



Hydraulic and Pneumatic Sealing - General Applications Chart

Application Parameter	Hydraulic			Pneumatic	
	Light Duty	Medium Duty	Heavy Duty	Light Duty	Heavy Duty
Pressure Range	less than 1200 psi	less than 3500 psi	greater than 3500 psi	less than 200 psi	greater than 200 psi
Pressure Spikes	None or low	Not to exceed twice the system pressure; short duration such as valve shifting	Pressure spikes that may be several times the system pressure and of a longer duration; these are often mechanically induced by forcing the rod in or out	Because of the compressive nature of gases, pressure spikes are typically not a problem	Because of the compressive nature of gases, pressure spikes are typically not a problem
Temperature Range	0° F to 160° F (-18° C to 71° C)	-20° F to 200° F (-29° C to 93° C)	-45° F to 225° F (-43° C to 107° C)	0° F to 72° F (-18° C to 22° C)	Cryogenic to -450° F (-232° C)
Contamination	Low or non-existing	Moderate with cylinder in horizontal or inverted position	Moderate to high with the cylinder upright - vertical	Low or non-existing	Moderate to high with the cylinder upright - vertical
Side Loading	None to light with shorter stroke and vertical cylinder mount	Moderate side load with cylinder mounted towards the vertical position; medium stroke	Longer stroke lengths; cylinder mounted horizontal, heavy side loading	None to light with shorter stroke and cylinder mount vertical	Longer stroke lengths; cylinder mounted horizontal, heavy side loading

NOTE: *It is not uncommon for the requirement of a sealing system to fall into multiple-duty columns. When this situation occurs, select the majority of the components from the lesser -duty range. You must also consider the fluid being sealed and the stroke speed.*

Source: Parker EPS 5370 Table 1-1