

Are you "Flushing" or "Filtering"?

Few People Achieve This

FLUSHING

"Flushing" is a process where the velocity of the fluid being circulated within the compartment or pipework is "turbulent" in nature. The measure of turbulence can be calculated and is expressed as a "Reynolds Number" (Re). It is designed to dislodge particulate which may have settled or is adhering to the component, pipe and other surfaces.

Turbulent Flow
Re ≥ 4000

1. Flushing requires special equipment with large pumps and filters for high flows



2. It is labour intensive and time consuming but offers huge benefits for the time and effort invested

3. A disciplined approach to the methodology employed is required

5. Flushing is used to remove inbuilt contaminants during commissioning, rebuilds & following a catastrophic failure to remove debris prior to start up

4. Disassembly of pipework & valves is required to allow circulation at the desired flowrates

Reynolds Number
 $Re = (3160 \times Q) / (D \times v)$
 Where Q = Flow Rate (GPM)
 D = Pipe Dia (Inches)
 v = Kinematic Viscosity (cSt)

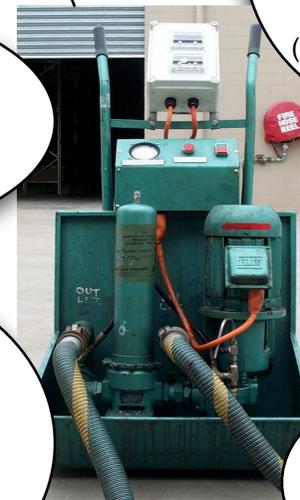
Laminar Flow
Re ≤ 2000

1. Filter Rigs can be used to "Polish" or bring a lube quickly back into spec following an isolated contaminate ingress incident

2. They can be used periodically to maintain the ISO code within specification for "select" applications where permanent "on board" filtration is inappropriate

4. They are often used as a 'band-aid' measure in an attempt to overcome the deficiency of onboard permanent filtration systems (they do not address the root cause)

3. They are used to filter oil into reservoirs & systems



FILTERING

Most People Only Achieve This

"Periodic Filtering" is a process where an external "pump and filter rig" is "kidney looped" into the reservoir of the equipment and the lubricant circulated to clean the oil. No attempt to generate a turbulent flow within the reservoir or pipework to dislodge settled or lodged particulates for removal is made. Only the oil being circulated is cleaned, not the components or reservoir.