	645	220	100	85	370	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	552
1.5-1100-95-CL	1713	1690	978	944	769	100	645	220	100	85	370	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	565
1.5-1200-85-CL	1775	1690	954	1043	732	100	645	220	100	61	322	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	557
1.5-1200-95-CL	1812	1690	954	1043	769	100	645	220	100	61	322	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	569
3-2000-85-CL	2308	2341	985.5	1336	972	160	851	220	106	102	415	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	792
3-2000-95-CL	2408	2341	985.5	1336	1072	160	851	220	106	102	415	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	852
6-2500-85-CL	2929	2464	1027	1847	1082	185	865	220	142	122	383	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	1199
6-2500-95-CL	2968	2464	1027	1847	1121	185	865	220	142	122	383	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	1208
6-2500-110-CL	3014	2464	1027	1847	1167	185	865	220	142	122	383	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	1231
6-2500-125-CL	3078	2464	1027	1847	1230	185	865	220	142	122	383	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	1311
6-2500-135-CL	3081	2464	1027	1847	1233	185	865	220	142	122	383	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	1315
6-3800-95-CL	3144	2464	1100	2023	1121	185	865	220	142	195	530	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	1683
6-3800-110-CL	3190	2464	1100	2023	1167	185	865	220	142	195	530	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	1706
6-3800-125-CL	3254	2464	1100	2023	1230	185	865	220	142	195	530	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	1786
6-3800-135-CL	3257	2464	1100	2023	1233	185	865	220	142	195	530	1" NPT	¾" NPT	2x½" NPT	⅝" UNF	1790

EHAS SPRING RETURN ELECTRO-HYDRAULIC ACTUATOR

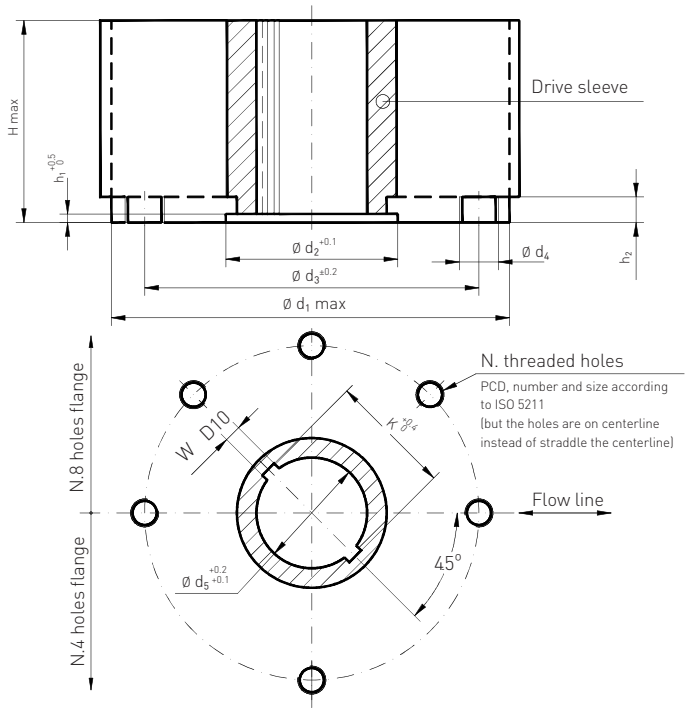
DIMENSIONS - SPRING TO OPEN



EHAS SPRING RETURN ELECTRO-HYDRAULIC ACTUATOR

Model	A	B	C	D	E	F	G	ØH	L	M	ØS	X 1 Electric connection	X 2 Electric connection	X 3 Electric connection	N Hydraulic connection	Weight (Kg)
0.9-0200-40-OP	1454	1588	930	604	850	80	625	168	84	37	240	1" NPT	¾" NPT	2x½" NPT	⅝' UNF	346
0.9-0200-45-OP	1454	1588	930	604	850	80	625	168	84	37	240	1" NPT	¾" NPT	2x½" NPT	⅝' UNF	346
0.9-0200-50-OP	1454	1588	930	604	850	80	625	168	84	37	240	1" NPT	¾" NPT	2x½" NPT	⅝' UNF	345
0.9-0200-60-OP	1454	1588	930	604	850	80	625	168	84	37	240	1" NPT	¾" NPT	2x½" NPT	⅝' UNF	348
0.9-0250-40-OP	1383	1588	930	604	779	80	625	168	84	37	240	1" NPT	¾" NPT	2x½" NPT	⅝' UNF	342
0.9-0250-45-OP	1383	1588	930	604	779	80	625	168	84	37	240	1" NPT	¾" NPT	2x½" NPT	⅝' UNF	342
0.9-0250-50-OP	1383	1588	930	604	779	80	625	168	84	37	240	1" NPT	¾" NPT	2x½" NPT	⅝' UNF	341
0.9-0250-60-OP	1383	1588	930	604	779	80	625	168	84	37	240	1" NPT	¾" NPT	2x½" NPT	⅝' UNF	344
0.9-0250-70-OP	1447	1644	930	668	779	80	625	220	84	37	240	1" NPT	¾" NPT	2x½" NPT	⅝' UNF	383
0.9-0350-50-OP	1507	1588	965	604	903	80	625	168	84	72	310	1" NPT	¾" NPT	2x½" NPT	⅝' UNF	386
0.9-0350-60-OP	1507	1588	965	604	903	80	625	168	84	72	310	1" NPT	¾" NPT	2x½" NPT	⅝' UNF	389
0.9-0350-70-OP	1571	1644	965	668	903	80	625	220	84	72	310	1" NPT	¾" NPT	2x½" NPT	⅝' UNF	428
0.9-0400-60-OP	1441	1588	965	604	837	80	625	168	84	72	310	1" NPT	¾" NPT	2x½" NPT	⅝' UNF	387
0.9-0400-70-OP	1505	1644	965	668	837	80	625	220	84	72	310	1" NPT	¾" NPT	2x½" NPT	⅝' UNF	426
0.9-0700-60-OP	1468	1588	965	604	864	80	625	168	84	72	310	1" NPT	¾" NPT	2x½" NPT	⅝' UNF	407
0.9-0700-70-OP	1532	1644	965	668	864	80	625	220	84	72	310	1" NPT	¾" NPT	2x½" NPT	⅝' UNF	446
0.9-0700-85-OP	1529	1644	965	665	864	80	625	220	84	72	310	1" NPT	¾" NPT	2x½" NPT	⅝' UNF	448
1.5-1100-85-OP	1676	1690	978	692	984	100	645	220	100	85	370	1" NPT	¾" NPT	2x½" NPT	⅝' UNF	552
1.5-1100-95-OP	1713	1690	978	729	984	100	645	220	100	85	370	1" NPT	¾" NPT	2x½" NPT	⅝' UNF	565
1.5-1200-85-OP	1775	1690	954	692	1083	100	645	220	100	61	322	1" NPT	¾" NPT	2x½" NPT	⅝' UNF	557
1.5-1200-95-OP	1812	1690	954	729	1083	100	645	220	100	61	322	1" NPT	¾" NPT	2x½" NPT	⅝' UNF	569
3-2000-85-OP	2308	2341	985.5	927	1381	160	851	220	106	102	415	1" NPT	¾" NPT	2x½" NPT	⅝' UNF	792
3-2000-95-OP	2408	2341	985.5	1027	1381	160	851	220	106	102	415	1" NPT	¾" NPT	2x½" NPT	⅝' UNF	852
6-2500-85-OP	2929	2464	1027	1030	1899	185	865	220	142	122	383	1" NPT	¾" NPT	2x½" NPT	⅝' UNF	1199
6-2500-95-OP	2968	2464	1027	1069	1899	185	865	220	142	122	383	1" NPT	¾" NPT	2x½" NPT	⅝' UNF	1208
6-2500-110-OP	3014	2464	1027	1115	1899	185	865	220	142	122	383	1" NPT	¾" NPT	2x½" NPT	⅝' UNF	1231
6-2500-125-OP	3078	2464	1027	1179	1899	185	865	220	142	122	383	1" NPT	¾" NPT	2x½" NPT	⅝' UNF	1311
6-2500-135-OP	3081	2464	1027	1182	1899	185	865	220	142	122	383	1" NPT	¾" NPT	2x½" NPT	⅝' UNF	1315
6-3800-95-OP	3144	2464	1100	1069	2075	185	865	220	142	195	530	1" NPT	¾" NPT	2x½" NPT	⅝' UNF	1683
6-3800-110-OP	3190	2464	1100	1115	2075	185	865	220	142	195	530	1" NPT	¾" NPT	2x½" NPT	⅝' UNF	1706
6-3800-125-OP	3254	2464	1100	1179	2075	185	865	220	142	195	530	1" NPT	¾" NPT	2x½" NPT	⅝' UNF	1786
6-3800-135-OP	3257	2464	1100	1182	2075	185	865	220	142	195	530	1" NPT	¾" NPT	2x½" NPT	⅝' UNF	1790

ACTUATOR MODELS 0.9 TO 6.0



Top view of the Scotch yoke mechanism
(actuator shown in closed position)

COUPLING DIMENSIONS mm MODELS 0.9 TO 6

Actuator model	Ø d_1	Ø d_2	Ø d_3	Ø d_4	N	h_1	h_2	H max	Ø d_5	W	K
0.9	310	112	254	M16	8	5	19	150	86	14	93.6
1.5	360	144	298	M20	8	6	19	190	112	18	119.0
3	430	195	356	M30	8	9	23	200	157	25	167.8
6	520	250	406	M36	8	14	29	260	200	28	212.8

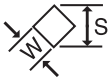
Ø d_1 is maximum adapter flange diameter.

MOUNTING DIMENSIONS - STEM ACCEPTANCE

Square key

Rectangular key

Square stem



STEM ACCEPTANCE DIMENSIONS FOR INSERT BUSHES (mm)

Housing size	Max. stem diameter with square key (key dimension)	Max. stem diameter with rectangular key	Square stem W	Square stem S*	Maximum stem protrusion**
0.9	66(16)	70	55	77	140
1.5	85(18)	90	73	103	180
3	120(32)	130	104	147	190
6	150(36)	170	133	188	250

NOTES

1. The listed maximum acceptance values are applicable for stems with keyway parallel or perpendicular to the flow line and for square stems with diagonal parallel with the flow line.
2. Key according to UNI6604 or DIN 6885 sh.1 or BS4325 part 1 or ISO 773 or equivalent.
3. * S max: maximum external diameter in case of rounded edge.
4. ** Without adapter flange.

EHA ELECTRO-HYDRAULIC ACTUATOR

Example:	EA	015	C	0000	060	L	1	A	N	N	1	N	-	N

Model
EHA double acting actuator

Body size
009 0.9 **030** 3
015 1.5 **060** 6

Yoke
C Canted
S Symmetric

Spring size
0000 None

Oil cylinder
045 Diameter 45 **070** Diameter 70 **095** Diameter 95
050 Diameter 50 **085** Diameter 85 **110** Diameter 110
060 Diameter 60 **090** Diameter 90

Fail mode
L Last

Oil strokes
1 One (base configuration)
3 Three (option)

Motor power supply
A 3 phase 400 V AC 50 Hz (base configuration)
B 3 phase 400 V AC 60 Hz (option)
C 1 phase 230 V AC 50 Hz (consult factory)
D 1 phase 230 V AC 60 Hz (consult factory)
E 24 V DC (consult factory)

Limit switch box
N None
1 Topworks Painted AL switch box with 2 x SPDT. ATEX/IECEx II 2GD Ex d IIC, Ex tb IIIC, IP66/67 - ½" NPT cable entries
2 Topworks Painted AL switch box with 2 x inductive mod NJ2-3V-N. ATEX/IECEx II 2GD Ex d IIC, Ex tb IIIC, IP66/67 - ½" NPT cable entries
3 Topworks Painted AL switch box with 2 x SPDT. ATEX/IECEx II 2GD Ex d IIC, Ex tb IIIC, IP66/67 - ISO cable entries
4 Topworks Painted AL switch box with 2 x inductive mod NJ2-3V-N. ATEX/IECEx II 2GD Ex d IIC, Ex tb IIIC, IP66/67 - ISO cable entries
S Non-standard switch box (consult factory)

Cable entry
N NPTF (base configuration)
I ISO (consult factory)

Certification
1 ATEX (base configuration)

Paint
N System 01 RAL 5010 Blue (base configuration)
1 System 01 RAL 3020 Red (option)
2 System 01 RAL 6024 Green (option)
3 System 01 RAL 1023 Yellow (option)
4 System 01 RAL 9010 White (option)
5 System 01 RAL 7035 Grey (option)
S Special paint (consult factory)

Special code
N None
Others consult factory

NOTE
Consult factory for more options including:
316 SS solenoid valve
316 SS hydraulic components (motor, pump and accumulator not included)
Low temperature version
Special electrical certification
Special paint
Special motor voltage
Special limit switch box
Valve actuator adaptation

EHAS SPRING RETURN ACTUATOR

Example:	EA	015	C	0350	060	C	1	A	N	N	1	N	-	N

Model
EHAS Electro-hydraulic actuator

Body size

009	0.9	**030**	3
015	1.5	**060**	6

Yoke

C	Canted
S	Symmetric

Spring type

0200	Type 0200	**0700**	Type 0700	**2000**	Type 2000
0250	Type 0250	**1100**	Type 1100	**2500**	Type 2500
0350	Type 0350	**1200**	Type 1200	**3800**	Type 3800
0400	Type 0400				

Oil cylinder

040	Diameter 40	**085**	Diameter 85
045	Diameter 45	**095**	Diameter 95
050	Diameter 50	**110**	Diameter 110
060	Diameter 60	**125**	Diameter 125
070	Diameter 70	**135**	diameter 135

Fail mode

C	Spring close
O	Spring open

Oil strokes

1	One (base configuration)
2	Two (option)

Motor power supply

A	3 phase 400 V AC 50 Hz (base configuration)	**D**	1 phase 230 V AC 60 Hz (consult factory)
B	3 phase 400 V AC 60 Hz (option)	**E**	24 V DC (consult factory)
C	1 phase 230 V AC 50 Hz (consult factory)		

Limit switch box

N	None
1	Topworks Painted AL switch box with 2 x SPDT. ATEX/IECEx II 2GD Ex d IIC, Ex tb IIIC, IP66/67 - 1/2" NPT cable entries
2	Topworks Painted AL switch box with 2 x inductive mod NJ2-3V-N. ATEX/IECEx II 2GD Ex d IIC, Ex tb IIIC, IP66/67 - 1/2" NPT cable entries
3	Topworks Painted AL switch box with 2 x SPDT. ATEX/IECEx II 2GD Ex d IIC, Ex tb IIIC, IP66/67 - ISO cable entries
4	Topworks Painted AL switch box with 2 x inductive mod NJ2-3V-N. ATEX/IECEx II 2GD Ex d IIC, Ex tb IIIC, IP66/67 - ISO cable entries
S	Non-standard switch box (consult factory)

Cable entry

N	NPTF (base configuration)
I	ISO (consult factory)

Certification

1	ATEX (base configuration)

Paint

N	System 01 RAL 5010 Blue (base configuration)	**4**	System 01 RAL 9010 White (option)
1	System 01 RAL 3020 Red (option)	**5**	System 01 RAL 7035 Grey (option)
2	System 01 RAL 6024 Green (option)	**S**	Special paint (consult factory)
3	System 01 RAL 1023 Yellow (option)		

Special code

N	None

Others consult factory

NOTE

Consult factory for more options including:
IMVS high pressure PST device, unpainted SS. ATEX/IECEx II 2G Ex-d IIB T5 with Hart, RS485 and Beacon®
316 SS solenoid valve
316 SS hydraulic components (motor, pump and accumulator not included)
Low temperature version
Special electrical certification
Special paint
Special motor voltage
Special limit switch box
Valve actuator adaptation
SIL capability

Biffi Italia S.r.L.
Strada Biffi 165, 29017 Fiorenzuola d'Arda (PC) Italy: +39 (0)523 944 411 E-mail: biffi_italia@biffi.it **www.biffi.it**