

# KFCM

## Hydraulic Linear Single-Acting Spring-Closing Actuator for operation of Globe Valves

# A1

### Main Data:

Max. working pressure: 105 bar ~ 1522 lbf/in<sup>2</sup>  
 Test pressure: 1.5 x max. working pressure (~ 160 bar)

Actuator type		KFCM 12	KFCM 22	KFCM 32	KFCM 42	KFCM 52
End closing thrust *	N	3100	4000	8000	12500	23500
	lbf	697	900	1800	2810	5283
Max. stroke L	mm	16.25	25	37.5	49	62.5
	in	0.64	0.98	1.48	1.93	2.46
Oil displacem. at full stroke	cm <sup>3</sup>	32	68	180	366	770
	in <sup>3</sup>	1.95	4.15	10.95	22.35	47.00
Total dry weight	kg	5	10	17	32	53
	lb	11	22	37	71	117

\* pre-stressed 3 mm.

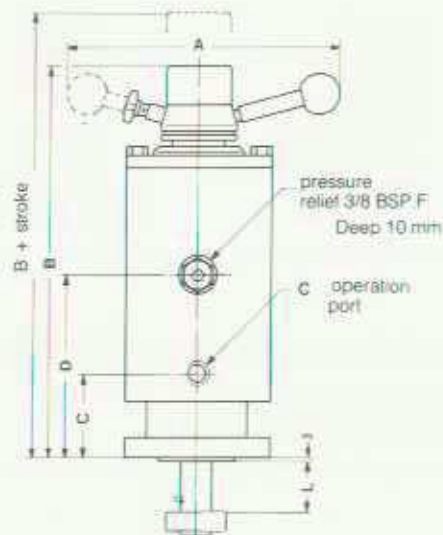
Temperature range: -20° to 80°C ~ 4°F to 176°F.  
 Hydraulic media and viscosities: We recommend acid-free hydraulic oil.  
 Viscosity range: 15 - 200 cSt. For recommended brands and for other media than oil please refer to separate data sheet.



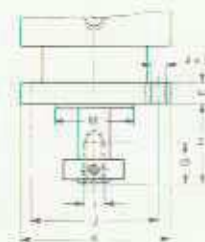
### Test and Approvals:

Burst tested to	KFCM 12:	835 bar ~ 12107 lbf/in <sup>2</sup>	KFCM 42:	900 bar ~ 13050 lbf/in <sup>2</sup>
	KFCM 22:	815 bar ~ 11817 lbf/in <sup>2</sup>	KFCM 52:	1050 bar ~ 15225 lbf/in <sup>2</sup>
	KFCM 32:	900 bar ~ 13050 lbf/in <sup>2</sup>		

### Main Dimensions:



### Valve adaption:



Actuator type		A	B	C	BSP.F	C Deep	D	eE	F	G	H	I	aJ	aK	eM
KFCM 12	mm	170	185	39	1/4	13	94	8.5	11	20	33	M10	62	76	42 f8
	in	6.69	7.28	1.54		0.51	3.70	0.33	0.43	0.79	1.30		2.44	2.99	1.65
KFCM 22	mm	180	245	57	3/8	16	124	11	15	28	46	M14	80	98	57 f8
	in	7.09	9.65	2.24		0.63	4.88	0.43	0.59	1.10	1.81		3.15	3.86	2.24
KFCM 32	mm	230	310	66	3/8	16	153	13	18	38	61	M16	97	118	65 f8
	in	9.06	12.20	2.60		0.63	6.02	0.51	0.71	1.50	2.40		3.82	4.65	2.56
KFCM 42	mm	330	385	82	3/8	16	184	13	20	50	74	M20	122	143	75 f8
	in	13.00	15.16	3.23		0.63	7.24	0.51	0.79	1.97	2.91		4.80	5.63	2.95
KFCM 52	mm	460	440	92	3/8	16	235	17	22	50	92	M24	138	168	79 f8
	in	18.11	17.32	3.62		0.63	9.25	0.67	0.87	1.97	3.62		5.43	6.61	3.11

The company policy aims at continuous improvement of the products and therefore all rights to change the specifications without notice are reserved.

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## Hydraulic Linear Single-Acting Spring-Closing Actuator for Operation of Globe Valves

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### Operation:

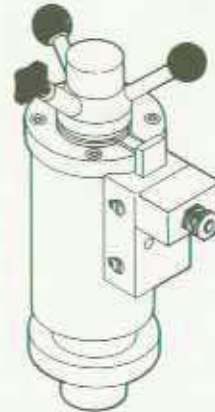
#### Normal Operation Mode

Hydraulic pressure applied to the single port KFCM actuator will lift the output spindle (open the valve) at the same time compressing a dished-spring package mounted in the upper part of the actuator. When hydraulic pressure is released the spring package will press down the spindle closing the valve.

#### Manual Operation Mode

The KFCM actuator features a unique emergency operation system. Whenever hydraulic pressure is not available the valve can be opened and closed by means of the manual operation mechanism at the top of the actuator.

If the valve is opened manually – and left open while hydraulic pressure is off, this will not disable remote control once pressure is re-established. The first time the actuator is operated hydraulically to open position the manual operating device holding the valve in open position will automatically be disengaged.



KFCM actuator with built on position indicator, type KLS.

### Standard Optionals:

- on/off position indicator IP 68
- epoxy coating

### Manufacture:

The KFCM actuators are manufactured in accordance with the guidelines for quality system stated in the American standard ANSI/ASQC Z-1.15. After assembly each actuator is flushed to NAS 1638/10 standard and plugged. Flushing to NAS 1638/7 standard can be performed on request.

### Hydraulic Symbol:



Marine standard

### Materials:

	<b>Eur.</b>	<b>U.S.</b>
Housing:	GGG 40	A 395-80
Piston:	GGG 40	A 395-80
Spindle:	SS 2383	- AISI 430
Dished springs:	50CrV4	A234F11
Clamping ring:	SS 2383	- AISI 430
Intermediate flange:	St. 50-2	A675 grade 70
Coating:	Primer: Min. 40 micron Epoxy ester Top coat: Min. 25 micron Alkyd, red	

### Operating Restrictions:

Please observe specific rules and demands from classification societies and authorities concerning operating pressure and temperature range.

(Example - ABS: Max. operating pressure = 20% of burst pressure.)

For extreme cycle speeds and lifetime expectations consult manufacturer.

### Classification:

Satisfies requirements from the major classification and approval authorities and directives of the major standard specification authorities like:

Det norske Veritas	USSR Register of Shipping	U.S. Coast Guard	U.S. Mil. Spec-
Lloyd's Register of Shipping	Bureau Veritas	Canadian Coast Guard	British Navy
American Bureau of Shipping	Germanischer Lloyd	Norwegian Maritime Directorate	Swedish Navy