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# SH Series Attenuators

Reducing noise in hydraulic systems - 350 bar

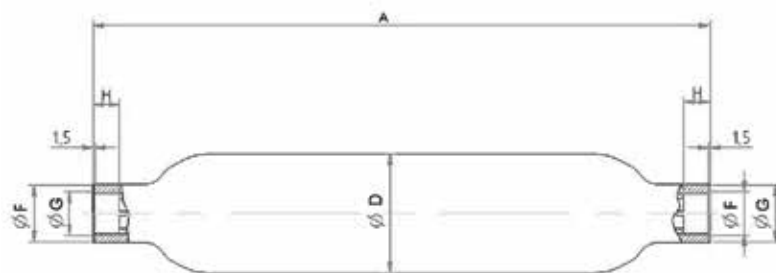


ENGINEERING YOUR SUCCESS.

# Attenuators SH Series 350 bar

Standard version (Carbon Steel shell) . According to PED 2014/68/EU Article 4.3, Fluid Group 2

Type	Part number	Clamps	Volume Litres	Max. Work- ing pressure (PS) bar	Max Flow Rate l/min	Admissible Attenuator Temperature min/max (°C)	Weight kg	Dimensions in mm				
		Model (quantity) Part number						A max Height	ØD	øF for Bonded Seal	øG Gas Cyl.	H mini
SH 170-25*	60045400100	E95 20250803648	1.5	350	25	-40/+175	5.8	462	90	35.3	3/4"	18
SH 170-50*	60045500100	E95 20250803648	2.2	350	50	-40/+175	7.3	590	90	35.3	3/4"	18
SH 170-75*	60045100100	E114 20251003648	3.4	350	75	-40/+175	12.0	597	114	54.0	1 1/4"	22
SH 170-100*	60044900100	E114 20251003648	3.4	350	100	-40/+175	12.0	597	114	54.0	1 1/4"	22
SH 170-125*	60045000100	E114 20251003648	4.6	350	125	-40/+175	15.0	749	114	54.0	1 1/4"	22
SH 170-175*	60044600100	E114 20251003648	4.6	350	170	-40/+175	15.0	749	114	54.0	1 1/4"	22
SH 170-275*	60045200100	E114 20251003648	4.6	350	275	-40/+175	15.0	749	114	54.0	1 1/4"	22
SH 220-25*	60045300100	E95 20250803648	1.2	350	25	-40/+175	5.2	386	90	35.3	3/4"	18
SH 220-50*	60043800100	E95 20250803648	1.5	350	50	-40/+175	5.8	462	90	35.3	3/4"	18
SH 220-75*	60045600100	E95 20250803648	1.5	350	75	-40/+175	5.8	462	90	35.3	3/4"	18
SH 220-100*	60045700100	E95 20250803648	2.2	350	100	-40/+175	7.4	590	90	35.3	3/4"	18
SH 220-125*	60045800100	E95 20250803648	2.2	350	125	-40/+175	7.4	590	90	35.3	3/4"	18
SH 220-175*	60044700100	E114 20251003648	3.4	350	175	-40/+175	12.0	597	114	54.0	1 1/4"	22
SH 220-275*	60044500100	E114 20251003648	3.4	350	275	-40/+175	12.0	597	114	54.0	1 1/4"	22



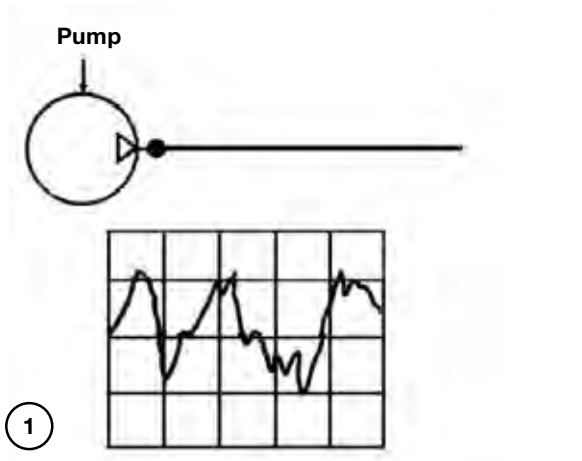
# General information Attenuators

The performance obtained with the attenuators substantially reduces the fluctuations of high-frequency hydraulic pressure (see diagrams 1 and 2).

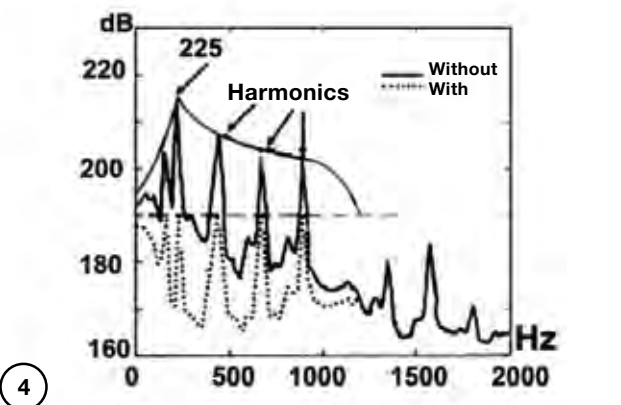
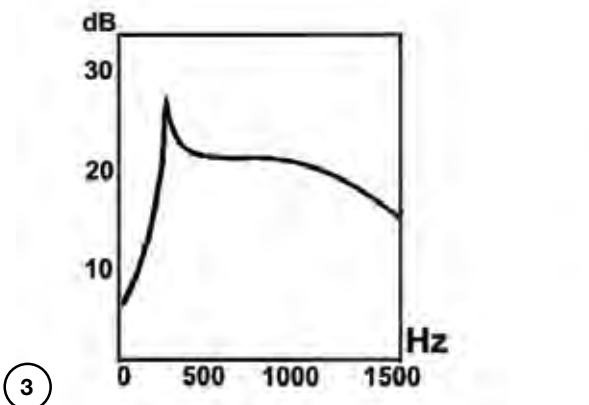
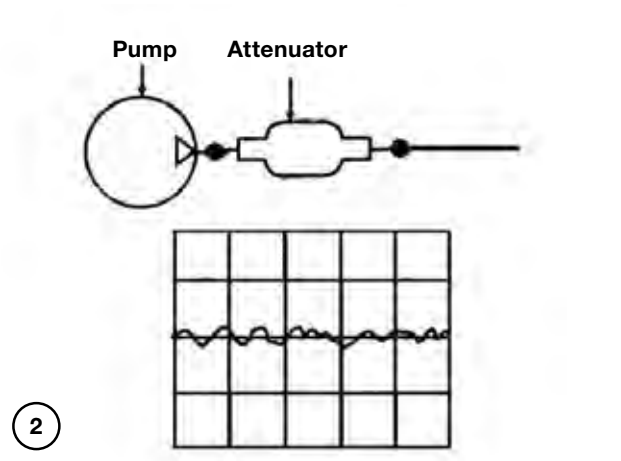
attenuation levels of the pressure pulses as a function of the frequencies to be filtered, and secondly an example of the amplitude spectra of a pump with and without a muffler, which reduces the pulses from 217 dB to 190 dB.

Curves 3 and 4 show firstly a typical attenuation curve (in dB) specific to each model of muffler, indicating the

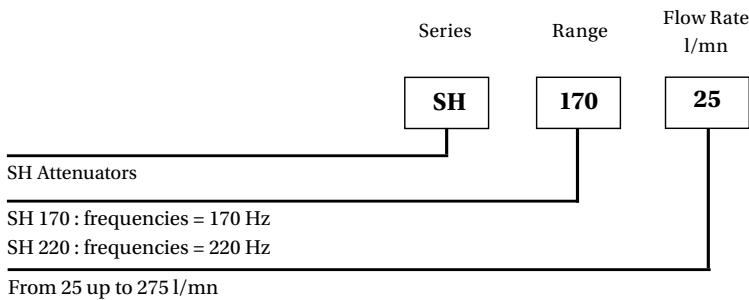
**Without Hydraulic Attenuators**



**With Hydraulic Attenuators**



## SH Series: How to order an Attenuator



# Regulations for pulsations dampers & attenuators

- Available
- Available on request

This table is giving an indication of approval availability for the range of products. Availability is to be confirmed for each approval, in particular the pressure rating and the allowable working temperatures.

Destination			EUROPE				USA		MARINE - OFFSHORE							
Regulation codification			/90 /00	/90 /00	/90 EX		/15 /48		/43 /24		/13 /11		/23 /41		/ 24	
Type *	Volume range (L)	Material : CS : Carbone steel SS : Stainless steel	PED FLUID GROUP 2	PED FLUID GROUP 1	ATEX	Maximum Working Pressure (Bar)	ASME VIII div. 1	Maximum Working Pressure (psi)	DNV MOBILE SHIPS	Maximum Working Pressure (Bar)	BUREAU VERITAS MARINE	Maximum Working Pressure (Bar)	ABS AMERICAN BUREAU OF SHIPPING	Maximum Working Pressure (Bar)	GL GERMANISCHER LLOYD'S	Maximum Working Pressure (Bar)
APD	0,1L	SS	●	●		350										
APD	0,25L	SS	●	●		300										
APD	0,5L	SS	●	●		250										
APD	1 to 2L	SS	●	●		180										
APD	3L	SS	●	●		250										
APD	5L	SS	●	●		120										
BPD	0,1L	SS	●	●		690										
BPD	0,25L	SS	●	●		690										
BPD	0,5L	SS	●	●		690										
BPD	1 to 2L	SS	●	●		450										
BPD	3L	SS	●	●		430										
BPD	5L	SS	●	●		300										
CPD	0,1L	SS	●	●		300										
CPD	0,25L	SS	●	●		250										
CPD	0,5L	SS	●	●		170										
CPD	1 to 2L	SS	●	●		140										
CPD	3L	SS	●	●		120										
CPD	5L	SS	●	●		95										
CPDU	0,1L	SS	●	●		300	●	300								
CPDU	0,25L	SS	●	●		250	●	250								
CPDU	0,5L	SS	●	●		170	●	170								
CPDU	1 to 2L	SS	●	●		140	●	140								
CPDU	3L	SS	●	●		120	●	120								
CPDU	5L	SS	●	●		95	●	95								

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DPD	0,1L	SS	●	●		460										
DPD	0,25L	SS	●	●		420										
DPD	0,5L	SS	●	●		400										
DPD	1 to 2L	SS	●	●		350										
DPD	3L	SS	●	●		300										
DPD	5L	SS	●	●		207										
DPDU	0,1L	SS	●	●		460	●	300								
DPDU	0,25L	SS	●	●		420	●	250								
DPDU	0,5L	SS	●	●		400	●	170								
DPDU	1 to 2L	SS	●	●		350	●	140								
DPDU	3L	SS	●	●		300	●	120								
DPDU	5L	SS	●	●		207	●	95								
SBV3	0,5L	CS	●	●		40										
SBV3	1 to 2,5L	CS	●	●		40					●	40	●	40		
SH	170 to 220	CS	●	●		350										