



HYDRAULIC SINGLE ACTING LINEAR ACTUATOR

series HA

SERVOVALVE spa

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HYDRAULIC LINEAR ACTUATOR SPRING OPEN - OIL CLOSE

SINGLE ACTING

SERIES HA

TECHNICAL DESCRIPTION

Servo valve actuator type HA consists of one hydraulic single acting cylinders designed to operate linear valves as globe or gate valves which require a fail safe action to close by means of springs.

HA actuator is designed and manufactured so as to operate in the heaviest work condition in every environment according to the international specification.

Typical features are the particularly simple and reliable construction, the special care in components material selection to reduce corrosion phenomenon.

HA actuators can be supplied with helicoidal springs (serie HA) or belleville springs (serie HAT).

For long strokes and low thrusts (gate valve) helicoidal springs are preferred, for valves which require a higher thrust and a short stroke (globe valve) belleville springs might be preferred.

All selected springs are manufactured with special-purpose materials and complete of surface coating for corrosion protection.

They can be subjected to static or rarely alternating load, as well as continuous dynamic load; satisfying the most strict requirements against setting loss and for fatigue strength.

All HA actuator have a totally enclosed cartridge that provides complete protection for springs and all moving parts, minimizes the possibility of internal misalignment and reduces the chance of injury to operating personnel.

Special safety stay-bolts allow to open the cartridge and take out the springs only after the spring preload is totally released.

The weather proof springs cartridge is designed to allow the replacement of the springs in field with the utmost security.

After having replaced the springs the same safety stay-bolts pre-load the new springs and close the cartridge without special tools.

A PTFE charged slide guarantees a perfect drive and alignment of the piston under all load conditions allowing gasket seals long life.



Chromium plated carbon steel shaft and PTFE charged bushing allow to reduce the sliding friction of the actuator moving components.

HA actuator is supplied with a standard epoxy painting surface protection, applied on shot blasted surfaces. Different coating procedures can be provided on request.

The inner parts of HA are actuator lifetime lubricated, therefore only replacement of the rubber gaskets may become necessary after a long working time.

HA can be equipped with bracket, mechanical or hydraulic manual emergency device on request.

SERVOVALVE is certified by DNV and actuators are designed, manufactured and tested according to ISO EN 9001 – 2000 and, if requested, according to 97/23/CE directive (PED) and 94/9/CE directive (ATEX).

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SERIES **HA**

TECHNICAL STANDARD PERFORMANCE

- ◆ oil working pressure: 40 ÷ 220 bar
- ◆ standard design pressure: 250 bar
- ◆ oil test pressure: 1,5 working pressure
- ◆ standard temperature range: -20 ÷ +80 °C

MEDIUM

- ◆ mineral oil
- ◆ special medium type on request
- ◆ different medium pressure on request

EXECUTION ON REQUEST

- * on-off or modulating execution
- * equipped with adapter or bracket and hub for coupling to the valve
- * equipped with adjustable mechanical stop-screws
- * subsea or water proof execution for marine service
- * execution for special environmental condition
- * execution for low temperature environmental or high temperature
- * suitable for explosion-proof area

OPTIONAL EQUIPMENT

- hydraulic and electric equipment (limit switches – solenoid valve – etc.)
- electro-hydraulic circuit or hydraulic power unit for remote and local control of valve
- oil accumulator and equipment for fail safe action



HYDRAULIC LINEAR ACTUATOR

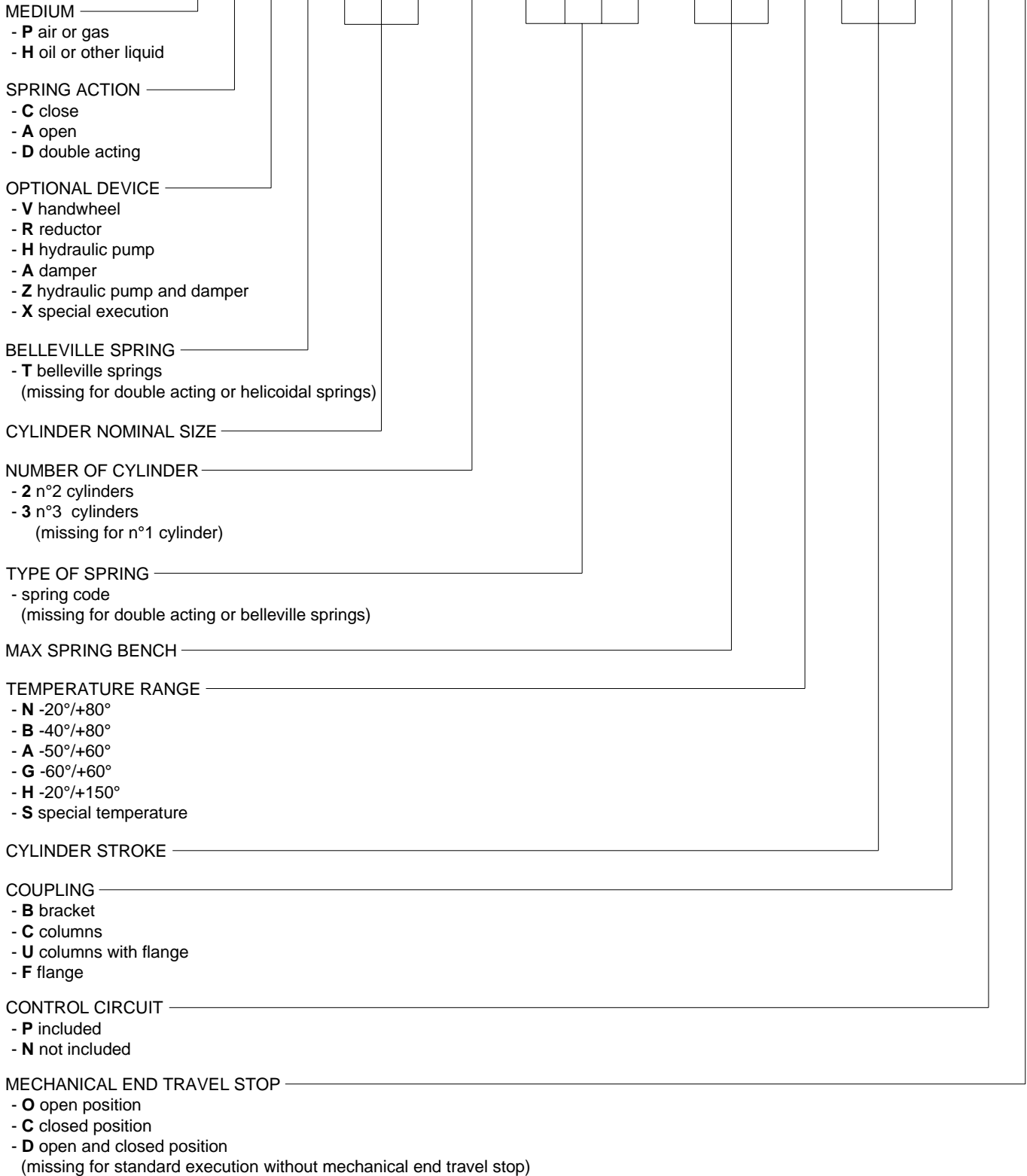
SPRING OPEN – OIL CLOSE

SINGLE ACTING

SERIES **HA**

LINEAR ACTUATOR CODE MODE

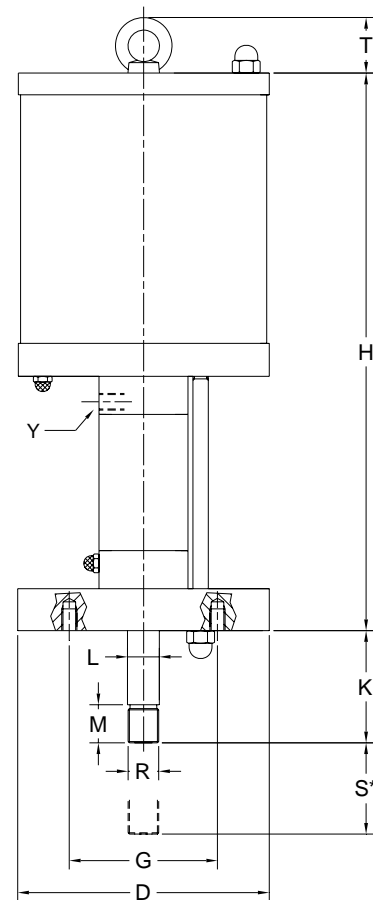
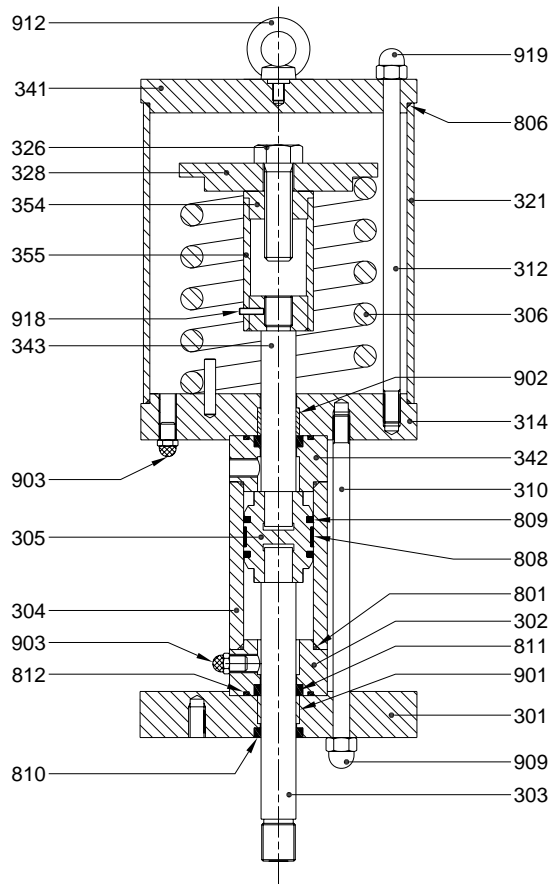
MODEL **P** **C** **V** **4** **2** **0** / **2** / **1** **0** **2** / **1** **1** **0** **N** **5** **5** **B** **P**



HYDRAULIC LINEAR ACTUATOR SPRING OPEN – OIL CLOSE

SINGLE ACTING

TYPE **HA**



OVERALL DIMENSIONS (mm)

TYPE	ØC	ØD	n° x F	Ø G	H	K	Ø L	M	R	T	Y
HA 40	140	130	4 x M 12	105	250+4S*	60	25	30	M 24	-	¼" G
HA 60	220	150	4 x M 12	125	250+4S*	60	25	30	M 24	-	¼" G
HA 80	270	200	4 x M 16	170	250+4S*	60	30	35	M 27	-	¼" G
HA 100	270	260	8 x M 16	220	260+4S*	80	35	40	M 33	45	¼" G
HA 110	270	260	8 x M 16	220	260+4S*	80	35	40	M 33	45	¼" G

S* = CYLINDER STROKE

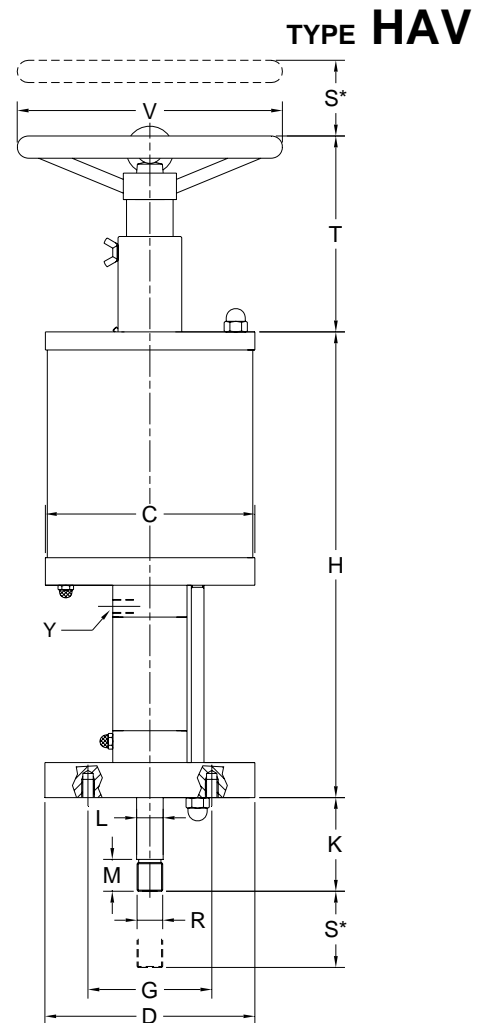
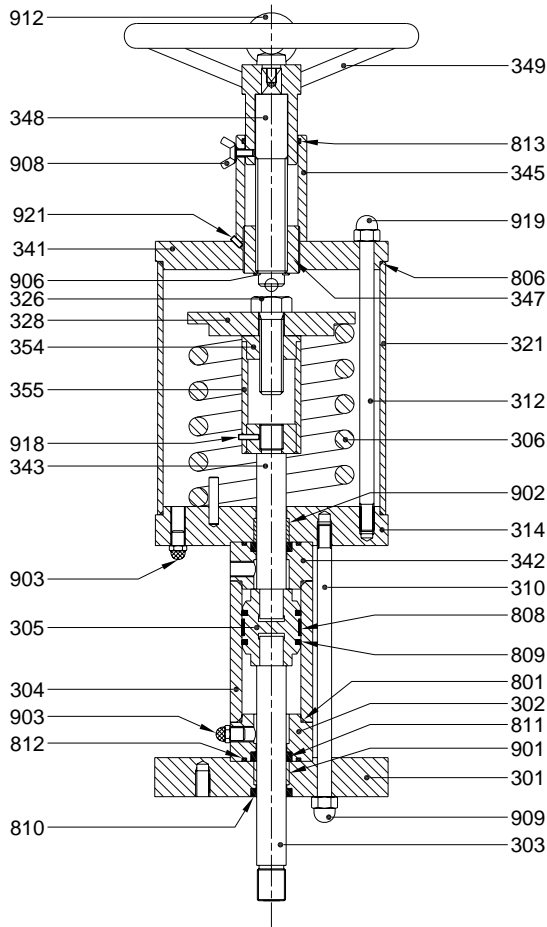
SINCE THE ACTUATOR ARE SPECIAL EX. DIMENSIONS ARE INDICATIVE AND THRUST CAN BE DEFINED DURING QUOTATION STAGE.

PART LIST

POS	DESCRPTION	MATERIAL	POS	DESCRIPTION	MATERIAL
354	RING NUT	BSZN5 EN 1982	919	CAP NUT	6 EN 20898
343	SUP. SHAFT (chrom. pl. steel)	42CrMo4 EN 10083	918	DOWEL	8.8 EN 20898
342	FLANGE	C 40 EN 10083	912	EYE BOLT	CARBON STEEL
341	SUPERIOR HEAD	S275 JR EN 10025	909	CAP NUT	6 EN 20898
328	DISC	S275 JR EN 10025	903	AIR SILENCER	BRASS
326	SAFETY SCREW	8.8 EN 20898	902	BUSHING	
321	CYLINDER	S 235 JR EN 10025	901	BUSHING	
314	INTERMEDIATE HEAD	S275 JR EN 10025	812	O-RING	* N. B. R.
312	STAY BOLT	42CrMo4 EN 10269	811	LIP GASKET	* POLYURETHANE
310	STAY BOLT	42CrMo4 EN 10269	810	WIPER RING	* N. B. R.
306	SPRING	SPRING st. EN 10270	809	PISTON GASKET	* POLYURETHANE
305	HYDRAULIC PISTON	S275 JR EN 10025	808	PISTON SLIDE	* PTFE+GRAPHITE
304	HYDRAULIC CYLINDER	E 355 EN 10297	806	O-RING	* N. B. R.
303	INF. SHAFT (chrom. pl. steel)	42CrMo4 EN 10083	801	O-RING	* N. B. R.
302	INFERIOR HEAD	S275 JR EN 10025	355	TUBE SLEEVE	E 235 SR EN 10305
301	FLANGE	S275 JR EN 10025		SPARE PARTS	*

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HAV 40	140	130	4 x M 12	105	250+4S*	60	25	30	M 24	120+S*	250	¼" G
HAV 60	220	150	4 x M 12	125	250+4S*	60	25	30	M 24	120+S*	350	¼" G
HAV 80	270	200	4 x M 16	170	250+4S*	60	30	35	M 27	120+S*	350	¼" G
HAV 100	270	260	8 x M 16	220	260+4S*	80	35	40	M 33	140+S*	500	¼" G
HAV 110	270	260	8 x M 16	220	260+4S*	80	35	40	M 33	140+S*	500	¼" G

S* = CYLINDER STROKE

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PART LIST

POS	DESCRIPTION	MATERIAL	POS	DESCRIPTION	MATERIAL
354	RING NUT	BSZN5 EN 1982	921	DOWEL	8.8 EN 20898
349	HANDWHEEL	CARBON STEEL	919	CAP NUT	6 EN 20898
348	STEM	X20Cr13 EN 10088	918	DOWEL	8.8 EN 20898
347	SCREW THREAD	BSZN5 EN 1982	912	EYE BOLT	CARBON STEEL
345	TUBE	E 235 SR EN 10305	909	CAP NUT	6 EN 20898
343	SUP. SHAFT (chrom. pl. steel)	42CrMo4 EN 10083	908	SCREW	8.8 EN 20898
342	FLANGE	C 40 EN 10083	906	SEEGER	ALLOY STEEL
341	SUPERIOR HEAD	S275 JR EN 10025	903	AIR SILENCER	BRASS
328	DISC	S275 JR EN 10025	902	BUSHING	SINTERIZED BRONZE
326	SAFETY SCREW	8.8 EN 20898	901	BUSHING	SINTERIZED BRONZE
321	CYLINDER	S 235 JR EN 10025	813	O-RING	* N. B. R.
314	INTERMEDIATE HEAD	S275 JR EN 10025	812	O-RING	* N. B. R.
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304	HYDRAULIC CYLINDER	E 355 EN 10297	806	O-RING	* N. B. R.
303	INF. SHAFT (chrom. pl. steel)	42CrMo4 EN 10083/1	801	O-RING	* N. B. R.
302	INFERIOR HEAD	S275 JR EN 10025	355	TUBE SLEEVE	E 235 SR EN 10305
301	FLANGE	S275 JR EN 10025		SPARE PARTS	*