

HYDRAULIC FLUID (A)VISCOSITY (B)CLEANLINESS (C)TEMPERATURE

(B)CLEANLINESS

Oil contamination is the main cause of failure and malfunction in hydraulic systems and can also result in loss efficiency, excessive component wear.

However, using adequate cleanliness to guarantee reliability and extend all the system's hydraulic components life.

ISO 4406

ISO 4406 defines the contamination level with 3 scale numbers that relate with the number of particles of average dimension equal or greater than 4 μ m, 6 μ m, 14 μ m in 1ml of fluid.

NAS 1638

NAS 1638 is determined by counting the total particles of different size ranges contained in 100ml of fluid.

Please following the recommended cleanliness level:

Type of system Type of valve	Recommended Cleanliness Level		Recommended Level for Extended Product life	
	ISO 4406	NAS 1638	ISO 4406	NAS 1638
Proportional valves				
High pressure greater than 350 bar	16/14/11	5	15/13/10	4
Very high frequency cycle application				
 Operating pressure greater than 300 bar High frequency cycle application Poppet type (low leakage valve) Electrohydraulic cartridge valves 	18/16/13	7	16/14/11	5
 Operating pressure less than 300 bar Systems/Components with moderate dirt tolerance 	19/17/14	8	17/15/12	6
 Operating pressure less than 140 bar Low duty cycle applications Systems/Components with good dirt tolerance 	21/19/16	10	19/17/14	8

 $[\]times$ Recommendations : If you are unsure the condition of oil contamination, please install high pressure filter (10 μm) at manifold (inlet) that can smoothly operate for most cartridge valves.

As customers' using environmental condition, oil temperature, working time and so on are different, the data will be different. Due to the influence of above factors, this technical information is only for reference. While we have made every effort to ensure the accuracy of this data, we do not express or implicitly warrant that such information is accurate. We will not be liable for any errors or omissions of such information.

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