Fluid

QX pumps require fluid with a minimum cleanliness level of NAS 1638, Class 9 or ISO 4406, code 20/18/15.

HLP hydraulic oils to DIN 51524, Part 2, can be used without any special restriction as long as they remain within the specified temperature and viscosity ranges. HFC fire-resistant fluids to DIN 51502 can be used. Note that all fire-resistant fluids require special versions of the pumps or motors and must be approved by PCG Hydraulics Limited. We recommend the use of fluids that contain anti-wear additives for mixed-friction operating conditions. Fluids without appropriate additives can reduce the service life of pumps and motors. The user is responsible for maintaining, and regularly checking, the fluid quality. PCG Hydraulics recommends a load capacity of $\geq$ 30 N/mm^2 to Brugger DIN 51347-2.

Fluid cleanliness class

Cleanliness class (RK) onto ISO 4406 and NAS 1638

Code ISO 4406	Number of particles / 100 ml			
	$\leq$ 4 µm	$\leq$ 6 µm	$\leq$ 14 µm	NAS 1638
23/21/18	8000000	2000000	250000	12
22/20/18	4000000	1000000	250000	-
22/20/17	4000000	1000000	130000	11
22/20/16	4000000	1000000	64000	-
21/19/16	2000000	500000	64000	10
20/18/15	1000000	250000	32000	9
19/17/14	500000	130000	16000	8
18/16/13	250000	64000	8000	7
17/15/12	130000	32000	4000	6
16/14/12	64000	16000	4000	-
16/14/11	64000	16000	2000	5
15/13/10	32000	8000	1000	4
14/12/9	16000	4000	500	3
13/11/8	8000	2000	250	2

Operational reliability

To guarantee the reliable operation and a long service life of the pump, a maintenance schedule must be prepared for the power unit, machine or system. The maintenance schedule must make sure that the provided or permissible operating conditions of the pump are adhered to over the period of use.
In particular, compliance with the following operating parameters must be ensured:
– required oil cleanliness
– operating temperature range
– fluid level
Moreover, the pump and the system must be inspected at regular intervals for changes in the following parameters:
– Vibration
– Noise
– Differential temperature of pump – fluid in the tank
– Foaming in the tank
– Leak tightness
Changes in these parameters indicate wear of components (e.g. drive motor, coupling, pump, etc.). The cause must be immediately pinpointed and eliminated.
To provide high operational reliability of the pump in the machine or system, we recommend continuous, automatic checks of the above parameters and an automatic shutdown in the case of changes that exceed the usual fluctuations within the provided operating range.

Note

This catalogue is intended for users with specialist knowledge. The user must check the suitability of the equipment described here in in order to ensure that all of the conditions necessary for the safety and proper functioning of the system are fulfilled. If you have any doubts or questions concerning the use of these pumps, please consult PCG Hydraulics Limited.