



Vibration Isolation Guidelines

SyncroFlo recommends mounting the pump station on a level housekeeping pad. When the floor is a concrete slab-on-grade, then simply bolt the station to the pad, fill the skid base with grout, and install flexible connectors on the piping connections.

If the floor is above grade, then SyncroFlo recommends that the skid be a concrete filled inertia bases with spring isolators for pumps over 7 ½ horsepower. Primary and secondary pump systems should then be isolated separately. Vibration isolators should be different sized depending on the span of the beams. See the table below.

For rigidity, the standard industry practice is to design the inertia base to be 1/10 the longest span between isolators and at least 6” for up to 30 HP, 8” for up to 75 HP, or 12” if 100 HP or greater. A simple way to correctly build the inertia base is to first determine the minimum base size based on motor size, then determine the longest span between isolators based on that skid size. These calculations are included in the table below.

Pumps	Nominal Deflector Size for 4” - 6” Concrete Floors				Minimum Skid Height	Maximum Span Between Deflectors
	20’ Floor Span	30’ Span	40’ Span	50’ Span		
CC 1 - 5 HP	1” (.75”)	1” (.75”)	1” (.75”)	2” (1.5”)	6”	60”
CC 7.5 - 30 HP	1” (.75”)	2” (1.5”)	2” (1.5”)	3” (2.5”)	6”	60”
CC 30 - 75 HP	1” (.75”)	2” (1.5”)	2” (1.5”)	3” (2.5”)	8”	80”
FC to 30 HP	1” (.75”)	2” (1.5”)	2” (1.5”)	3” (2.5”)	6”	60”
FC 30 - 60 HP	1” (.75”)	2” (1.5”)	2” (1.5”)	3” (2.5”)	8”	80”
FC 60 & 75 HP	1” (.75”)	2” (1.5”)	2” (1.5”)	3” (2.5”)	8”	80”
FC 75 HP	1.5” (1”)	2” (1.5”)	3” (2.5”)	3” (2.5”)	8”	80”
FC above 75 HP	1.5” (1”)	2” (1.5”)	3” (2.5”)	3” (2.5”)	12”	120”

Key: CC=Close-Coupled Pump & Motor
FC=Flex-Coupled Pump & Motor