

# Visco-Elastic Support (VES Series)



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# Renewable Energy Through Product Innovation

## Think About ITT.

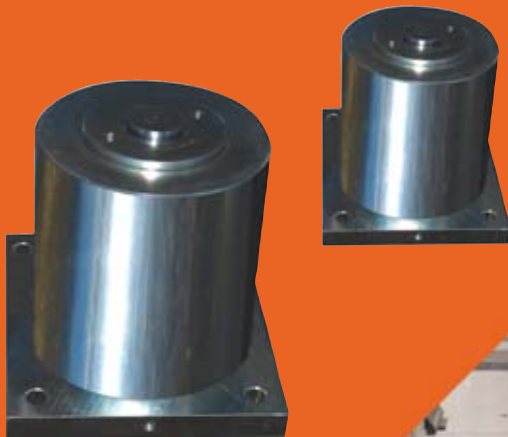
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As part of our strategy to make the customer central to everything we do, our core technologies, engineering strength and global scale offers greater value for customers in terms of quality, cost and delivery.

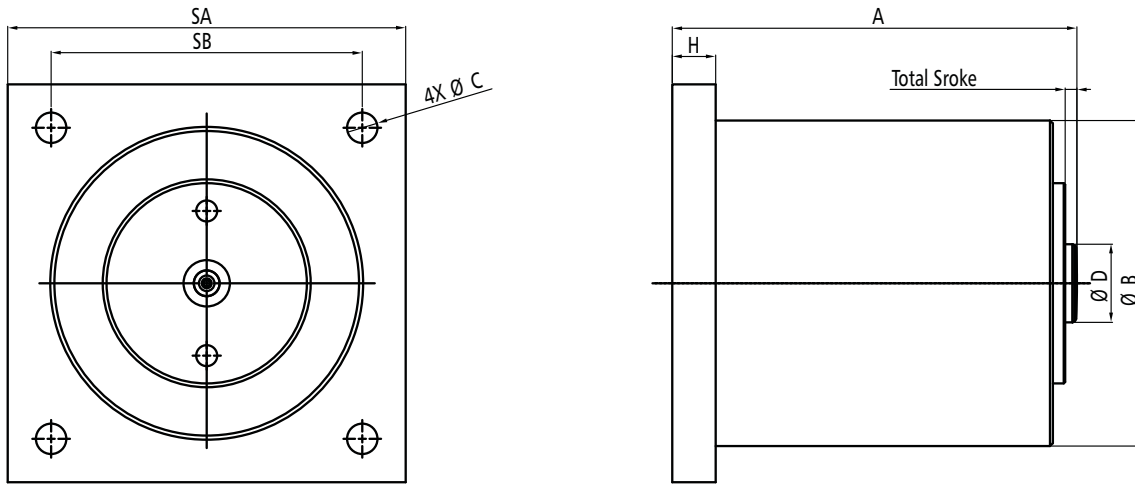
One of the most efficient forms of renewable energy is hydro-electricity. A typical hydropower plant will produce electricity by the use of hydro-electric generators. Problems often arise with these generators over time due to high frequency vibrations excited by periodic and stochastic forces originating in the hydraulic machines and generator. Usually the vibration peaks out at the guiding bearing above the generator rotor, causing substantial damage to the generator and surrounding structure.

ITT Enidine has developed the new Visco-Elastic Support (VES) product line to provide improved dynamic behavior of the rotor-bearing system and thermal force reduction to bearing support

structures. The working principle of VES is by providing high dynamic stiffness, adding supplementary damping to the rotor-bearing system, low static stiffness for thermal movement. This reduces dynamic response of the generator, prevents the transfer of excessive thermal forces to the civil structure, thereby extending the life of the generator, structure and increases the output efficiency of the power plant.



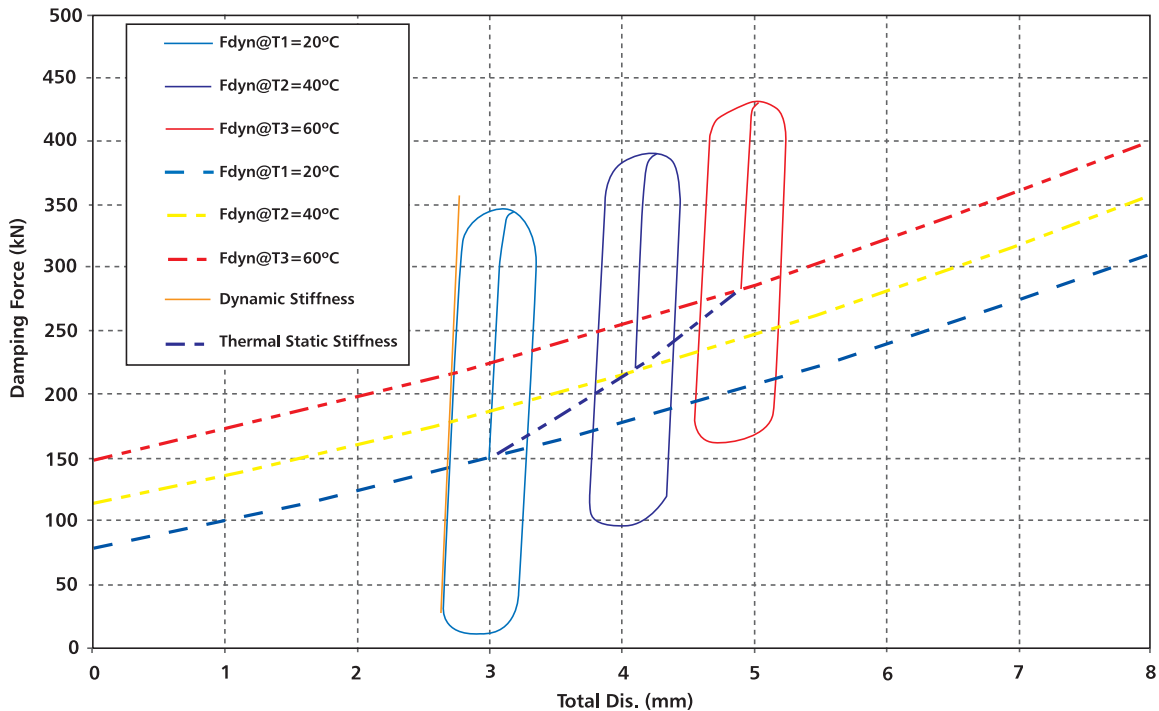
# Visco-Elastic Support (VES Series)



Model	S <sub>max</sub> Total Stroke mm	S <sub>1</sub> Set Point mm	F <sub>1</sub> Preload at Set Point kN	C <sub>2</sub> Nominal Damping Constant kN/(mm/s) <sup>0.2</sup>	F <sub>max</sub> Maximum Dynamic Force kN	K <sub>Dyn</sub> Nominal Dynamic Stiffness kN/mm	K <sub>St</sub> Nominal Static Stiffness kN/mm
VES100A	8	3	100	60.0	350.0	900	20.0
VES150A	8	4	150	100.0	450.0	1269	28.0
VES200A	8	3	200	140.0	550.0	1100	30.0
VES250A	8	3	250	190.0	690.0	1425	33.0

Model	A mm	B mm	D mm	Flange			
				SA mm	SB mm	H mm	C mm
VES100A	210	160	40	215.0	155	30.0	21.0
VES150A	217	185	45	235.0	175	30.0	21.0
VES200A	225	185	50	235.0	175	30.0	21.0
VES250A	280	225	54	260.0	200	30.0	21.0

VES150 Theoretical Performance Specificataion



ITT Enidine will custom design to meet your specific requirements.  
 Please contact us to discuss your application needs.  
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